WORLD METEOROLOGICAL ORGANIZATION

TWELFTH

WORLD METEOROLOGICAL CONGRESS

GENEVA, 30 MAY–21 JUNE 1995

ABRIDGED FINAL REPORT WITH RESOLUTIONS

WMO-No. 827

Secretariat of the World Meteorological Organization - Geneva - Switzerland

WMO PUBLICATIONS

WMO Congress and Executive Council

Reports and proceedings

Publications not listed here are out of print

WMO-No.

707 — Executive Council: Abridged report with resolutions of the fortieth session, Geneva, 1988.[1*Δ†]

723 — Executive Council: Abridged report with resolutions of the forty-first session, Geneva, 1989.[1Δ†]

739 — Executive Council: Abridged report with resolutions of the forty-second session, Geneva, 1990.[1Δ†]

756 — Eleventh World Meteorological Congress: Abridged report with resolutions, Geneva, 1991.[3Δ◊]

757 — Eleventh World Meteorological Congress: Proceedings, Geneva, 1993.[2]

758 — Executive Council: Abridged report with resolutions of the forty-third session, Geneva, 1991.[1*]

780 — Executive Council: Abridged report with resolutions of the forty-fourth session, Geneva, 1993.[3]

794 — Executive Council: Abridged report with resolutions of the forty-fifth session, Geneva, 1993.[3]

810 — Executive Council: Abridged report with resolutions of the forty-sixth session, Geneva, 1994.[3Δ◊]

Other publications issued by the WMO Secretariat are:

Basic documents, operational publications, reports of regional associations and technical commissions, WMO guides, annual reports and the WMO *Bulletin*.

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1 Publication issued in English, French, Russian and Spanish.
2 Publication issued in English and French.
3 Publication issued in Arabic/English, Arabic/French, English, French, Russian and Spanish.
* English out of print.
• French out of print.
Δ Russian out of print.
† Spanish out of print.
◊ Arabic out of print.

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NOTE

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GENERAL SUMMARY OF THE WORK OF THE SESSION

The World Meteorological Organization (WMO) held its Twelfth Congress at the Geneva International Conference Centre from 30 May to 21 June 1995, under the chairmanship of Mr Zou Jingmeng, President of the Organization. The list of participants is given in Appendix A to this report.

1. ORGANIZATION OF THE SESSION (agenda item 1)

1.1 OPENING OF THE SESSION (agenda item 1.1)

1.1.1 The President of the Organization, *Mr Zou Jingmeng*, opened Twelfth Congress at 10.15 a.m. on 30 May 1995 and welcomed all delegates and the following distinguished guests:

H.E. Mrs Ruth Dreifuss	Federal Councillor and Representative of the Federal Government of Switzerland
Mr Olivier Vodoz	President of the Government of the Republic and Canton of Geneva
Mrs Françoise Saudan	President of the Cantonal Parliament of the Republic and Canton of Geneva
Mr André Hediger	Mayor of Geneva
H.E. Mr B. de Riedmatten	Permanent Observer of Switzerland to the United Nations and Permanent Representative to other International Organizations in Geneva
Mr Jérôme Koechlin	Chief of Protocol of the Republic and Canton of Geneva
Mr Joseph Verner Reed	Under-Secretary-General Special Representative of the Secretary-General for Public Affairs, United Nations.

1.1.2 *H.E. Mrs Ruth Dreifuss*, speaking on behalf of the President of the Federal Government of Switzerland, H.E. Mr K. Villiger, and on her own behalf, welcomed the participants to Geneva. She noted that Switzerland was proud to host WMO, which had a long tradition of international cooperation since the International Meteorological Organization was established in 1873. She recalled the pioneering research work in alpine meteorology of H-B. de Saussure (1740–1799), a Swiss naturalist and physicist.

WMO's activities went far beyond observing and forecasting weather. It was the networks of observations coordinated by WMO which alerted the world to the changes in the chemical composition of the atmosphere, the reduction in the ozone layer, and the growth in atmospheric pollution. In that regard, she considered that if the data provided by WMO's Global Atmosphere Watch (GAW) were made widely available, they could further motivate decision and policy makers to act decisively.

WMO's role in climate activities would keep growing in importance, as reflected in the outcome of the recent Berlin Conference of the Parties to the United Nations Framework Convention on Climate Change (UN/FCCC). Recent scientific findings asserted that new commitments would have to be negotiated before 1997 if the concentration of greenhouse gases in the atmosphere were to be stabilized. Scientific and political will were essential for negotiations of international agreements dealing with environmental problems. Within the context of the Berlin Declaration, WMO had an essential role to play in such areas as improving knowledge of climatic processes at regional and local levels, perfecting climate system models, assessing the impact of climate change on sensitive ecosystems and on water resources, strengthening educational and public information activities, and developing new methods of evaluating climatic risks.

The risk of severe damage caused by extreme meteorological conditions was now a real danger. Human activities were also having a negative effect on atmospheric composition. As regarded the impact of climate on socio-economic activities, it was, therefore, essential for WMO to collaborate with the insurance sector in shedding new light on the forecasting of risks. In addition to global warming, water resources remained a major issue for the future. The studies carried out under the World Climate Programme-Water (WCP-Water) should provide valuable data for meeting the challenges of the next century.

The task of Twelfth Congress included the definition of activities and the establishment of priorities for the next four years, in view of limited available resources. The GAW, climate research, and natural disaster reduction remained priority tasks. As the operation of meteorological satellites was becoming increasingly costly, common solutions must be found at the global level. In the framework of greater commercialization of meteorological services, it was to be hoped that the problem of free exchange of data and products between the Meteorological Services could be satisfactorily resolved, since the guarantee of free exchange of data and products was one of the pillars of WMO.

She looked forward to the laying of the foundation stone of the new Headquarters building, which should facilitate the work of the Secretariat, and wished Congress a fruitful and constructive session.

1.1.3 *H.E. Ambassador J. Verner Reed*, Under-Secretary-General of the United Nations, Special Representative of the Secretary-General for Public Affairs conveyed a message from Dr Boutros-Ghali, along with his warm greetings to all participants, and a special tribute to Professor G. O. P. Obasi, Secretary-General of WMO.

The fiftieth anniversary of the United Nations provided an opportunity for looking back over five decades of international efforts to secure peace and to promote social and economic progress in the world, and to look forward to new challenges ahead. In that context, the example of international cooperation in the field of meteorology was particularly illuminating and had a long and distinguished record, from the establishment of the International Meteorological Organization in 1873 to the moment when WMO became an integral and indispensable part of the United Nations system. However, the challenges ahead were new and unprecedented and the need for effective action had never been greater than at present. Although it had long been understood that human activities were deeply affected by fluctuations in weather, climate and the availability of water, it was only recently that it had been more generally realized that human activities were themselves capable of altering weather and climate, both regionally and globally.

Today, therefore, WMO was fulfilling a crucial function in the international community by promoting international cooperation in those vital technical fields. Indeed, its record of concrete achievement and contribution to the attainment of the goals of the Charter of the United Nations had, if anything, become even more central in recent years, as sustainable development, in both its human and economic dimensions, was becoming a theme for international action particularly within the United Nations system.

The World Weather Watch (WWW) was a remarkable example of sustained and practical international cooperation. By its continuous monitoring of the Earth's atmosphere, that Programme made weather forecasting possible and it was clear that extending forecasts from the daily to weekly, monthly, and even seasonal ranges would be of immense value. Another WMO Programme which had greatly contributed to the safety and security of affected populations was the Tropical Cyclone Programme (TCP), which had helped to ease the suffering and loss of property caused by tropical storms.

WMO had made an excellent contribution to the International Decade for Natural Disaster Reduction (IDNDR). The World Climate Programme (WCP), through its leadership and through its research and data collection, had played a major role in alerting the world to the dangers of global warming, which included the rise in sea level and the resulting destruction of coastal areas and shifts in agricultural zones. WMO's support for the work of the Intergovernmental Negotiating Committee for the Framework Convention on Climate Change (INC/FCCC) and, more recently, for the Interim Secretariat of the Intergovernmental Negotiating Committee for an International Convention to Combat Desertification, was much appreciated.

Through the GAW Programme, WMO had alerted the world community to the "ozone hole" and to the threat to the survival of life which it represented. It had made possible the ongoing monitoring of the chemical composition of the atmosphere — including greenhouse gases, atmospheric pollutants, and radionuclides.

WMO's Hydrology and Water Resources (HWR) Programme also deserved special mention for its major contribution to system-wide efforts to promote sustainable development and to manage the declining amount of freshwater which was available for socio-economic activities, especially in areas affected by drought and desertification.

If meteorology and operational hydrology were to make a full contribution to human progress, future dangers must be anticipated and challenges met. Planning for the future was, therefore, essential in order to ensure that the resources of Member States were mobilized as effectively as possible to achieve their agreed goals.

It was also clear that the acquisition and application of knowledge about water, weather and climate required international cooperation; progress in those fields could not be secured by any single country, or even group of countries, acting on its own. For that reason, the work of WMO, in which States worked together for the common progress of humanity, was vital and commendable.

With reference to the fiftieth anniversary of the United Nations, the knowledge about the United Nations was increasingly important for people everywhere. With the active commitment of people, the United Nations could continue to play its role for peace and security, social and economic progress, and global human development. In celebrating the vision and foresight of the authors of the Charter of the United Nations, it was essential to work untiringly to improve and perfect the instruments of international cooperation which were their legacy.

1.1.4 *H.E. Ambassador Jin Yongjian*, conveying a message from Mr Li Peng, Premier of the People's Republic of China, extended warm congratulations to Twelfth Congress on behalf of the Government of the People's Republic of China. The Government of China expressed its appreciation for the positive contribution made by WMO to international cooperation in meteorology and hydrology and to the development of the Meteorological and Hydrological Services of all countries, particularly those of developing countries.

The Government of China would, as always, support and participate in WMO's activities. He expressed appreciation for the active support received by Mr Zou Jingmeng from the delegations and from the Meteorological and Hydrological Services of various Members during his terms of office as President of WMO. He wished Twelfth Congress every success in its work.

1.1.5 *Mr A. Bedritsky*, principal delegate of the Russian Federation, conveyed a message from H.E. Mr V. Chernomyrdin, Prime Minister of the Russian Federation. He congratulated all participants of Twelfth Congress which would be called upon to take important decisions affecting the near and more distant future of WMO, in its work to broaden cooperation in meteorology, operational hydrology, and other areas.

WMO had always demonstrated clearly that it was at the forefront of the implementation of programmes in the field of ecologically-healthy and sustainable development for the whole of humanity. The Organization had much experience in the transmission of meteorological and ecological data, which were valuable in solving national and

regional problems in those fields, improving control of natural disasters, and combating their impact. He commended WMO on its major contribution to the implementation of the decisions of the 1992 United Nations Conference on Environment and Development (UNCED). WMO was also the authoritative scientific body in assessing climate change and had assisted in the adoption of the UN/FCCC.

The decisions of Twelfth Congress would foster future cooperation among Members of WMO, one of the oldest international organizations, and help to ensure the future well-being of all countries of the world. He wished Congress every success in its work.

1.1.6 *Mr T. E. Leavey*, Director-General of the Universal Postal Union (UPU), expressed his pleasure and honour in attending the opening of Twelfth Congress. Although specializing in different fields, the UPU and WMO were similar with respect to their universally-recognized technical commissions. Both WMO (formerly the International Meteorological Organization) and the UPU were established in the 1870s, making them two of the oldest international organizations in the United Nations system.

As in the rest of the United Nations system, both organizations faced the challenge of profound changes in the socio-political and technological environments. Since the needs were great and the resources were limited, they had to become more innovative, more productive, and more efficient by adopting stricter management policies and methods. Those issues were essential to Congress.

The diversity and scope of the programmes for the improvement and control of global meteorological and climatological services connected with the environment were characteristic of WMO. WMO was amongst the most effective and most consistent of the organizations to implement the actions and decisions of UNCED. It also contributed substantially to parts of Agenda 21, one in which UPU had particular interest.

The programmes for the coming years demonstrated the determination with which WMO intended to address new problems. He remained confident that WMO would ably take up those challenges. He wished Congress every success in its work.

1.1.7 *H.E. The Honourable Ouala A. Koutiebou*, Minister of Transport of Burkina Faso, stated that "meteorological conditions knew no boundaries". It was difficult to control the devastating effects of weather and climate if there were no worldwide common standards of knowledge and technology for meteorologists, especially in key areas like water, transport, and agriculture. It was for Africa not only important to have free and unrestricted exchange of data and products but also to be able to acquire urgently training and equipment.

He commended WMO for its work in the Technical Cooperation (TCO) Programme. His country had benfited from the assistance and he thanked all involved, in particular the Secretary-General, as well as Belgium, France, Italy, the Netherlands, and Switzerland for all their help. All the commendable actions, however, were still not sufficient to meet the needs of developing countries who still had to face the growing demands of users who, themselves, had to solve the unavoidable problems of the rational management of natural resources in the interest of sustainable development.

The national Meteorological Service (NMS) of Burkina Faso still had difficulty in implementing the recommendations of UNCED and its Agenda 21, the UN/FCCC, and the International Convention to Combat Desertification (ICCD). Major problems included observations and data collection. They were important for countries, such as his own, which were most vulnerable to natural disasters.

Stronger technical cooperation was badly needed at a time both when funding was particularly critical and when the NMS was faced with unfair competition, particularly from the private sector. Burkino Faso had only meagre resources and was without the means to develop a protectionist policy. Considerable sacrifices had been made in the interests of meteorology, making it impossible for its people to pay for meteorological services. Exceptional efforts had, however, been made and it seemed only reasonable that it should receive something in return. He hoped that international cooperation in the field of meteorology would be reinforced.

1.1.8 *H.E. The Honourable Ezan Akele*, Minister of Equipment, Transport and Telecommunications of Côte d'Ivoire, expressed his pleasure in participating in Twelfth Congress and congratulated WMO on the excellent work carried out, under the current financial difficulties, since last Congress. Many important issues would be discussed, which were of major concern for developing countries. They included the future of the TCO and the Education and Training (ETR) Programmes, commercialization of data and products, the scale of contributions, and the election of the Executive Council.

All Members, but particularly those from developing countries were involved in, and derived benefits from, the TCO Programme, thus enabling national Meteorological and Hydrological Services (NMHSs) to play a major role in the activies of sustainable development. Members, therefore, should cooperate to overcome difficulties while, at the same time, contribute to minimize the gap between industrialized and non-industrialized countries in the provision of meteorological and hydrological services. Unfortunately, severe financial problems existed, particularly with those programmes funded by the United Nations Development Programme (UNDP). The issue of funding deficits had high priority and Members must work together to compensate for any delays.

The ETR Programme remained a priority programme for developing countries in view of the rapid development of technology in the area of meteorology and operational hydrology. Most of the Regional Meteorological Training Centres (RMTCs) in Africa had, for some time, been experiencing financial difficulties and there was concern over the quality of services provided. It was, therefore, urgent to strengthen the structures of those regional centres to take into account the needs of African countries.

Turning to the subject of commercialization of meteorological and hydrological services, he recalled that the free and unrestricted exchange of data and products had existed for more than a century. It was an arrangement

which had worked with the agreement of all concerned. Regrettably, the development of commercial activities of the national Services and of the private sector, beyond national borders, was divisive. For some, the status quo should be maintained, while for others, it was essential to restrict commercial use. Côte d'Ivoire considered that global cooperation might be weakened by a move away from current practices, which were increasingly threatened by commercialization. He hoped that Congress would reach a compromise which, if not completely satisfactory, would be acceptable to all Members.

Twelfth Congress would be discussing the funding and implementation of WMO Programmes, including high priority research and climate change programmes. While not hampering other activities, and given the limited financial resources available, Congress would have to decide wisely on how to attribute priorities to ensure close cooperation in observing, telecommunications, training and the development of meteorological products.

An attempt should be made to have a more equitable geographical representation within the staff of the Secretariat, in particular developing countries remained underrepresented. Mr Akele commended the Secretary-General for the good work in managing and coordinating the scientific and technical programmes of WMO. He thanked those countries which cooperated with Côte d'Ivoire and hoped that that cooperation would continue in the future.

1.1.9 *H.E. The Honourable Mesfin Abebe*, Minister of Natural Resources Development and Environmental Protection of the Transitional Government of Ethiopia, expressed his pleasure in attending Twelfth Congress and hoped that recommendations promoting the goals of WMO would be adopted. In the post-UNCED era, increased performance — through the rehabilitation of existing capability — needed to be augmented by state-of-the-art technology, further amplified by the quest for sustainable development through sound environmental management. In that respect, the Regional Office for Africa could play a pivotal role; joint programmes with that Office had proved to be productive.

He expressed his gratitude to WMO for the technical and financial support extended to his country, through the TCO Programme, in strengthening the national Meteorological Service. Underlining the imminent dangers applicable to all countries — such as global warming, climate change, land degradation, occurrences of drought, desertification, and environmental degradation — he stated that the new challenge facing Members would be the synergistic and symbiotic integration of programmes. It was his hope that Members would seriously consider strengthening the TCO Programme, taking into account the economic realities in their countries. Technical and financial support should include both Meteorological and Hydrological Services.

In view of the severe droughts and floods that had occurred in various parts of Africa, it was imperative that medium- and long-term forecasting capabilities be improved in addition to drought monitoring systems, as agriculture was dependent on climate. For that reason, Ethiopia attached great significance to the close cooperative efforts undertaken with WMO. The issue of the commercialization of meteorological services was of concern for Ethiopia. It should not, under any circumstance, hinder the development and progress of meteorology in developing countries.

In view of his country's environment and development needs, the Transitional Government of Ethiopia had empowered regional governments to foster participatory development, had established the Ministry of Natural Resources Development and Environmental Protection, had created the National Environmental Protection Authority, and had signed and ratified the conventions and protocols relating to the environmental issues of UNCED. WMO could play a vital role in strengthening Meteorological and Hydrological Services of Member countries. The Regional Office for Africa worked in conjunction with the Intergovernmental Authority on Drought and Development (IGADD) and the United Nations Environment Programmme (UNEP).

Serious consideration should be given to the potential impact of climate change in any long-term planning process, as changes could be significant for hydrological regimes and water resources management. Therefore, a comprehensive framework for the sustainable and efficient use of resources through the application of the appropriate research and development technologies should be implemented. WMO could again play a decisive role in that area by fostering technical cooperation projects.

Although WMO had always been at the forefront of globally-coordinated undertakings to avoid the adverse effects of environmental degradation, innovative approaches would need to be utilized to meet the new challenges. He assured Congress and WMO that they could rely on the support of Ethiopia in the attainment of common goals.

1.1.10 *Mr Zou Jingmeng*, President of WMO, thanked the Federal Council of the Confederation of Switzerland, the authorities of the Canton and City of Geneva, the United Nations and its specialized agencies, the Permanent Missions of Member States, other governmental and non-governmental organizations, and all those who had contributed to the work of WMO.

During the period since Eleventh Congress, WMO had taken an active role with respect to environmental concerns. It had taken part in the preparation of UNCED and in the implementation of its Agenda 21. WMO had prepared Guidelines on the Role of National Meteorological and Hydrological Services in the Implementation of Agenda 21 and the United Nations Framework Convention on Climate Change. The Organization had also initiated, in collaboration with UNEP, the negotiations on the United Nations Framework Convention on Climate Change, had continued to provide technical and staff support to the Interim Secretariat of that Convention and to that of the ICCD, and had contributed to the formulation and implementation of the programme of action of Small Island Developing States.

WMO had been designated task manager of the programme area World Climate Programme and Drought Monitoring and had provided the necessary support to the

United Nations Commission on Sustainable Development (CSD). The Organization had also pursued efforts to sensitize and collaborate with international organizations and regional economic integration bodies to develop and enhance relevant programmes and activities in support of their socio-economic development programmes.

WMO had organized, in collaboration with the International Council of Scientific Unions (ICSU) and five United Nations bodies, the Intergovernmental Meeting on the World Climate Programme in April 1993. The meeting adopted *The Climate Agenda* and WMO had been assigned the lead role in the development of an Integrated Proposal on the WCP and associated activities.

WMO continued to provide leadership in climate matters through its programmes as well as through joint programmes such as the WMO/UNEP Intergovernmental Panel on Climate Change (IPCC) and the Global Climate Observing System (GCOS). The Organization also provided active support to the Global Ocean Observing System (GOOS) of the Intergovernmental Oceanographic Commission (IOC) of the United Nations, Educational, Scientific and Cultural Organization (UNESCO) and to the Global Terrestrial Observing System (GTOS) of UNEP.

The Tropical Ocean and Global Atmosphere (TOGA) experiment was completed in December 1994, resulting in major strides in the area of climate and contributing to the understanding and prediction of climate variability, climate change, and seasonal forecasting. Every effort would be made to ensure that the results of such initiatives were made available to policy and decision makers.

Another area in which WMO and the NMHSs had been directing considerable attention was the mitigation of the impacts of natural disasters, such as tropical cyclones, floods, and droughts on socio-economic development. Pre-disaster preparedness, through the relevant WMO Programmes, had demonstrated their effectiveness in mitigating the impact of such weather- and water-related natural disasters. That, was well demonstrated during the Yokohama Conference in which WMO participated actively. WMO's Plan of Action contributed effectively to the IDNDR and provided a sound basis for continued strengthening of the NMHSs.

As the need for water both in terms of quantity and quality would continue to increase in all parts of the world — owing to the needs of an ever-growing population for drinking water, industrial activity, energy, and irrigation — WMO would further strengthen its activities in support of the measurement and assessment of water resources and water quality, as a major contribution to sustainable development.

The growth of commercial activities in many Member nations presented a major challenge to WMO, as it should ensure that the interest of all nations were adequately met and that the role of WMO in coordinating the free and unrestricted exchange of data and products was maintained and even enhanced. Congress would, therefore, have to give thorough consideration to that issue, taking into consideration the report of the Executive Council's Working Group on the Commercialization of Meteorological and Hydrological Services. It was to be hoped that a decision on the subject would be reached through consensus.

The TCO Programme, of particular importance as the gap between developed and developing countries was widening at an ever-increasing rate, had been experiencing a marked reduction in resources from donors, such as UNDP.

In addressing those issues, Congress would have to adopt clear policies and strategies in the context of the Fifth WMO Long-term Plan. The Plan would provide the necessary framework for the Organization and NMHSs to make a concerted contribution to the environmentally- and economically-sound sustainable development of Members. The implementation of the Plan by all Members should benefit from advances in science and technology and, in particular, from new satellite systems and access to less costly, but increasingly powerful computers. In that regard, the WWW must remain sufficiently flexible to adapt to new scientific and technological developments, with a view to providing maximum support and assistance to NMHSs.

Two major developments had occurred with respect to the Secretariat; the first was an initiative of the Secretary-General to organize a study on the organization and management of the WMO Secretariat, culminating in recommendations which had served as a basis for enhancing the efficiency of the Secretariat; the second was the decision to build a new WMO Headquarters building, whose foundation stone would appropriately be laid during Congress, in the presence of the majority of WMO Members. The latter was further evidence of the commitment and confidence of Members in the future of WMO.

Over the last few years, concern for the environment had enhanced the public and international image of WMO as a competent scientific and technical organization. The responsibilities attributed to WMO had occurred at a time when the Organization was facing severe financial constraints. Only through the considerable support of all Members, the Executive Council, and the initiatives of the Secretary-General had the Organization been able to meet those new challenges. The President commended the Members, the members of the Executive Council, and the Secretary-General for their efforts during that difficult period.

Notwithstanding the financial constraints facing WMO and most NMHSs, they had continued to address the concerns in the areas of climate, water, and the environment. The NMHSs must be able to continue to meet new challenges. Dedicated cooperation in order to address the unprecedented challenges by developed and developing nations was required.

In conclusion, the President invited the participants to attend the ceremony for the laying of the foundation stone of the new Headquarters building, to be held immediately following the adjournment of the meeting.

1.1.11 On behalf of the Secretary-General of the International Civil Aviation Organization (ICAO), Dr Philippe Rochat, *Mr S. Cernava*, Representative of ICAO, expressed sincere thanks for the invitation to attend and the honour of addressing Twelfth Congress.

The year 1994 marked the fiftieth anniversary of the entry into force of the Convention on International Civil Aviation and during that half century ICAO and WMO

had worked closely together in the interests of international air navigation. Recently, the fundamental review of aeronautical codes, initiated at the joint ICAO/WMO meeting in 1990 in Montreal, was successfully finalized with the adoption of the necessary ICAO provisions in 1991 and 1995 and the promulgation of a new generation of WMO aeronautical meteorological codes in 1992 and as from 1 January 1996. It was also envisaged that, as a result of the review, global standardization would be achieved for the first time in 1996 when countries in North America adopted the new generation of codes.

Significant progress had also been made in one of the most ambitious and extensive projects in international aeronautical meteorology — the implementation of the World Area Forecast System (WAFS). The international satellite broadcast of meteorological information to support international air navigation operations would significantly increase the quality of meteorological services provided to pilots, airline operators and other aeronautical users. It would also bring complete operational and meteorological information to offices at airports to support the issuance of warnings and forecasts.

ICAO enjoyed the support of WMO throughout the planning and implementation of the WAFS satellite broadcast programmes. On the basis of a recommendation developed at the joint ICAO/WMO meeting in 1982, both Organizations had studied ways to harmonize their plans in the development of cost-effective satellite-based communication systems. The design of the two-way satellite broadcast in the Caribbean, including both a sub-system of the ICAO Aeronautical Fixed Service (AFS) and the WMO Global Telecommunication System (GTS), showed a potential which could be further studied and exploited in other regions. The ultimate step in the final phase of WAFS could not have been accomplished without strong input from WMO Members and, in particular, from the national Meteorological Services associated with the operations of the two World Area Forecast Centres (WAFCs) in London and Washington. ICAO was committed to work together with WMO to complete the implementation of the entire system in an expeditious manner in the interest of the safety, regularity and efficiency of international civil air navigation.

The implementation of the ICAO communications, navigation and surveillance, and air traffic management systems, as well as the ICAO environmental protection programme would soon be under way. Expressing his confidence that in those areas ICAO would also be able to count on the advice and assistance from WMO, Mr Cernava paid tribute to the work of the Commission for Aeronautical Meteorology (CAeM) and its former and present presidents, Messrs J. Castelein and C. Sprinkle, respectively.

1.1.12 *Mr B. Coppens* conveyed the warm wishes of the Administrator of the United Nations Development Programme (UNDP), Mr J. G. Speth, for the success of Twelfth Congress and pledged UNDP's continued cooperation in strengthening meteorological agencies around the world.

Humanity owed a debt of gratitude to meteorologists, not only for the provision of daily weather information, but also for their role in drawing attention to man-made threats to the atmosphere. Meteorologists, through careful accumulation of scientific evidence, had alerted the world to the depletion of the ozone layer. They had, thereby, created the scientific understanding which led to concerted international action with the adoption of the Vienna Convention and the subsequent Montreal Protocol governing substances that depleted the ozone layer.

In 1995, the Conference of the Parties to the UN/FCCC held its first meeting in Berlin. That event also served to highlight the key role of meteorologists and climatologists who had been among the first to suggest that greenhouse gas emissions, particularly those from the combustion of fossil fuels, might be leading to increased global temperatures and disrupted climate patterns. The data assembled over the past 30 years and the model projections based upon those data served to convince the nations of the world that the threat of global warming was a reality.

It was that awareness — fostered by WMO and UNEP through the IPCC — which convinced the world community that action to mitigate global warming was essential and led to the adoption of the UN/FCCC.

The Berlin Mandate was seen by UNDP as a challenge and an opportunity for developing countries which would have to forge new sustainable development programmes. To do so, they would need access to technologies which were cleaner, more efficient, and more environmentally-sustainable than those currently in use. UNDP looked forward to supporting the efforts of those countries to accelerate development while reducing greenhouse gas emissions.

In many developing countries and countries with economies in transition, simple meteorological measurements were not regularly gathered and, in some countries, there were no resources available for even the most rudimentary Hydrometeorological Services. The challenges facing WMO would, therefore, continue to be vast, especially at a time when financial resources for development were shrinking dramatically. The task of raising national capacity, particularly in developing countries, to monitor, evaluate, and understand shifting meteorological patterns was a large one. Mr Coppens wished WMO well in that challenging endeavour and offered the modest cooperation of UNDP in pursuance of the shared goal.

1.1.13 *Mr G. Kullenberg*, Executive-Secretary of the Intergovernmental Oceanographic Commission (IOC), conveyed the greetings of the oceanographic community and the Director-General of UNESCO to WMO and noted that there had been a steady increase in cooperation between WMO and IOC over the past four years. He thanked the Secretary-General of WMO and the Secretariat staff for their dedicated work. Increasing interaction and cooperation between the meteorological and oceanographic communities were essential in the service of the global community and, as Executive-Secretary of IOC, he was working in that direction.

The climate change problem was one of the most challenging for the world community and the efforts of WMO in that area were formidable and needed to be continued. IOC was ready to help in that endeavour. Alliances had to be forged between international scientific communities so that they could provide Governments with

sound scientifically-based options to assist in the policy- and decision-making processes.

Such joint undertakings — the World Climate Research Programme (WCRP) was a remarkable example — now related to the development of global observing systems which were emerging largely as a result of international scientific endeavours. The highly-successful TOGA programme had started as an oceanographic programme developed by the Scientific Committee on Oceanic Research (SCOR)-IOC Committee on Climate Change and the Oceans and became a fully fledged sub-programme of the WCRP. The World Ocean Circulation Experiment (WOCE), which was now providing some results in the field of variability in the deep oceans, was another example. Such large-scale programmes had to be continued and brought to conclusion.

The co-sponsorship by IOC of the WCRP seemed to be a logical consequence of the increased understanding of the climate system and the realization of the need to take the oceans into account to achieve longer-term climate projections. The options for global action, stemming from activities like those of the IPCC, must be based on scientific results. There was a joint responsibility to maintain the scientific underpinning of such activities.

IOC was, in a modest way, co-sponsoring the development of the GCOS and would try to increase its support to it. IOC was also endeavouring to lead the development of the GOOS but could not do so alone; it was, therefore, extremely grateful to WMO, UNEP and ICSU for their cooperation. Progress in GOOS had been made, particularly in the formulation of the climate module, through joint activities with WCRP, and some GOOS pilot experiments were under way. Increased systematic and adequate ocean observations would also serve the purposes of WMO and were essential for longer-term forecasting of the climate system. The participation of WMO and the meteorological community in the planning and establishment of goals for GOOS was, thus, essential. The development of global observing systems raised issues such as the common right to share freely information as well as data and products produced by such joint efforts, and the acceptance of the fact that the availability of such information depended on contributions from all concerned. The principle of free and unrestricted access to observational data and products should be adhered to and, as regarded oceanographic data, was crucial to the development and success of GOOS.

IOC was cooperating very closely with the WMO Marine Meteorology and Associated Oceanographic Activities Programme and was also working with WMO on questions related to greenhouse gases, in particular on the interaction between the oceans and the atmosphere. Mr Kullenberg looked forward to a continued and evolving partnership between WMO and IOC, and mentioned IOC's efforts to achieve a more stable and dependable financial situation within UNESCO. The IOC Assembly would start in about 10 days and he hoped that WMO would be represented at that session to facilitate the exchange of information during the span between the WMO Congress and the IOC Assembly.

1.2 Establishment of a Credentials Committee (agenda item 1.2)

In accordance with General Regulations 22 and 23, the President proposed the establishment of a Credentials Committee, recommending that all Regions be represented as at previous sessions of Congress. The membership comprising the principal delegates of the following Members was approved:

Regional Association I	:	Côte d'Ivoire, Egypt, Seychelles, United Republic of Tanzania
Regional Association II	:	Bahrain, Saudi Arabia, Turkmenistan
Regional Association III	:	Colombia
Regional Association IV	:	Barbados, Costa Rica
Regional Association V	:	Philippines
Regional Association VI	:	Bulgaria, Georgia, Germany, Italy

Mr A. M. Henaidi (Saudi Arabia) was elected chairman of the Credentials Committee.

1.3 Approval of the agenda (agenda item 1.3)

Congress approved the agenda given in Appendix B to this report.

1.4 Establishment of committees (agenda item 1.4)

The following committees were set up:

Nomination Committee

1.4.1 In accordance with the provisions of General Regulations 24 and 25, the committee was composed of the principal delegates of the following 12 Members:

Regional Association I	:	Botswana, Gambia, Mali
Regional Association II	:	Mongolia, Sri Lanka
Regional Association III	:	Paraguay
Regional Association IV	:	Mexico, Trinidad and Tobago
Regional Association V	:	Indonesia
Regional Association VI	:	Austria, Portugal, Russian Federation

Mr S. Pollonais (Trinidad and Tobago) was elected chairman of the Nomination Committee.

Working Committees

1.4.2 Two working committees were set up to consider various agenda items as indicated below:

(*a*) Working Committee A

Co-chairmen: Dr H. Malcorps (Belgium) and Dr N. Sen Roy (India)

That Committee reported to Congress on agenda items 2.1, 2.2, 2.4, 3.6, 3.7, 4, 5, 6, 9, 9.2, 10, 11.1, 11.2, 11.3, and 11.4;

(*b*) Working Committee B

Co-chairmen: Dr G. McBean (Canada) and Mr E. A. Mukolwe (Kenya)

That Committee reported to Congress on agenda items 3.1, 3.2, 3.3, 3.4, 3.5, 7, 7.2 and 8.

1.5 Report of the Credentials Committee (agenda item 1.5)

The Credentials Committee submitted four reports concerning the credentials of the delegates of

Members and those of international organizations. Those reports were approved by Congress.

1.6 APPROVAL OF THE MINUTES (agenda item 1.6)

The minutes of the first and second plenary meetings were approved during the session. Congress decided to approve by correspondence, the minutes of other plenary meetings. A full list of documents presented at the session is contained in Appendix C to this report.

2. REPORTS (agenda item 2)

2.1 REPORT BY THE PRESIDENT OF THE ORGANIZATION (agenda item 2.1)

Congress noted with appreciation the report by the President of the Organization and, in particular, the comprehensive information contained in the report on progress made in the activities of the Organization during the eleventh financial period. Those questions in the President's report which called for special action by Congress were considered under the appropriate agenda items. Congress further noted with satisfaction the actions taken by the President on behalf of the Executive Council since its forty-sixth session.

2.2 REPORT BY THE SECRETARY-GENERAL (agenda item 2.2)

Congress noted that the financial report by the Secretary-General would be taken up under agenda item 10.1.

2.3 REPORT BY THE CHAIRMAN OF THE FINANCIAL ADVISORY COMMITTEE (agenda item 2.3)

2.3.1 Congress considered the report of the Financial Advisory Committee. It noted with appreciation the various recommendations of the Committee contained in Annex I to this report. Congress took account of those recommendations in making its decisions under the various related agenda items.

2.3.2 Congress decided to keep in force Resolution 29 (Cg-X) — Financial Advisory Committee on the establishment of the Financial Advisory Committee during the twelfth financial period.

2.4 CONSOLIDATED REPORT ON AMENDMENTS TO THE *TECHNICAL REGULATIONS* (agenda item 2.4)

2.4.1 Congress noted with satisfaction the work carried out by the technical commissions and the Executive Council in keeping under review the *Technical Regulations* in their respective fields of responsibility. A substantial number of amendments to Annexes II, III, IV and V to the *Technical Regulations* (WMO-No. 49), which had been proposed by the Commission for Basic Systems (CBS), and to Annex VI, which had been proposed by the Commission for Marine Meteorology (CMM), had been approved by the Executive Council in accordance with the authority delegated to it by the Tenth and Eleventh Congresses. Congress further noted that in view of the urgency of implementing a modified version of a certain number of codes, the President had approved, on behalf of the Executive Council, Recommendations 15 (CBS-93), 16 (CBS-94), and 14 (CBS-95) under the authority given to him in General Regulation 9(5). Congress also noted the work carried out by CAeM, jointly with ICAO, as regarded the amendments to Volume II of the *Technical Regulations* (Chapters C.3.1, C.3.2 and C.3.3), and by the Commission for Atmospheric Sciences (CAS) in preparing a new chapter dealing with the GAW (Chapter B.2 of Volume I of the *Technical Regulations*). It was noted that all the recommended amendments had been approved by the Executive Council.

2.4.2 In expressing full satisfaction with the actions taken in the previous four-year period, Congress reaffirmed the authority delegated to the Executive Council to approve amendments to the annexes to the *Technical Regulations*. Congress also confirmed the usefulness of the provision of Article 14(*c*) of the Convention and General Regulation 9(5) in enabling prompt action by the Executive Council or the President in cases of new or amended regulations which had to be implemented before the next session of Congress.

2.4.3 As regarded new proposals for amendments which had been submitted to Twelfth Congress for approval, Congress considered and approved the amendments to the *Technical Regulations* proposed by the Commission for Hydrology (CHy), as contained in Recommendation 1 (CHy-IX), and by CMM, as contained in Recommendation 15 (CMM-XI). That decision was reflected in Resolution 1 (Cg-XII) and the Secretary-General was requested to make any necessary editorial changes to the *Technical Regulations* consequent to those amendments.

2.4.4 Congress requested the Executive Council, when considering the report of the extraordinary session (1994) of CBS, to review and consider for approval the new amendments, proposed by the Commission, to Annexes II, III, IV and V, i.e. to the *Manuals on Codes* (WMO-No. 306), *on the Global Telecommunication System* (WMO-No. 386), *on the Global Data-Processing System* (WMO-No. 485), and *on the Global Observing System* (WMO-No. 544), respectively.

2.4.5 Congress also requested the Executive Council, at its forty-seventh session, to review and consider for incorporation in WMO Technical Regulation [C.3.1] the text of Amendment 70 to ICAO Annex 3. It further requested the Executive Council, when considering the report of the tenth session of CAeM, to review and consider for approval changes to WMO Technical Regulation [C.3.3] and its Appendix, consequential to the amendments incorporated in WMO Technical Regulation [C.3.1].

3. SCIENTIFIC AND TECHNICAL PROGRAMMES (agenda item 3)

3.1 WORLD WEATHER WATCH (WWW) PROGRAMME (agenda item 3.1)

3.1.0 WORLD WEATHER WATCH BASIC SYSTEMS AND SUPPORT FUNCTIONS; THE REPORT OF THE PRESIDENT OF THE COMMISSION FOR BASIC SYSTEMS (CBS) (agenda item 3.1.0)

REPORT OF THE PRESIDENT OF THE COMMISSION FOR BASIC SYSTEMS (CBS)

3.1.0.1 Congress noted with appreciation the report of the president of CBS on the activities of the Commission since Eleventh Congress. The continued progress in the

development of the WWW, especially with regard to the introduction of new technology, was noted, as were the steps taken by the Commission in fulfilling its new responsibilities in the area of Public Weather Services (PWS).

3.1.0.2 Congress particularly appreciated the initiatives of the Commission in outlining its role in the follow-up to UNCED and in elaborating on its potential contribution to the development and implementation of GCOS. It was noted that CBS was fully cognizant of the requirement for the basic systems to support all WMO, and relevant non-WMO, Programmes and that the proposed new terms of reference of the Commission, which were approved by Congress, (see agenda item 11.3) reflected that. Congress also expressed its appreciation for the efforts devoted to the additional tasks which the Commission had been requested to undertake in order to facilitate the consideration by Congress of the proposed new arrangements for the exchange of meteorological data and products (see agenda item 11.4). Congress adopted Resolution 2 (Cg-XII).

Status of implementation of the World Weather Watch (WWW)

3.1.0.3 Congress welcomed the *Seventeenth Status Report on the Implementation of the World Weather Watch* (WMO-No. 823) and complimented the Secretary-General on its improved presentation.

The Global Observing System (GOS)

3.1.0.4 Congress noted that, although it varied from region to region, the overall level of implementation of the surface and upper-air observing programme, in the context of the regional basic synoptic networks (RBSNs), remained much the same as it had been done over the past decade or so. Whilst the total numbers of surface stations had been growing steadily, those were not evenly distributed and requirements were becoming more demanding, with the result that there were areas in which the availability of data was still far from sufficient. Recalling the request of Eleventh Congress that high priority be given to the review and redesign, as necessary, of the RBSNs, Congress was pleased to note that that had been accomplished in some regions and was under way in others.

3.1.0.5 As regarded upper-air observations, Congress was pleased to learn of some improvement in Region I but noted that data coverage in that Region, as well as in South America and in the Newly Independent States (NIS) and new WMO Members, was still far from sufficient, particularly because of the costs of operation and maintenance. In that connection, the uncertainties regarding the continued operation of the Omega radionavigation system beyond 1997 also gave cause for concern and Congress urged Members, CBS in consultation with CIMO, and the Secretary-General to keep the situation under close review and to make every effort to ensure the continued operation of the system until such time as feasible alternatives could be implemented. On a more optimistic note, Congress was informed of the improvements in upper-air data from aircraft and satellites and of the fact that wind profilers had been operated successfully. Wind profilers had proven useful for meteorological purposes and could be deployed on an operational basis, although financial constraints might limit their deployment.

3.1.0.6 Substantial improvements were noted in other components of the GOS. There had been a steady increase in the deployment of drifting buoys, moored buoys, and fixed platforms with some 600 of the former and 100 of the latter transmitting reports on the GTS at the end of 1994; while the number of voluntary observing ships (VOSs) had remained at just over 7 000, the number of SHIP reports reaching centres on the GTS had increased; with the rapidly expanding use of automated reporting of meteorological data from aircraft, huge increases were being recorded in the availability of observations from aircraft; and the improvement every year since 1982 in the preparation and transmission of CLIMAT reports was cause for considerable satisfaction. Congress stressed, however, that despite the progress that had been made, there should be no relaxation of the efforts to improve observational data coverage in most regions, especially over the oceans and in the southern hemisphere. It was recognized that that could best be achieved through the use of an optimal mix of observing systems.

3.1.0.7 Congress was particularly pleased to note that there was evidence of a distinct improvement in the quality of data from some types of observations following the implementation of data quality monitoring for nearly all areas and most components of the surface and upper-air networks. Congress expressed its gratitude to the eight Regional Specialized Meteorological Centres (RSMCs) which had been designated as lead centres for that activity for the very valuable additional work they were carrying out for the benefit of all Members and expressed the hope that the monitoring programme would be further expanded with appropriate feedback being provided and remedial action being taken, where necessary.

Global Telecommunication System (GTS)

3.1.0.8 Congress noted with satisfaction that the continuous efforts of Members had resulted in significant progress in the further implementation and upgrading of the GTS. All 23 main telecommunication network (MTN) circuits were in operation, 20 of them operating at data signalling rates higher than 2.4 Kbps, including three circuits at 64 Kbps, and all MTN centres were automated. Congress was pleased to note the plans developed by CBS for the introduction of advanced data-communication techniques and protocols on the MTN with a view to facilitating a flexible and efficient data transfer. An increasing number of GTS point-to-point circuits called for in the regional meteorological telecommunication plans were leased circuits, including telephone-type circuits, and considerable progress had been made in the implementation of X.25 procedures required for the exchange of binary data. However, there was still a significant number of low speed and radio high frequency circuits in some areas, particularly in Region I. Recognizing the difficulties many Meteorological Services had in affording the cost of leasing telecommunication circuits, Congress encouraged Members to negotiate suitable arrangements between their NMSs and their telecommunication authorities for reduced tariffs and requested the Secretary-General, in liaison with the International Telecommunication Union (ITU), to assist to the largest extent possible.

3.1.0.9 Congress was pleased to note that considerable progress was being made in the implementation of multi-point telecommunication services via satellite. The Regional Association (RA) IV had approved the plan for the new Regional Meteorological Telecommunication Network (RMTN) based on two-way multi-point telecommunication services via satellite using very small aperture terminal (VSAT) technology, which had been implemented in 1995. It was also considering telecommunication services via satellite for a new RMTN plan. The meteorological data distribution (MDD) service via METEOSAT covering Africa, the Middle East, and Europe was fully operational and had been extended to include a third 2 400 bit/s channel in January 1995. Congress urged donor countries to do their utmost to assist developing countries in obtaining MDD receiving equipment. Regional satellite-based distribution systems were operated or planned for the near future by France (RETIM) and Germany (FAX-E). WMC Moscow was planning the distribution of data and facsimile products via the new Russian geostationary meteorological satellite. The International Maritime Satellite Organization (INMARSAT) satellite-based services were increasingly used for broadcasting meteorological information and warnings to ships. Several Members, including Argentina, Canada, China, France, India, Indonesia, Mexico, Saudi Arabia, Thailand and the United States, had already implemented, or had firm plans for the implementation of, satellite-based multi-point telecommunication systems for their national meteorological telecommunication networks.

3.1.0.10 Congress also noted that the United States had implemented the ICAO WAFS satellite-based broadcast for the Americas, and planned to implement it for the Pacific in 1995. The United Kingdom was implementing the ICAO WAFS satellite distribution system (SADIS) to serve Europe, Africa and western Asia.

3.1.0.11 Congress was pleased to note that, in view of the high recurrent costs for the operation of radio broadcasts, many Members planned to take advantage of more cost-effective means of transmission, in particular satellite-based multi-point systems, although radio broadcasts would remain for some time a useful telecommunication means in some areas. Congress encouraged Members and the regional associations concerned to pursue their effort towards cost-effective means of transmission, for instance the further introduction of multi-point telecommunication services via satellite for the implementation of the GTS.

3.1.0.12 Noting the increasing use of Internet for communications between Meteorological Services and with the WMO Secretariat, including for some exchange of operational information, Congress felt that the actual characteristics of multi-purpose data-communication networks, such as Internet, should be assessed as regarded communication services provided (availability, capacity and timeliness), cost aspects, expected future development, and international coverage and access, with a view to establishing guidelines for their appropriate use by the Meteorological and Hydrological Services. Congress requested CBS to study the matter in light of the various requirements for information exchange, including the WMO distributed databases (DDB) experiments (see also paragraph 3.1.0.23).

Radio-frequency matters

3.1.0.13 Congress noted with great concern the increasing pressure and threat to the frequency bands allocated to meteorological activities by the requirements for new public telecommunication services, which were already evident in several decisions taken by the World Administrative Radio Conference (WARC)-92). Congress noted with appreciation the establishment of the CBS Working Group on Telecommunications/Study Group on Radio-frequency Coordination, which had held its first session in February 1995, as well as the active coordination role of the Secretariat, including its participation in relevant ITU meetings. Congress urged Members to pursue and even increase contacts with their national telecommunication administration to ensure that the importance of frequency bands allocated to meteorological activities was well understood, and also to seek their support in the international arena, in particular at World Radiocommunication Conferences. Congress stressed that those contacts should be undertaken as a continuing effort by the upper management of Meteorological Services, with a view to ensuring adequate recognition and consideration of the issue.

3.1.0.14 Congress noted, with serious concern, that the forthcoming 1995 World Radiocommunication Conference might alter radio-frequency allocations to meteorological aids and meteorological satellite services and expressed its worry about the impact on meteorological operations and their cost. Congress also urged Members to involve meteorological expertise in the ITU-R Radiocommunication Study Groups, especially Study Group 7 on Science Services, which were entrusted with technical studies in preparation for World Radiocommunication Conferences. In view of the prime importance of radio-frequency matters for meteorological operations and research, Congress adopted Resolution 3 (Cg-XII).

Global Data-processing System (GDPS)

3.1.0.15 Congress noted the continued improvement in the quality and accuracy of products generated by World Meteorological Centres (WMCs) and RSMCs, and other Global Data-processing System (GDPS) centres. That had resulted from constant improvements in data assimilation and in model design as well as from upgrades to computer facilities in centres of most WMO Regions. It noted, however, that some RSMCs in Region I did not have appropriate data-processing facilities to perform fully their expected functions as RSMCs. Congress endorsed the view of CBS that major GDPS centres should each co-sponsor at least one or two developing centres with a view to assist cooperatively the centres in upgrading their facilities and services as GDPS centres.

3.1.0.16 Congress noted with pleasure the designation of the centre in La Réunion and the proposed designation of Nadi, Fiji as RSMCs with activity specialization in tropical cyclones for the South-west Indian Ocean and the South-west Pacific, respectively. It noted also with satisfaction the designation of four GDPS centres, Bracknell, Toulouse, Montreal and Washington, as RSMCs with activity specialization in transport model products for environmental emergency response in Regions IV and VI and that

Melbourne had been recommended for a similar designation in Region V. Congress invited other regional associations to take appropriate steps to facilitate the designation process in their respective Regions. Congress was additionally informed that the centre in Moscow had implemented a transport model for national applications in environmental emergencies.

3.1.0.17 Congress was gratified to learn that, among the emerging centres, the ASEAN Specialized Meteorological Centre (ASMC) had become fully operational and expressed its appreciation for the assistance and support that had been provided by Japan in that regard. Congress noted also that progress was being made in the implementation of the emerging African Centre of Meteorological Applications for Development (ACMAD) and the Drought Monitoring Centres Nairobi and Harare, where continued assistance and support of major centres was still required. Congress noted with appreciation the willingness of the Republic of South Africa to accept again the responsibilities of an RSMC and regional telecommunication hub (RTH).

3.1.0.18 Congress was informed that a demonstration project for the exchange in alphanumeric form of climate diagnostic and long-range prediction products on the GTS had been carried out. Further work to resolve problems associated with the exchange of graphical products, the consolidation of requirements, and the evaluation of the quality of available products had still to be undertaken.

3.1.0.19 Congress noted with appreciation that technical specifications for hardware and software systems to meet minimum real-time data-processing requirements of national Meteorological Centres (NMCs) to allow them to respond more effectively to environmental issues, had been developed and distributed to Members and GDPS centres for their use, as appropriate, especially in the context of capacity building. Congress noted that other priority issues related to NMSs' capacity building which still had to be addressed included:

(*a*) The development of regional and national expertise in climate diagnostic studies and numerical modelling, in particular limited area numerical weather prediction (NWP);

(*b*) The assignment of responsibility to regional centres for development, adaptation, and maintenance of software to assure sustainability;

(*c*) The implementation of pilot projects on real-time data-processing facilities and services at NMCs with a view to replicate progressively such facilities in other NMCs that were able to absorb such technology;

(*d*) The provision of reliable communication means to facilitate the exchange of data and products between GDPS centres;

(*e*) Ensuring that national and regional centres had the capability to make effective use of global model data which should be made available at the highest possible resolution given technological and other constraints;

(*f*) Support the implementation of operational prediction systems related to subregional meteorological phenomena.

3.1.0.20 As regarded environmental emergency response, Congress fully supported the recommendation of CBS that the NMS of each country, with the support and guidance of RSMCs, be recognized as having the responsibility for providing environmental emergency response services to appropriate authorities within their country. It urged Members to implement appropriate facilities and make organizational arrangements to meet that requirement. Congress noted with satisfaction that regional and global arrangements for the provision of transport model products for environmental emergency response in case of nuclear accidents and standards in the provision of international services by RSMCs had been developed by CBS in coordination with the International Atomic Energy Agency (IAEA) and other international organizations concerned.

3.1.0.21 Recognizing that RSMCs with that specialization depended heavily on having direct access to up-to-the-minute global coverage weather data, as well as event-related information, in order to provide operational environmental emergency response services, Congress noted with satisfaction that that matter was under urgent review by CBS and the RSMCs concerned. Congress urged Members to increase their efforts to ensure the provision of basic weather and related environmental data for that purpose.

Data management

3.1.0.22 Congress noted with satisfaction the progress made in implementing the WWW data management function, which had developed standards, functions and services for the optimum packaging, exchange and handling of WWW data. Those had been gradually implemented by Members on the GOS, GTS or GDPS, as appropriate. The exchange of software between Members had been facilitated through the CBS Software Registry. Over the past four years two versions of the Registry had been distributed, the latest in December 1994. It was also noted with appreciation that the *Guide on World Weather Watch Data Management* (WMO-No. 788) had been compiled and distributed along with WWW Technical Report No. 17 entitled *Guide to WMO Binary Code Forms* (WMO/TD-No. 611).

3.1.0.23 Congress fully endorsed the initiative taken by CBS at its tenth session in renaming the WWW distributed databases concept as the WMO distributed databases to reflect more accurately its purpose of providing data and information needed by all WMO and related international programmes but not routinely exchanged on the GTS. Significant steps had been taken towards its implementation including the adoption of an implementation plan, closely coordinated with GCOS, and with the help of an expert generously seconded to the Secretariat by the United States; initial trials had begun in April 1995 using pilot systems connected via the Internet. The trial should be expanded to the GTS once the MTN had been upgraded to support "Internet-like" functionality. Congress endorsed the approach recommended by CBS to incorporate in the trials, from the outset, up-to-date referral information and datasets essential for WWW and related operations with a view to achieving, as early as possible, effective improvements in Members' operational and data archiving activities.

3.1.0.24 Congress expressed satisfaction that a major step towards coordinating the data management activities of all WMO technical commissions and related international programmes had been taken with the holding of the First Inter-programme Data Management Coordination Meeting in late 1994. Congress agreed that it was important to accelerate the development of an integrated WMO data management system and that CBS, through its Working Group on Data Management, should act as the focal point for that activity in preparing an overall WMO plan for data management inasmuch as the resources allocated to that programme would so allow.

3.1.0.25 It was further noted that the WWW was now in an open-ended transition period from character-based code forms to binary representation forms. A flexible character code called Character form for the representation and exchange of data (CREX), which would provide a character representation of data held in BUFR as well as a form for exchanging new data types that could not be represented in traditional character codes, had been developed for experimental use.

Monitoring activities

3.1.0.26 Congress noted that the results of the 1994 annual global monitoring indicated an availability at MTN centres of about 71 per cent of SYNOP and 62 per cent of TEMP reports expected from the RBSNs. It noted with some concern that the availability of SYNOP and TEMP reports remained relatively low in certain areas, in particular in Region I (44 per cent and 24 per cent, respectively) and in Region III (52 per cent and 34 per cent, respectively). Compared to previous years, there was a general trend for an increased availability of SYNOP reports from all Regions, except from Region VI which showed a decrease in 1994; there had been a decrease in the availability of TEMP reports from Regions II, IV and VI (eastern part).

3.1.0.27 As regarded the monitoring procedures, Congress was pleased to note that the Secretariat, under the coordination of CBS, had improved procedures for the presentation of monitoring information on floppy disks, which were greatly facilitating the provision of monitoring results by WWW centres, and their detailed analysis. The increasing number of centres providing monitoring results, in particular on floppy disks, was noted with satisfaction. In order to improve the efficiency of the operation of the WWW system, Congress considered that it was important to strengthen and expand the monitoring activities to include, to the extent possible, the regular real-time monitoring of the operational component of the WWW. Congress urged all Members to participate actively in the monitoring activity, at least up to a level compliant with the national, regional or global responsibilities of their WWW centres.

World Weather Watch system support activities including the operational information service

3.1.0.28 Congress was pleased to learn that the Operational WWW Systems Evaluation (OWSE)-Africa, carried out from 1989 to 1993 in two phases, had shown that a dramatic increase of observational data from Africa on the GTS could be achieved through the use of satellite communications technology and that the use of the MDD mission of METEOSAT greatly improved the availability of meteorological products and information from the more advanced centres to NMCs in Africa equipped with the MDD receivers. Congress urged that appropriate follow-up actions on OWSE-Africa be taken by Members of Region I and by donors aimed at integrating the new technologies into the WWW in Region I. It was stressed that, in so doing, care had to be taken to design or select equipment suitable for the African environment and to ensure the training of relevant personnel in the operation and maintenance of the new systems.

3.1.0.29 In the light of the highly positive experiences and the valuable lessons learned from the two OWSEs carried out so far, Congress reiterated its endorsement of the concept of OWSEs as a useful tool for WWW system planning and evaluation.

3.1.0.30 Congress noted with satisfaction that the Coordinating Group on the Composite Observing System for the North Atlantic (COSNA), established in 1990 as a follow-up to the OWSE-North Atlantic, was continuing to coordinate the combined efforts of Members concerned to design and implement an optimum system over an extraterritorial area with a view to ensuring that adequate and high quality observational data were available. Congress considered that that was an excellent example of Members pooling their resources to design, evaluate and implement new systems and techniques for the benefit of the entire WWW system and strongly urged Members and regional associations to consider setting up similar projects in other areas. It requested the Secretary-General to continue providing support to such cooperative arrangements between groups of Members as agreed and reviewed by the Executive Council.

3.1.0.31 Congress expressed its satisfaction with the organization of the International Conference on Meteorological and Hydrological Technology and its Management — METEOHYTEC 21 — together with a technical exhibition, which had been held in Geneva from 22 to 26 May 1995, immediately prior to Twelfth Congress. The Conference had been well attended by a broad cross-section of Government decision makers, representatives of NMHSs, academia and industry; the quality of the presentations had been very high, thus, affording an excellent opportunity for all concerned to keep abreast of new developments as well as the potential for improving meteorological and hydrological services.

3.1.0.32 Congress also noted with interest that various other projects involving the provision of equipment and/or expertise and aimed at the improved implementation and operation of the WWW had been carried out with financial support from UNDP or the WMO Voluntary Cooperation Programme (VCP). Those projects related, in particular, to surface and upper-air observation stations as well as to the installation of receiving stations (DCP/DRS) and MDD systems, and to training.

3.1.0.33 As regarded the operational information service (OIS), Congress stressed the need for the timely access at all WWW centres of accurate and detailed information on facilities, services, and products made available in the

operation of the WWW. As that was becoming even more important with the progressive automation of the centres, Congress agreed that the OIS should continue to be an essential support function of WWW operation and monitoring. It was, therefore, noted with satisfaction that steps were being taken to develop and modernize further the service through the application of WMO DDB to allow easier and quicker access by users to the information they needed.

3.1.0.34 Concluding its discussion on the WWW, Congress reaffirmed its importance as the basic Programme of the Organization and agreed that its further development should continue to have the highest priority. It stressed the importance of achieving an appropriate balance among the various components of the WWW and to obtain the best value from limited resources. Congress urged all Members to continue to make every effort to play their full role in the implementation and operation of the WWW system.

3.1.1 INSTRUMENTS AND METHODS OF OBSERVATION PROGRAMME; THE REPORT OF THE PRESIDENT OF THE COMMISSION FOR INSTRUMENTS AND METHODS OF OBSERVATION (CIMO) (agenda item 3.1.1)

3.1.1.1 Congress noted with appreciation the report of the president of CIMO on the work accomplished within the Instruments and Methods of Observation Programme (IMOP) which had been carried out on the basis of Resolution 4 (Cg-XI) — Instruments and Methods of Observation Programme. It was stressed that IMOP was of fundamental importance for ensuring the quality of meteorological data essential to the Organization's operational and research activities. Congress urged Members to continue to participate actively in the work of the Commission and to support the implementation of IMOP.

3.1.1.2 Congress was pleased to note that the technical conference TECO-94 and the exhibition of meteorological equipment and systems, METEOREX-94, for the first time organized conjointly with the eleventh session of CIMO in Geneva in 1994, were very successful. Congress underlined the importance of such technical conferences as a means of exchanging technical information and experience and of facilitating technology transfer and capacity building. Congress urged Members and the Secretary-General, within the available resources, to continue to support the organization of, and the attendance at, such conferences.

3.1.1.3 Congress was satisfied that much of the work planned within IMOP had been completed or had reached an advanced stage in the inter-sessional period. It appreciated the progress made towards completing the sixth edition of the *Guide to Meteorological Instruments and Methods of Observation* (WMO-No. 8) and agreed that it should continue to receive high priority. It urged Members to support that work and the future updating of the *Guide* through the provision of expertise.

3.1.1.4 The results of the comprehensive programme of intercomparisons of instruments and observation systems, which were equally important both for Members and the manufacturers of meteorological instruments, were also noted with satisfaction. As such intercomparisons made an important contribution for improving data quality, Congress agreed that those activities should be continued. Congress stressed the importance of the regular calibration of instruments to achieve reliable datasets and of comparing the national calibration standards against recognized regional or international standards. In that connection, it was noted that all Regions had established Regional Radiation Centres (RRCs) for the calibration of radiation instruments and that Regional Instrument Centres (RICs) did not exist in all of the Regions. Members with national calibration facilities were, therefore, urged to make them available for use by Members without RICs within the Regions.

3.1.1.5 Congress underscored the importance of specialized training of instrument specialists and technicians as a prerequisite for high quality observational data and encouraged Members to arrange for such training through national and regional training programmes, as required.

3.1.1.6 Congress also stressed the importance of collaboration with other commissions and bodies inside and outside of WMO in the field of instrumentation and methods of observation, especially as regarded scientific and technical advice on how to meet users' requirements for the measurement of basic meteorological variables. In that context, collaboration with the International Organization for Standardization (ISO) was welcome. Congress urged Members, through their national standards bodies, to participate actively in the development of standards for meteorological instruments, for methods of measurements, and for calibration of instruments.

3.1.1.7 Congress adopted Resolution 4 (Cg-XII) on the IMOP for the period 1996–1999 as well as the terms of reference of CIMO, as discussed under agenda item 11.3, which were revised to reflect better the Commission's responsibilities in response to UNCED and the global climate issue.

3.1.2 WMO SATELLITE ACTIVITIES (agenda item 3.1.2)

3.1.2.1 The report on the status of WMO satellite activities (WMOSA) was noted with appreciation.

3.1.2.2 Congress expressed its appreciation to those Members actively engaged in operational satellite programmes and noted with satisfaction the following events and activities since Eleventh Congress:

(*a*) The systematic launching and operation of satellite systems within the space-based sub-system of the GOS based on WMO contingency requirements;

(*b*) The further expansion of the ground segments for satellites; there were now more than 7 800 ground stations located in over 150 different countries including almost 1 000 in NMHSs that received direct environmental broadcasts from satellites. WWW had set implementation goals that were directed toward each WMO Member having at least one polar-orbiting and one geostationary satellite data receiver and, at present, 61 WMO Members did not meet those goals;

(*c*) The demonstration of the importance of satellite data in research, climate and environmental monitoring, and all aspects of operational meteorology, in particular analyses, nowcasting, very short-range, medium- and long-range forecasting;

(*d*) The increasing attention given to satellite technology in WMO training activities as evidenced by the new Strategy

for Education and Training in Satellite Matters. During the period 1991–1995, WMO sponsored or co-sponsored four training events with more than 200 participants.

3.1.2.3 The European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) informed Congress, on behalf of itself and of the members of the Coordination Group for Meteorological Satellites (CGMS), that they greatly appreciated the active role now being played by WMO in articulating requirements for data, products, services, and continuity. Congress was pleased to learn that, with the recent launch of the Russian Federation's (GOMS) geostationary operational meteorological satellite, five such satellites were, for the first time, providing truly global coverage in meeting the needs of WMO Programmes. Furthermore, the plans of the satellite operators should provide continuity of data and services beyond the end of the century.

3.1.2.4 EUMETSAT also reported on two initiatives it had recently undertaken to strengthen the use of satellite data especially in developing countries. First, in April 1995, it had sponsored a Users Forum in Niamey to increase the dialogue between the user and provider communities. Secondly, the EUMETSAT Council had approved the co-sponsorship of two RMTCs — the African School of Meteorology and Civil Aviation (EAMAC) in Niamey and the Institute for Meteorological Training and Research (IMTR) in Nairobi — as suggested in the new Strategy for Education and Training in Satellite Matters.

3.1.2.5 Congress was pleased to note that EUMETSAT would provide resources to elevate the capabilities at the two RMTCs and that that commitment was meant to complement and supplement the WMO satellite training programme. Congress, therefore, noted that WMO's role in that partnership would require a concurrent increase in the number of training events in order to provide a proper balance for the respective roles of the two partners. Congress felt that two training events in a four-year cycle were insufficient and that up to eight might be required to satisfy all the requirements, as stipulated in the new strategy, and urged Members and satellite operators to do their utmost to provide resources to attain that goal. In addition, Congress agreed that the ETR Programme should give high priority to satellite training as that was supportive to all WMO Programmes. Additional training events would necessitate that means of making available the necessary WMO resources would be found, including extrabudgetary resources, alternative funding arrangements, and the offsetting of associated WMO costs through withdrawal or delaying of other appropriate activities.

3.1.2.6 Congress noted the extensive increase in the applications of satellite technology including those documented in the annual publication of the Application of Satellite Technology Series. It felt that the publication activity in WMOSA was important and provided an excellent means for WMO Members to share their experiences in using satellite data.

3.1.2.7 Congress recognized the need to ensure the continuing operation of the environmental satellite systems. It was most pleased to note that a Statement of WMO Requirements for Continuity of the Space-based Subsystem of the GOS had been developed and agreed upon. It was further pleased that the CGMS had accepted that Statement as forming the basis for their contingency planning. Congress cited the Extended Atlantic Data Coverage Programme (X-ADC) of EUMETSAT and the United States as an excellent example of contingency planning.

3.1.2.8 Congress appealed to Members concerned to maintain their environmental satellite systems and, thus, ensure the continuity of WMO Programmes. It urged Members concerned to develop, maintain, and operate the polar-orbiting satellite systems consisting of the METEOR-2/3 and 3M series (Russian Federation) satellites, the National Oceanic and Atmospheric Administration (NOAA) series (United States) satellites, the EUMETSAT Polar System (EPS) and the FY-1 series satellite from the People's Republic of China. A similar urgency was given to the continuation by Members concerned for geostationary satellites operating at their present positions by EUMETSAT, Japan, the United States, the Russian Federation, and India. In that context, Congress emphasized the need for adequate coverage over the Indian Ocean and thanked the Russian Federation for the recent launch of GOMS.

3.1.2.9 Congress was informed that the Russian Federation had launched METEOR-3 No. 7 in January 1994. It had, as part of its payload, a joint Russian/French instrument for monitoring the Earth's radiation budget. The Russian Federation also planned to launch a similar mission in 1996 or 1997 with a joint Russian/French instrument for monitoring the Earth's radiation budget and possibly a total ozone mapping spectrometer (TOMS) instrument for monitoring ozone. The Russian Federation's GOMS was launched in October 1994 and was in position at 76°E over the Indian Ocean. The Japanese geostationary meteorological satellite, GMS-5, was launched in March 1995 becoming operational in June 1995. GMS-5 had new channels for water vapour, and split window infrared. Japan further indicated that their next geostationary satellite (MTSAT-1) would have a dual purpose, satisfying aviation communication and meteorological requirements, and would be launched in 1999. EUMETSAT launched METEOSAT-6 in November 1993. The United States launched GOES-8 in April 1994 and GOES-9 in May 1995. GOES-8 was operational and positioned at 75°W. GOES-9 was expected to become operational in September 1995. China indicated that their geostationary satellite, FY-2, was planned to be launched between 1996 and 1997 and that the next in their polar-orbiting series, FY-1, was planned to be launched between 1997 and 1998.

3.1.2.10 Congress was pleased to note the latest status from those Members which developed, maintained and operated satellites and expressed its deep gratitude and appreciation to them for the valuable service they provided in support of WMO Programme requirements. The direct broadcast service was highlighted as one that was most valuable while providing many benefits to the user communities. The diverse use of products from the direct broadcast service provided a highly visible way of expressing the value of meteorology to the general public. Congress believed that the ever-increasing importance placed on climate and climate change could place Members in more prominent national roles through increased visualization of climatic issues available with satellite-derived products.

3.1.2.11 Congress recognized the widespread use of satellite data across WMO Programmes and, thus, acknowledged the continuing need for overall coordination of satellite activities in WMO. It particularly emphasized the importance of the forthcoming World Radio Conferences in 1995 and 1997 and matters related to frequency allocation, especially the registration of satellite-receiving equipment with national telecommunication administrations. Congress also noted with pleasure that WMO was now an affiliate member of the Committee on Earth Observation Satellites (CEOS) and an observer of the Space Frequency Coordination Group (SFCG). Congress recalled that WMO had been a member of CGMS since 1972. It stressed the importance for WMO to continue to work closely and actively with those organizations and with other international organizations of users, within and outside the United Nations system, with the aims of:

(*a*) Prioritizing and, then, promoting user requirements for satellite data and services;

(*b*) Achieving equitable cost sharing.

3.1.2.12 Congress suggested that CBS should consider the technicalities of implementing a centre which was capable of producing mosaics of global satellite image.

3.1.3 Tropical Cyclone Programme (TCP)

(agenda item 3.1.3)

3.1.3.1 Congress noted with satisfaction the achievements and progress made in both the general and regional components of the Tropical Cyclone Programme (TCP) since Eleventh Congress, especially in relation to the IDNDR.

3.1.3.2 Among the 12 technical reports published in the TCP series under the general component since Eleventh Congress, Congress was particularly gratified by the implementation of TCP sub-project No. 16 — Guide on Tropical Cyclone Forecasting, which resulted in the publication of the *Global Guide to Tropical Cyclone Forecasting* (TCP Report No. 31, WMO/TD-No. 560). It provided guidance and assistance to tropical cyclone operational forecasters in all tropical cyclone regions and basins. Congress requested the Secretary-General to update the *Guide*, when and where appropriate, in consultation with the authors and taking into account the proposals and suggestions to be made by the TCP regional bodies and tropical cyclone experts. Congress expressed the view that the completion of TCP sub-project No.16 would encourage the promotion of the application of research results to operational usage. In that regard, Congress expressed its appreciation for the contribution of the CAS Working Group on Tropical Meteorology Research to the improvement in tropical cyclone forecasting and warning systems. Recognizing the increased need for the further transfer of technology and methodology through the publication of manuals and reports, Congress endorsed the following TCP sub-projects to be implemented during the twelfth financial period (1996–1999): No. 18 — Tropical cyclone-related NWP products and their guidance; and No. 19 — Estimation of amount of precipitation associated with tropical cyclones by using satellite data.

3.1.3.3 In order to further intensify the human resource development of tropical cyclone forecasters, Congress requested the Secretary-General to make every effort to continue a significant number of training events during the twelfth financial period. In particular, training events dealing with tropical meteorology, tropical cyclone (hurricane and typhoon) forecasting and warning formulation, storm surges, and disaster preparedness were expected to provide large benefits and should be given high priority. Examples were the 10-week global training course on tropical meteorology and tropical cyclone forecasting, held in Miami, and the two-week southern hemisphere training course on tropical cyclones, held in Melbourne.

3.1.3.4 Congress supported the establishment of a storm surge project, particularly for the Bay of Bengal and the northern part of the Indian Ocean, with the joint cooperation of WMO, IOC, UNESCO, and UNEP.

3.1.3.5 Congress noted with pleasure that, with a view to promoting coordination among the regional tropical cyclone bodies, considerable progress had been made at the Technical Coordination Meeting on Operational Tropical Cyclone Forecasting and Dissemination of Results by RSMCs (Tokyo, 16–21 December 1992). In view of measures to strengthen further the coordination among the regional tropical cyclone bodies, Congress noted that the next coordination meeting would be held at the RSMC Miami in early 1996.

3.1.3.6 At the kind invitation of the Government of Thailand, the first joint session of two intergovernmental adjacent regional bodies — the Typhoon Committee and the Panel on Tropical Cyclones — was organized jointly by WMO and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (Pattaya, Thailand, 18–27 February 1992). Noting the considerable outcome of the first joint session and, at the request of the two intergovernmental regional bodies, Congress endorsed that the second joint session of the Typhoon Committee and the Panel on Tropical Cyclones should be organized jointly by WMO and ESCAP to take place in Thailand, tentatively in early 1997. Congress also encouraged close cooperation and coordination between the Tropical Cyclone Committees of RA I and RA V.

3.1.3.7 Congress recalled that, by Resolution 5 (XI-RA IV), high priority had been given to an annual session of the RA IV Hurricane Committee. Recognizing the demonstrated importance of that body, Congress requested the Secretary-General to do everything possible to retain annual sessions of the RA IV Hurricane Committee during the twelfth financial period (1996–1999), within the limits of available resources.

3.1.3.8 Recognizing the involvement in the work of the RA V Tropical Cyclone Committee and the consequential benefits gained by eight non-Members of WMO (Cook Islands, Kiribati, Micronesia, Niue, Tokelau, Tonga, Tuvalu and Western Samoa) which were all small island States or territories with small populations and economies, Congress affirmed the view of the forty-fourth session of the Executive Council that participation of experts designated by those non-Members in biennial sessions of the Committee would, for humanitarian reasons, encourage mutually beneficial regional cooperation. Appreciation was expressed by Congress to the Australian International Development Assistance Bureau (AIDAB), the South-Pacific Regional Environment Programme (SPREP) and the United Kingdom Overseas Development Administration (ODA) for

their valuable financial assistance to enable those non-Members of WMO in the South-West Pacific to participate in the fourth session (1992) and the fifth session (1994) of the Committee. Congress was pleased that Cook Islands, Niue and Tonga had been admitted as new Members of WMO during Twelfth Congress. Congress hoped that similar arrangements for financial support to the remaining non-Members of WMO would be considered for participation of experts in the future biennial sessions of the RA V Tropical Cyclone Committee.

3.1.3.9 Congress affirmed the decision of the forty-sixth session of the Executive Council concerning continued regional coordination in the implementation of the regional cooperation programmes formulated by all TCP regional bodies, aimed at strengthening the operation at the regional level, of timely high quality warning services tailored to the needs of users. It appealed to VCP donor Members and funding agencies concerned to give priority and their fullest possible support to the implementation of those TCP regional bodies' coordinated technical plans, in particular the updating of regional telecommunication networks, the establishment of personal computer-based tropical cyclone workstations, and human resources development through attachments to be arranged for tropical cyclone forecasters to the TCP RSMCs and advanced centres, and to training of personnel through courses, workshops and seminars on tropical cyclones.

3.1.3.10 In the light of the requirements within the framework of the five regional tropical cyclone bodies for further strengthening warning systems and measures to minimize disasters caused by tropical cyclones and associated storm surges, floods and landslips, Congress felt that there was still a great deal more to be done. In recognizing the humanitarian, social, and economic impact of the TCP and its great potential for substantial contributions to the goals of the IDNDR, Congress decided to accord very high priority to Programme 1.8 — Tropical Cyclone Programme of Part II, Volume 1 — The World Weather Watch Programme of the *Fourth WMO Long-term Plan* and adopted Resolution 5 (Cg-XII) on that subject.

3.1.4 WMO Antarctic activities (agenda item 3.1.4)

3.1.4.1 Congress noted with appreciation the work of the Executive Council through its Working Group on Antarctic Meteorology in coordinating the meteorological programmes in the Antarctic. It considered that most of the planned targets contained in the Third WMO Long-term Plan had been met. Congress noted that the working group had been re-established with revised terms of reference by Resolution 9 (EC-XLVI). It approved the Secretary-General's programme and budget proposals as regarded WMO Antarctic activities and adopted the section on WMO Antarctic Activities for inclusion in the Fourth WMO Long-term Plan.

3.1.4.2 When discussing the activities of the WWW in the Antarctic, Congress was pleased to note that the RBSN had been expanded by the inclusion of automatic weather stations (AWSs) and geophysical observatories. It also noted the establishment of an International Programme for Antarctic Buoys (IPAB) and urged Members to participate in it by providing and/or deploying ice-resistant drifting buoys. Congress welcomed the contacts between WMO and the International Association of Antarctic Tour Operators (IAATO) and urged Members to recruit tourist ships for the VOS scheme.

3.1.4.3 Congress pointed out that deficiencies still existed in observing and telecommunication networks in the Antarctic, including the absence of surface observations over most of western Antarctica, the decreasing number of upper-air stations, and the delays between time of observation and insertion of data into the GTS. It re-emphasized the target time of within three hours for the reception of data from stations at GTS/MTN centres and at other Antarctic stations. Congress was of the opinion that the deployment of AWSs in data sparse areas, and international cooperation to maintain continuous observations at existing stations were possible ways of improving the observational network. The Executive Council was requested to take a lead role, through its working group, in coordinating those activities.

3.1.4.4 In view of the importance of long-term series of data for climate monitoring, Congress welcomed the initiative to make a survey of available meteorological data and to prepare a catalogue as a part of the Antarctic Data Directory System (ADDS) being prepared by a Scientific Committee on Antarctic Research (SCAR) ad hoc Planning Group on Data Management. It encouraged Members to expand ozone observations in the Antarctic including ancillary observations of ozone-related chemical species and spectral radiation measurements and to transmit in a timely manner the data to the relevant WMO GAW data centres. Congress emphasized the importance of WMO to maintain close contact, through existing mechanisms, with the Secretariats of the UN/FCCC, of the Montreal Protocol, and of the Vienna Convention for the Protection of the Ozone Layer, in order that their action programmes were implemented to the extent possible in the Antarctic.

3.1.4.5 Congress confirmed that interaction between WMO and other international organizations, such as the Antarctic Treaty Consultative Meeting (ATCM), SCAR, the Council of Managers of National Antarctic Programmes, and IOC had been fruitful and should be continued. Congress noted with appreciation the invitation of IOC for WMO to participate in the First Southern Ocean Forum and to provide a contribution to the Forum discussion, particularly in the field of WMO Antarctic activities and joint activities on WCRP, GOOS, GCOS, the Integrated Global Ocean Services System (IGOSS) and the Data Buoy Cooperation Panel (DBCP) in the Southern Ocean.

3.1.4.6 Congress adopted Resolution 6 (Cg-XII).

3.2 World Climate Programme (WCP) (agenda item 3.2)

3.2.0 World Climate Programme and its coordination; the report of the President of the Commission for Climatology (CCl); the report of the Chairman of the Intergovernmental Panel on Climate Change (IPCC) (agenda item 3.2.0)

Coordination of the World Climate Programme (WCP)

3.2.0.1 Congress noted with satisfaction that in the period since Eleventh Congress, WMO had continued to

meet effectively and efficiently the global challenges related to climate and climate change, including follow-up actions to UNCED, and to contribute to the implementation of the UN/FCCC and the ICCD. Congress, in particular, commended the Secretary-General for his prompt actions to implement, in cooperation with the Executive Heads of other international organizations concerned, the decisions made by Eleventh Congress and subsequent sessions of the Executive Council on WCP coordination, including the organization of the Intergovernmental Meeting on the WCP (IGM-WCP) and the establishment of the Coordinating Committee for the WCP (CCWCP).

3.2.0.2 Congress reiterated the emphasis made by Eleventh Congress on the need for WMO, as the leading agency, to provide for the overall coordination of the WCP. Congress noted with appreciation the positive and cooperative attitude of partner organizations, especially UNEP, UNESCO and its IOC, the Food and Agriculture Organization of the United Nations (FAO), and ICSU, involved in the implementation of the WCP and its associated activities.

3.2.0.3 Congress noted the outcome of the IGM-WCP (Geneva, 14–16 April 1993) as presented in the Meeting's Statement and Report and noted further that the Meeting's recommendations, including that on the preparation of an integrated proposal of the climate-related parts of international programmes, to be presented to Governments, had been acted upon and that the CCWCP had undertaken, together with a specially established Advisory Panel, the necessary review and supervisory actions to ensure the presentation of that proposal to Congress.

3.2.0.4 Congress commended the CCWCP and the Advisory Panel for their work, which resulted in the preparation of the draft inter-agency (WMO, UNEP, UNESCO and its IOC, FAO, ICSU) document *The Climate Agenda — International Climate Related Programmes. A Proposal for an Integrating Framework* and its Executive and Policy Makers' Summaries.

3.2.0.5 Congress considered the Executive and Policy Makers' Summaries which contained the essential points of the inter-agency document and endorsed, in general, their scope and contents. Congress noted that *The Climate Agenda* recommended a well-reasoned and pragmatic framework for future international climate studies, identified priorities within each of the four thrusts, and defined a series of deliverables against which future progress could be objectively measured through output-oriented management procedures.

3.2.0.6 Congress recognized that there were a number of issues that would need further detailed consideration. In particular, Congress considered that further evidence of the benefits from past climate-related programmes and better estimates of the enhanced benefits to be expected in the future should be provided together with more reliable estimates of the resources required.

3.2.0.7 Congress noted that the submitted documents contained a description of implications of *The Climate Agenda* for both international organizations and Governments. Congress noted, in particular, that the documents suggested that *The Climate Agenda* could be fully implemented within the existing structure of international climate programmes if:

(*a*) International organizations:
- (i) Strengthened and extended existing international programmes according to the priorities of *The Climate Agenda*;
- (ii) Introduced management practices which monitored outputs against agreed performance standards;
- (iii) Ensured better coordination by establishing an inter-agency coordination mechanism;

(*b*) Governments:
- (i) Increased support to national activities, as part of the international programmes which they had helped to design;
- (ii) Strengthened or established, as appropriate, national climate programmes;
- (iii) Built scientific and technical capacity in developing nations and nations with economies in transition;
- (iv) Funded international coordination mechanisms;
- (v) Took decisions in response to *The Climate Agenda* at meetings of the governing bodies of the agencies involved.

Congress recognized that, as far as WMO was concerned, the Fourth WMO Long-term Plan for WCP contained elements that met the requirements formulated in *The Climate Agenda*, as regarded priorities of the Programme and related management practices. In that respect, Congress also recognized that the Executive Council and the Secretary-General were introducing output-oriented practices for the management of WMO scientific and technical programmes and requested that further expansion of such procedures would be envisaged.

3.2.0.8 Congress stressed that a revitalized WCP, organized along the lines of the four new thrusts, and described in the Fourth WMO Long-term Plan, should be the core of future international climate studies.

3.2.0.9 Congress considered that it would be essential if host organizations would be identified for the four major thrusts under *The Climate Agenda*. In that respect, Congress reiterated WMO's leading role within the three thrusts "climate services for sustainable development", "new frontiers in climate science and prediction" and "dedicated observations of the climate system".

3.2.0.10 As regarded coordination matters, Congress recognized the need, as reiterated in *The Climate Agenda,* to enhance coordination of international climate-related programmes/activities at the inter-agency level, in particular, through the establishment of a re-formulated CCWCP as a formal inter-agency committee. Congress, therefore, requested the Secretary-General to consult with the Executive Heads of other organizations concerned on the establishment of an inter-agency climate coordinating body, making full use of the experience accumulated through the process of coordinating the WCP and bearing in mind the need to develop a mechanism for interaction with Governments. Congress considered that such a development could be achieved through the involvement of representatives of the governing bodies of international organizations in sessions of the inter-agency coordinating body.

3.2.0.11 Congress emphasized that the inter-agency mechanism to be established should identify priorities and promote development of national commitments. In that connection, Congress identified the following responsibilities of a proposed coordination body:

(*a*) To provide inter-agency coordination for the WCP and related climate programmes of the sponsoring organizations;

(*b*) To identify requirements for scientific and financial support;

(*c*) To monitor progress towards the achievement of the objectives set forth in *The Climate Agenda* using identified deliverables;

(*d*) To prepare plans for actions on the implementation of *The Climate Agenda* for submission to the sponsoring organizations in two years time;

(*e*) To report regularly to the governing bodies of the sponsoring organizations on progress made towards the implementation of *The Climate Agenda*.

3.2.0.12 Congress further requested the Secretary-General, in consultation with the Executive Heads of other partner organizations, to bring *The Climate Agenda* to the attention of Governments and, in particular, to take steps for the submission of *The Climate Agenda* to high level United Nations bodies, such as the United Nations Commission on Sustainable Development (CSD).

3.2.0.13 Congress reiterated the view expressed by Eleventh Congress on the need for Members to promote national climate programmes and/or other means to coordinate interdisciplinary climate-related activities at the national level.

3.2.0.14 Congress considered that the continued further development and implementation of *The Climate Agenda* would require, around the middle of the next financial period, a further presentation of the resource requirements to participating Governments to obtain commitments, both financial and in kind, for the implementation of *The Climate Agenda*, in addition to the budgetary allocations within existing programmes. While allocating some resources for a possible intergovernmental commitments meeting, Congress requested the Executive Council and the Secretary-General to ensure that such an event would be organized if, and only if, it would be fully justified by the future scientific and/or political development.

3.2.0.15 Congress noted that the Inter-agency Committee on Sustainable Development (IACSD) had assigned to WMO the responsibility to act as a task manager for the preparation of the report on World Climate Programme and Drought Monitoring. Congress considered the proposal on the scope and contents of the report and expressed its general endorsement. Congress noted that the report should be completed at the end of 1995 in order to be presented to the CSD in the first half of 1996.

3.2.0.16 Congress reviewed and endorsed the proposed activities to be carried out under the WCP as presented in the Fourth WMO Long-term Plan and the proposed programme and budget for 1996–1999. Resolution 7 (Cg-XII) was adopted accordingly.

FOURTH WMO LONG-TERM PLAN

3.2.0.17 Congress adopted Part II, Volume 2 — The World Climate Programme, of the *Fourth WMO Long-term Plan*. Its decisions are recorded under agenda item 7.2.

REPORT OF THE PRESIDENT OF THE COMMISSION FOR CLIMATOLOGY (CCl)

3.2.0.18 Congress noted with appreciation the report of the president of CCl on the Commission's activities since Eleventh Congress. It welcomed the emphasis placed by CCl on its contributions to meeting the objectives of Agenda 21 and the UN/FCCC, including the promotion of the exploitation of climatic resources in support of various human activities.

3.2.0.19 Congress expressed its recognition of the production of a publication describing the history of the IMO/WMO Commission for Climatology.

3.2.0.20 Congress noted the ongoing work in CCl on the preparation of the third edition of the *Guide to Climatological Practices* and encouraged the Commission to complete that work expeditiously.

3.2.0.21 The decisions of Congress relating to various other matters referred to in the report of the president of CCl are recorded under agenda items 3.2.1, 3.2.2 and 11.3.

THE REPORT OF THE CHAIRMAN OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

3.2.0.22 Congress expressed its appreciation to the Chairman of the IPCC for his report.

3.2.0.23 Congress noted that the Conference of the Parties to the UN/FCCC had established a Subsidiary Body for Scientific and Technological Advice (SBSTA) and a Subsidiary Body for Implementation (SBI). It recognized that the relationship of the IPCC to the Conference of the Parties to the UN/FCCC, SBSTA and SBI would be evolving in time over the next several years. In the light of those developments, it expressed the view that the IPCC was still needed in order to provide independent and objective scientific and technical assessments of various issues related to climate change. Congress noted in that regard the desirability of the Secretary-General, jointly with the Executive Director of UNEP, to explore funding modalities for the IPCC for the long-term while ensuring that the IPCC maintained its independence. Congress emphasized that the integrity of the IPCC process should also be maintained.

3.2.0.24 Congress recognized the complementary roles of the IPCC and other bodies, such as the Joint Scientific Committee for WCRP, the Joint Scientific and Technical Committee for GCOS, and the WMO technical commissions. It encouraged the mutual exchange of information among them. In that context, Congress also noted the importance of serving the needs of the ICCD.

3.2.0.25 Congress agreed that the IPCC should be maintained as a joint WMO-UNEP body and, to that end, adopted Resolution 8 (Cg-XII).

3.2.1 WORLD CLIMATE DATA AND MONITORING PROGRAMME (WCDMP) (agenda item 3.2.1)

3.2.1.1 Congress reviewed the activities under the World Climate Data and Monitoring Programme (WCDMP) during the eleventh financial period and noted with

appreciation the contributions of CCl and of other commissions involved (including CBS, CHy, CMM and CIMO). Congress further noted that good progress had been made in meeting the WCDMP objectives specified in the Third WMO Long-term Plan.

3.2.1.2 Congress noted with appreciation that the first two regular WMO statements on the status of the global climate in 1993 and 1994 had been issued based on contributions made by several national climate centres. Congress considered those statements, prepared with the participation of the CCl Working Group on Climate Change Detection (WGCCD), as an excellent vehicle to show the potential of NMHSs to contribute to the climate change issue and agreed that steps should be taken to make them more visible to Governments and the general public.

3.2.1.3 With respect to the role of the WGCCD to provide advice and comments on the suitability of climate data used for the assessment and detection of climate change, especially as identified by the 1995 Scientific Assessment Report of the IPCC, Congress urged the identification of a number of scientifically-endorsed indicators designed to detect the anthropogenic climate change signal, taking into account recent advances in the use of climate models in detecting climate change.

3.2.1.4 Congress noted that since 1991 two biennial Global Climate System Reviews had been published and that routine publishing of the *Climate System Monitoring (CSM) Monthly Bulletin* continued during the eleventh financial period. UNEP's support to those publications was appreciated. Congress noted the continued late delivery of the *Bulletin* and welcomed plans to streamline its production and take advantage of advancing communications technology, such as Internet (see also 3.1.0.12) to improve the timeliness of delivery of CSM information. In that regard, Congress noted that a number of Members were interested in accessing CSM products via the Internet.

3.2.1.5 Congress endorsed the proposal of Australia that WMO initiate a cooperative project to publish a document tentatively entitled *The Climate of the Twentieth Century*, which would provide a century perspective on the variability of the global climate system, on the major climate anomalies and related impacts, and on progress made in understanding and predicting the system, particularly in the context of climate change. Congress suggested that the document culminate with some insight into the climate of the next century. Congress considered that there should be close cooperation with IPCC in the preparation of the document and welcomed the offer of collaboration from the European Climate Support Network (ECSN).

3.2.1.6 Congress welcomed the increased interaction between GCOS and the WCDMP, particularly the GCOS involvement in the work of the CCl Working Groups on Climate Change Detection and on Climate Data. In that regard, Congress strongly endorsed the cooperative efforts between GCOS, CBS and the CCl Working Group on Climate Change Detection in establishing global GCOS surface and upper-air reference climatological station networks and urged Members to cooperate in the selection of stations and in ensuring the preservation of data and the continued maintenance of appropriate observation programmes at chosen sites. Congress stressed the need for more integration of initiatives to avoid duplication of effort within those two distinctive and complementary programmes.

3.2.1.7 Congress welcomed the cooperative effort between experts from CBS and CCl in initiating a demonstration experiment to transmit three routine monthly CSM products to NMCs in Regions I and III, thereby improving the timeliness and utility of such products. Congress considered that the appropriate products must be made available in all Regions. Also, Congress encouraged Members to look for opportunities to make CSM data and products from their climate centres available digitally for electronic access and to take advantage of the WMO Internet (see also 3.1.0.12) node and publications such as the World Climate Data Information Referral Service (INFOCLIMA) to advertise the enhanced availability of CSM information.

3.2.1.8 Congress noted that the climate computing (CLICOM) system had been installed in an additional 25 countries during the eleventh financial period, bringing the total number of countries having CLICOM installed to 120. Congress assigned high priority to implementing CLICOM in the remaining Member countries, which could benefit from that capability, such as some of the Newly Independent States and new WMO Members. The offers from the Russian Federation and France for continued support in the implementation of the Russian and French language versions of CLICOM were appreciated by Congress. Congress also considered that innovative ways should be found to work with donor countries and agencies to provide the necessary funding for the development of new systems for climate data management and for upgrading some of the older existing CLICOM systems. Congress was informed that the United States would continue the maintenance of CLICOM core software and would assist in the development of a number of recommended enhancements. Congress emphasized the critical importance of providing more training to reap maximum benefits from the project.

3.2.1.9 Congress noted that there was the need to cater to some Member countries which wished to improve their climate database management capability to a level not attainable through the existing WMO CLICOM project. In that regard, Congress welcomed the recommendation of the August 1994 Meeting of Experts on the Future Evolution of WMO Coordinated Climate Database Management Systems that a number of existing climate database management systems, including CLICOM, be reviewed with a view to the evolution of a future WMO coordinated system that would be integrated into the operational weather communication networks and would be harmonized with the implementation of the WMO DDB concept and the GDPS.

3.2.1.10 Congress endorsed the initiatives under way to establish CLICOM Area Support Centres (ASCs) in Chile and Malaysia and to develop a regional CLICOM training capability at ACMAD in Niamey, Niger. It was seen that those and other proposed ASCs could be the nucleus for the desired development of Regional Climate Centres which would be capable of providing regional support for data rescue (DARE) activities, for the development of climate services, and for the development and maintenance of the climate data management capabilities in a region.

3.2.1.11 Congress considered that the INFOCLIMA catalogue, which now listed over 1 100 datasets from more than 300 centres with much of the catalogue information available on a computer diskette, should also be electronically accessible and updated through the recently established WMO Internet (see also 3.1.0.12) node at the Secretariat.

3.2.1.12 Congress noted the long history of cooperation that existed between the IOC/International Oceanographic Data Exchange (IODE) programme and the WCDMP which gave IOC an opportunity of gaining from the experience of WMO in the implementation of CLICOM and DARE. It was further noted that WMO used IOC experience in Marine Environmental Data and Information Referral System (MEDI) for the development of INFOCLIMA and that visits of IOC experts to WMO helped shape and develop the OceanPC software. Congress considered that the participation of IOC in the Advisory Committee on Climate Applications and Data (ACCAD) was particularly valuable and encouraged the participation of WMO and IOC experts in meetings of mutual interest. Congress welcomed the invitation to WMO to participate at the fifteenth session of the IOC Committee on IODE, to be held in Athens, Greece from 23–30 January 1996.

3.2.1.13 Congress noted with satisfaction the considerable progress that had been made through the cooperative efforts of the National Climatic Data Center (NCDC) of the United States in the development of comprehensive global climate reference datasets for surface land data, surface ocean data, and upper atmospheric data. Congress further noted that much of those data could be accessed electronically and considered that to be an important contribution to climate research and monitoring.

3.2.1.14 Congress thanked those Members which provided the 30-year (1961–1990) climatological normal data for publication by WMO and noted with appreciation the substantial contribution of NCDC, which was preparing the data for publication. Congress also noted that the 1981 to 1990 series of the World Weather Records volumes was being prepared at the NCDC using the data provided by Members, and that the data collection for that purpose from all WMO Regions was to be completed by the end of 1996.

3.2.1.15 Congress expressed its concern at the availability of monthly CLIMAT messages over the GTS. It stressed the need to improve the completeness of the monthly CLIMAT message datasets and called upon Members in all Regions to ensure that information on CLIMAT and CLIMAT TEMP messages in *Weather Reporting*, Volume A (WMO-No. 9) accurately reflected their current observation and transmission practices, and that the messages were encoded for global distribution. It encouraged Members to expand the number of such messages being distributed. Congress also encouraged Members to take full advantage of the recently revised CLIMAT code's capability to incorporate additional climatic details.

3.2.1.16 Congress noted the progress made in the DARE project in Region I. Congress also noted the initiation of several DARE activities in Region IV being supported by donations from Canada and the United Kingdom. Congress recognized that data rescued through the DARE project were not considered as freely available without the consent of the country from which the data originated. While Congress recognized the significance of rescuing and preserving original climate data and its associated metadata, it stressed the importance of digitizing those data to increase their overall utility. Congress urged more interaction between the DARE and CLICOM projects to help ensure the digitization of data. Also, Congress suggested that, in determining the priorities for digitizing data, consideration should be given to filling the gaps in global baseline datasets. Finally, Congress urged the expansion of data rescue activities, particularly in those countries located in climate data-sparse areas of the world. In that regard, Congress noted with interest that the Japan Meteorological Agency (JMA) had initiated a project to digitize a large amount of marine meteorological observation data over the North Pacific Ocean collected since the middle of the nineteenth century. Congress endorsed an initiative of the CCl Working Group on Climate Data to produce a guide on the preservation and management of climate data, with particular emphasis on rescued data. Information on bridging the gap between manual and automated observed data should be included.

3.2.1.17 Congress noted the launching in 1995 of searches for useful climate data that might reside in the national archives of Mexico and Cuba as part of a joint WMO-UNESCO-ICSU-ICA Archival Climatic History Survey (ARCHISS) project being implemented in the Caribbean and South America. Congress urged the close coordination of the DARE and CLICOM projects for any subsequent retrieval initiatives.

3.2.2 World Climate Applications and Services Programme (WCASP) (agenda item 3.2.2)

3.2.2.1 Congress reviewed the activities under the World Climate Applications and Services Programme (WCASP) during the eleventh financial period and noted with appreciation the contributions of CCl and of other Commissions involved (the Commission for Agricultural Meteorology (CAgM), CBS, CHy and CMM). Congress further noted that good progress had been made towards meeting the objectives specified for WCASP in the Third WMO Long-term Plan. Following the view of Eleventh Congress, special emphasis was placed within the programme on applications of climate information in the areas related to food, drought, and water. Congress noted that in accordance with the Third WMO Long-term Plan, the activities under the WCP in application of climate information in the areas related to food and water had been carried out in close collaboration with the Agricultural Meteorology and the Hydrology and Water Resources Programmes, respectively, as well as with other relevant international organizations.

3.2.2.2 As regarded climate applications to the energy sector, and energy meteorology in general, Congress noted with appreciation that WMO had maintained its important role in the international activity and had contributed to the implementation of several projects in collaboration with other organizations such as the IAEA and the United Nations Economic Commission for Europe (UN/ECE). It noted the successful completion of the UNDP regional project entitled Meteorological Information for

Development of Renewable Energy (executed by WMO), in which 12 countries participated, mainly from eastern and southern Europe. Congress encouraged the application of the experience gained from the project in carrying out similar activities in other Regions, especially as it related to serving the further development of new and renewable sources of energy.

3.2.2.3 Congress noted that the urban environment issue had become one of the most important within the overall context of global change and development of response strategies. It was noted that urbanization was a major contributor to the increasing emissions of greenhouse gases due to its relatively intense use of energy, and that the rapidly growing populations in many urban areas were most vulnerable to the impact of climate and climate change. Congress, therefore, considered that meteorological and climatological aspects in the urban environment should receive increased attention within WMO Programmes and emphasized the need for WCASP to promote further the development of related applications and services. Congress noted the various activities in the field of urban and building climatology, in particular the holding of the Technical Conference on Tropical Urban Climates (TECTUC) (Dhaka, Bangladesh, March–April 1993). Congress urged the development and implementation of the Tropical Urban Climate Experiment (TRUCE), taking into account the recommendations of TECTUC, in cooperation with relevant national and international organizations.

3.2.2.4 Congress reiterated the view expressed at its preceding session that the continued development and improvement of the Climate Applications Referral System (CARS) was important especially as it was closely linked to the further development of CLICOM. In that connection, Congress noted that CARS was already available on food, energy, and desertification and that an expanded and updated version was in preparation, which would contain sections on urban and building climatology, climate and human health, and tourism, and would be available on CLICOM-compatible diskettes.

3.2.2.5 Congress considered that it was essential to continue and enhance the work carried out in the application of meteorology and climatology to matters relating to human health and tourism in cooperation with other international organizations concerned, in particular the World Health Organization (WHO) and the World Tourism Organization (WTO).

3.2.2.6 Congress noted with appreciation the actions taken in the framework of WCASP for the promotion of the operational use of climatological data and knowledge to meet the requirements of users in various sections of the economy. The usefulness of the training workshops on User Needs and Requirements (Norrköping, Sweden, September/October 1993) and on National Climate Application Programmes (Vacoas, Mauritius, November/December 1994) was especially recognized, as were the activities of the CCl Working Group on Operational Use of Climatological Knowledge. Congress emphasized the need to coordinate the WCASP with the PWS Programme with the goal of increasing the effectiveness of the programme. In doing so, Congress recognized that there was a need to focus the WCASP activities to utilize the programme fully in the development of climate services and in promoting their network and evaluation of their socio-economic and environmental benefits. Congress considered that the WCASP should promote the full use of all available climate data and products in decision-making related to global issues, such as climate change and combatting desertification.

3.2.2.7 Congress noted that the forty-sixth session of the Executive Council had requested that urgent action should be taken to develop, within the WCASP, a subproject "to promote international activity aimed at the delivery of long lead climate forecasts towards applications for sustainable development, reduction of risks and obtaining socio-economic benefits". Congress noted with appreciation the actions taken by the president of CCl and, in particular, the recommendations made by the Meeting of Experts on Operational Climate Prediction Services, which was held in Australia in March 1995. The opportunity to translate the results from research projects, such as TOGA, into useful products and services delivered by NMSs was recognized. Congress emphasized the need to enhance climate prediction services to take advantage of the improved understanding of climate variability on timescales from monthly to interannual. Congress stressed the importance of properly coordinating the development of the climate information and prediction services with the Climate Variability and Predictability (CLIVAR) project of the WCRP, the Atmospheric Research and Environment Programme (AREP) on medium and long-range weather prediction research, as well as with other related activities in order to avoid duplication of effort. Congress considered that international cooperation was essential for each country to gain and share the full benefits of knowledge of near-future climate conditions.

3.2.2.8 Congress also noted that experts representing the users had emphasized the value of climate information and long-lead forecasts especially in the food production, water resources management, and energy sectors. Congress noted with appreciation the developments at the ACMAD and at the Drought Monitoring Centres (DMCs) in Africa towards serving as climate centers in Region I and emphasized the opportunity for continued capacity building and strengthening of infrastructures within those and other regional centres, as well as at NMSs through the new development of climate information and prediction services. Congress also stressed the importance of validation of climate prediction products using well identified "criteria of success", e.g. by using a system of scores, and emphasized the need for specific studies demonstrating the value of those products.

3.2.2.9 Congress agreed that an integrated approach to climate services should ensure the provision of climate products based on information on past climate and current anomalies, as well as on predictions of climate for the near future. Congress considered that that integrated approach should be emphasized within the WCASP as it would provide an international framework for those developments. In order to provide a focus for climate information and prediction services, Congress decided that, in the Fourth WMO Long-term Plan, the project within the WCASP

concerning the development of climate applications and services should reflect that emphasis. Furthermore, Congress considered that that project should receive high priority within the WCASP.

3.2.2.10 Congress requested the Secretary-General and the president of CCl to take appropriate action to ensure interprogramme coordination of the development of the Climate Information and Prediction Services (CLIPS) project within the framework of CCl in coordination with the Joint Scientific Committee for WCRP and with necessary interaction with other constituent bodies of WMO and GCOS. Congress emphasized the need for provision of required data and other necessary information in order to ensure optimal development and global dissemination of climate prediction services. Resolution 9 (Cg-XII) was adopted.

3.2.2.11 It was further emphasized that publication of guidance material and information on climate services should be given high priority. Congress also stressed the importance of continued training in the use of various climate application methods and techniques, especially on methods and techniques compatible with CLICOM.

3.2.2.12 Congress noted that within WCASP, a database containing information on the status of the climate applications and services programme in WMO Member countries had been established and was continuously updated in the WMO Secretariat, for use in the preparation of action plans, e.g. for technical assistance and training activities. Congress encouraged the Secretary-General to maintain and enlarge the database, as appropriate.

3.2.3 World Climate Impact Assessment and Response Strategies Programme (WCIRP) (agenda item 3.2.3)

3.2.3.1 Congress noted with appreciation the report of the representative of UNEP on the World Climate Impact Assessment and Response Strategies Programme (WCIRP). It was noted that, within the programme, a number of important actions were undertaken, including the development of a vigorous Global Environment Facility (GEF) climate change programme, the support to IPCC and the Climate Convention Information Exchange Programme (CC:INFO) implemented jointly with the Interim Secretariat for the UN/FCCC. Specific activities highlighted included the climate-related country study programme involving 31 participating countries and 98 additional developing countries in regional activities related to the projects. Congress was also informed on the expansion of the UNEP programme on air pollution monitoring in megacities, the work of the Information Unit on Climate Change, and the continuing UNEP support to GCOS and CSM.

3.2.3.2 Congress noted that all activities recommended by the Scientific Advisory Committee for WCIRP at its 1993 and 1994 sessions would be completed by the end of 1995. Outstanding work for completion before the end of 1995 included the final three Workshops on Useable Science: The Identification of User Needs Relating to Information on ENSO Impacts — in Southern Africa, Asia and the Caribbean region. Congress expressed the hope that those workshops, which were of great importance for WMO, would be held in the near future.

3.2.3.3 Congress noted further that, within the new approach to the structure of UNEP activities, "the atmosphere" would be addressed as a cross-cutting issue and the climate impacts would be a feature common to all of UNEP's environmental actions. At the same time, Congress was pleased to note that the eighteenth session of the UNEP Governing Council had approved continuing the partnership with WMO and the other organizations concerned in actions to implement WCIRP as part of the WCP.

3.2.3.4 Congress was also pleased to note that the UNEP Governing Council had positively responded to *The Climate Agenda* and requested Governments to consider strengthening or establishing, as appropriate, national climate programmes and providing modest additional resources for coordinating the implementation of *The Climate Agenda*.

3.2.4 World Climate Research Programme (WCRP) (agenda item 3.2.4)

3.2.4.1 Congress received with interest the information on the status of the World Climate Research Programme (WCRP). It considered that WCRP plans and activities were highly relevant to, and provided basic scientific support for, developments under the UN/FCCC and offered the scientific basis for meeting the research challenges posed in Agenda 21. Moreover, WCRP had provided significant contributions to the periodic IPCC Science Assessments.

3.2.4.2 Congress noted with pleasure that a modified Agreement on the conduct of the WCRP, which made the programme a joint undertaking of WMO, ICSU, and UNESCO's IOC had been in effect since 1 January 1993. The new arrangements followed closely the model of the earlier Agreement between WMO and ICSU. Congress expressed its appreciation for the financial contributions now being made under the terms of the new Agreement by both ICSU and IOC to the Joint Climate Research Fund for the WCRP. Congress noted that the membership of the Joint Scientific Committee (JSC) for the WCRP, which formulated the overall scientific strategy of the programme, had, in accord with the modified Agreement, been expanded to 18 members since 1993. Members were selected by mutual agreement between WMO, ICSU and IOC, to provide a balanced representation of the relevant climate research disciplines.

3.2.4.3 The representative of ICSU welcomed the cosponsorship of the WCRP by IOC, in addition to WMO and ICSU, and the new Agreement that had been signed. That development had been very helpful in strengthening interdisciplinary linkages in climate science and in providing unified scientific leadership for the conduct of all aspects of the WCRP. Throughout its 15-year history, the WCRP had provided an excellent example of collaboration between United Nations agencies and the scientific community in the organization of global scale climate research projects. The representative reported that ICSU had conducted a scientific review of the WCRP, which had concluded that the programme had already provided valuable research products, thus demonstrating the complex nature of global climate change, and at the same time had shown that, by conducting well formulated experiments relating to ocean-atmosphere coupling and by continuously refining models, considerably improved predictions could be obtained. The

review had also provided useful suggestions for future activities. Among those was a proposal for a WCRP scientific conference in the near future to establish a general consensus on scientific priorities for WCRP to satisfy policy makers and Governments, taking into account the conclusions of the 1995 IPCC Science Assessment. Congress agreed with that proposal and requested the JSC to make the necessary arrangements for the conference in consultation with the executive bodies of WMO, ICSU and IOC.

3.2.4.4 The representative of IOC also viewed WCRP as an important and effective international programme. He recalled that the oceanographic components of WCRP had their origin in activities initiated by the joint IOC/SCOR Committee on Climate Changes and the Ocean (CCCO). The co-sponsorship of the WCRP by IOC was a natural and logical outcome of the advances in understanding the climate system, thereby fully bringing the resources of the oceanographic community to bear in developing WCRP research efforts. The representative of IOC pointed out that major proposals for global climate-related observing systems exploiting scientific and technological breakthroughs were now being considered. WCRP had a fundamental role in channelling input from the scientific community in that respect. Finally, the representative stressed the full commitment of IOC to WCRP.

3.2.4.5 Congress agreed that WCRP had been particularly effective in fostering coordination and in building up coherent projects among the wide range of agencies and institutions and the numerous groups in the scientific community whose combined efforts were needed to advance climate research. Furthermore, WCRP was now beginning to provide results and products that were directly useful and beneficial to operational meteorological services. In that respect, WCRP was already fulfilling the objectives of the proposed *The Climate Agenda*. However, Congress stressed that additional steps should be taken to transfer the results of WCRP activities to the user community, and to ensure that developing countries also profited from the advances being made. The practical uses of WCRP achievements and the exploitation of the observations collected as a basis for experimentation, model validation, and climate prediction should be emphasized. The possibility of exchanging climate models and products should be explored.

3.2.4.6 Congress urged WCRP to continue to develop cooperation and coordination with related activities. That included collaboration with the International Geosphere-Biosphere Programme (IGBP) in studies of the role of vegetation in land surface processes and the hydrological cycle, in exploiting palaeo-climatic data to extend the historical record of climate variability, and in improving understanding of the role of chemical processes in the climate system. Cooperation with GCOS was also essential from the perspective of incorporating research observation projects into operational systems. Furthermore, GCOS was crucial in meeting certain WCRP requirements for observational data, in particular for monitoring factors affecting climate variations, such as the atmospheric concentration of greenhouse gases as measured by GAW and in detecting anthropogenically-induced climate change, as well as for the validation of climate models. Congress also underlined the importance of the System for Analysis, Research and Training (START) of interconnected regional research networks, aimed at developing regional research capabilities, and co-sponsored by WCRP, together with IGBP and the Human Dimensions of Global Environmental Change Programme (HDP). Congress requested that continued support be given to START activities, in particular as a means of transferring the benefits of climate research to all regions of the world.

3.2.4.7 In reviewing specific achievements of the WCRP, Congress was encouraged by the outstanding success of the WCRP TOGA project, which had concluded as planned on 31 December 1994. TOGA had attained its major objective of establishing the basis for skilful predictions of *El Niño* sea-surface temperature anomalies and associated changes in the atmospheric circulation up to a year or more in advance. As had been shown at the final International TOGA Scientific Conference held in Melbourne in April 1995, economic benefits were gained from the use of those predictions, where they could be applied in some regions. Nevertheless, Congress noted that continuing research was needed to explore fully the global impacts of *El Niño*. Another TOGA success was the organization of the Coupled Ocean-Atmosphere Response Experiment (COARE) designed to investigate ocean-atmosphere interactions in the crucial warm water region of the western tropical Pacific. More than 700 scientists, seven aircraft, and a dozen ships from scientific institutions and environmental administrations in Australia, China, the Federated States of Micronesia, France, Germany, Indonesia, Japan, Nauru, New Zealand, Papua New Guinea, Philippines, Republic of Korea, Solomon Islands, United Kingdom, and United States had taken part in the field phase of COARE (November 1992–February 1993). Congress congratulated the JSC and all those who had participated in TOGA on their accomplishments. Congress observed that TOGA had been carefully planned, tightly organized, completed according to schedule, and had achieved its stated goals. Congress considered that TOGA was a first-class example of how an internationally-organized project should be formulated and implemented. Congress requested Members to maintain the observing systems that had been instituted during TOGA to provide the required basic ocean surface and subsurface data needed to continue to make *El Niño* predictions, and to serve for the purposes of GCOS as well. Congress emphasized that achievements of TOGA should be widely disseminated through WMO training programmes and activities.

3.2.4.8 Congress noted the gradual progress in developing climate models required for the assessment of natural climate variability, the predictability on seasonal and interannual time-scales, and the estimation of transient climate change. Attention was being given to the identification of errors in model climate simulations by organizing coordinated experimentation and comparisons of various aspects of model performance. In that regard, the most important activity at present was the Atmospheric Model Intercomparison Project (AMIP), being conducted by the Programme for Climate Model Diagnosis and Intercomparison (PCMDI) with the support of the United States Department of Energy. The 10-year period 1979–1988 had

been simulated by 30 different atmospheric models under specified conditions (observed sea-surface temperature and sea-ice distributions, standard values of carbon dioxide concentration, and the solar constant). The results of those integrations would provide a comprehensive assessment of the capability of atmospheric models to represent mean seasonal states and large-scale interannual variability.

3.2.4.9 Congress was impressed by the accomplishments of the Global Energy and Water Cycle Experiment (GEWEX), especially the preparation of several important global climatological datasets based on merging *in situ* measurements and satellite observations. Those included the International Satellite Cloud Climatology Project providing mean-monthly cloud amount and cloud optical properties at several synoptic times, the Global Precipitation Climatology Project (GPCP) in which homogeneous global statistics of rainfall over continents and oceans were assembled, and the Surface Radiation Budget Climatology Project in which global fields of surface short-wave radiation were now being produced. Congress noted the important contribution of the Global Precipitation Climatology Centre in Offenbach, Germany to the GPCP. Congress stressed the importance of developing a WCRP Data and Information System (WCRP-DIS) documenting WCRP global climatological datasets in coordination with GCOS data management activities. Congress expressed satisfaction that, in respect of the longer-term global observational objectives of GEWEX, the developments proposed by space agencies for the next generation of polar orbiting spacecraft and the missions that had been announced would go a long way toward meeting the requirements, as well as providing the basis for the operational environmental satellite system of the future.

3.2.4.10 An important component of GEWEX was the study of land-surface-atmosphere interactions under a variety of geographical and climatic conditions. Those studies were coordinated with the IGBP Core Project on the Biospheric Aspects of the Hydrological Cycle. Congress noted with interest the development of plans for field experiments in several regions of the world, including the GEWEX Continental-scale International Project over the Mississippi river basin, the MacKenzie river GEWEX study in the boreal forest and tundra region of Canada, BALTEX in the Baltic region, a combined mesoscale and basin-scale study of water recirculation in the Amazonian tropical forest, and the GEWEX Asian Monsoon Experiment (GAME) over several sites in eastern Asia. Congress also noted that scientific institutions in China were now conducting the second Qinghai-Tibetan Plateau Scientific Experiment. Furthermore, China was co-sponsoring with other countries the South China Sea Monsoon Experiment (SCSMEX).

3.2.4.11 Another major project in the WCRP was WOCE, designed to obtain, for the first time, a description of the three-dimensional circulation of the global oceans. Congress recognized that WOCE was the most ambitious oceanographic programme ever undertaken and had engaged a large fraction of the deep-sea oceanographic research fleet since 1990 and would do so until 1997. So far, detailed hydrographic sections had been obtained along some 70 survey lines. A major technological achievement had been the ALACE float providing a long-period velocity record at determined depths. A large number of surface drifting buoys (2 500) had been or were in the process of being deployed to measure surface currents and temperature (and atmospheric pressure for some buoys). Two satellite missions were making important contributions to WOCE, the European ERS-1, delivering altimeter and scatterometer data, and the United States/French TOPEX-POSEIDON altimetric mission, which had realized an accuracy of better than five centimetres in the determination of the geopotential height of the mean ocean surface. Congress urged that intensified efforts be made to expedite the assembly of WOCE global ocean datasets.

3.2.4.12 Congress recognized the importance and far-reaching nature of the CLIVAR research programme being developed in WCRP. Building on the breakthrough to seasonal and inter-annual predictions realized by TOGA and the global perspective of WOCE, CLIVAR was aiming to describe, model, and predict global climate variations on a wide range of time-scales. The following major programme components were envisaged:

(*a*) Global Ocean-Atmosphere-Land System for Prediction of Seasonal to Interannual Climate (CLIVAR-GOALS);

(*b*) Decadal to Centennial Natural Climate Variability (CLIVAR DecCen);

(*c*) Modelling and Detection of Anthropogenically-forced Climate Change (CLIVAR-ACC).

Congress urged that CLIVAR should also focus on the prediction of regional climate variations and of changes in the frequency and severity of extreme events. In respect of climate change detection, Congress pointed out the relevance of the work of CCl in that area and suggested that consideration be given to reconstituting the CCl Working Group on Climate Change Detection as a joint CCl/CLIVAR working group.

3.2.4.13 Congress welcomed the adoption of the Arctic Climate System Study (ACSYS) as a new project in WCRP and urged Members with an interest in the Arctic region to offer their support to that programme. ACSYS was focused on investigating the almost closed Arctic Ocean circulation, the Arctic freshwater and sea-ice budget, the surface heat balance, and exchanges of freshwater (or ice) with adjoining river basins and seas. The major components of the programme were a comprehensive hydrographic survey of the Arctic Ocean by ice-breaking vessels crossing the ice-pack, and a long-term programme of ocean current and hydrography measurements, as well as acoustic diagnostics of ice thickness and drift velocity from under-ice moorings. A special effort would be undertaken to monitor ice formation and melting, and ice transport through the Fram Strait to the Greenland Sea. Information on the discharge of freshwater into the Arctic Ocean basin from rivers was also required.

3.2.4.14 Congress expressed interest in the programme on Stratospheric Processes and their Role in Climate (SPARC), which completed the structured approach in the WCRP to the study of the overall climate system. SPARC had the objective of investigating the influence of the stratosphere on climate and the coupled physical and geochemical processes that controlled changes in the stratospheric circulation and composition, including particularly ozone depletion and increased penetration of ultraviolet

radiation into the troposphere. Congress pointed out that the GAW would provide the essential measurements of atmospheric composition required for SPARC investigations.

3.2.4.15 In concluding its consideration of WCRP, Congress approved the continuation of the Agreement between WMO, ICSU and IOC on the WCRP for the period 1996–1999, and endorsed WCRP planned activities for the coming years as contained in Part II, Volume 2 — The World Climate Programme of the *Fourth WMO Long-term Plan*, noting the important role of WCRP in the proposals contained in *The Climate Agenda*. Congress also agreed on the priorities set for WCRP in the programme and budget for the twelfth financial period. Congress observed that the contributions from the other bodies co-sponsoring WCRP had remained constant in United States dollars and requested the Secretary-General to encourage ICSU and IOC to follow the WMO lead in adjusting their support to WCRP to take account of the increased nominal expenses. The decisions of Congress in that respect are embodied in Resolution 10 (Cg-XII).

3.2.5 Global Climate Observing System (GCOS) (agenda item 3.2.5)

3.2.5.1 Congress noted with appreciation the review by the Chairman of the Joint Scientific and Technical Committee (JSTC), Sir John Houghton, of the progress that had been made toward the development of the Global Climate Observing System (GCOS) programme. It noted that GCOS was proposed in Resolution 9 (Cg-XI) — Global Climate Observing System, and that a Memorandum of Understanding agreed among WMO, IOC of UNESCO, UNEP, and ICSU had established the programme. Congress noted that GCOS had been one of the principal topics of the IGM-WCP in April 1993.

3.2.5.2 In reviewing the activities to date, Congress noted that the central tenets of GCOS, as originally set forward, had provided an appropriate structure for the development of the observing system. Specifically, the goals of GCOS and the intention that it be based, to the degree possible, upon existing operational and research observational systems and data management efforts, had proven to be very useful guidelines in its development.

3.2.5.3 Congress was particularly pleased to note the leadership role of WMO in the initial and formative stages of the GCOS programme.

3.2.5.4 Congress noted the establishment of the JSTC as the principal body for formulating the overall concept and scope of GCOS. It noted that its membership included a number of noted experts from the scientific, operational, and satellite communities. In reviewing the results of the four meetings of the group to date, it noted the significant progress made in defining the key scientific priorities, in identifying the critical parameters and observations to be made, in formulating the strategy to establish an Initial Operational System (IOS), and in establishing an appropriate structure to provide specific guidance, links to related programmes and activities, and continuing oversight.

3.2.5.5 Congress took note of, and endorsed the, scientific priorities identified by the JSTC. It agreed that priority should be given to those observations: (*a*) needed for seasonal to interannual prediction; and (*b*) required for the detection of climate change and the attribution of the causes of such change at the earliest possible time. It noted that addressing: (*a*) would assist national Services engaged in providing climate outlooks; and (*b*) would provide essential information in support of the IPCC, elements of Agenda 21, and requirements of the UN/FCCC. Both priorities were noted to be critical to support sustainable development.

3.2.5.6 Congress noted the specific panels established by the JSTC. It observed that the scientific design panels to address atmospheric, oceanic, and terrestrial observations, and the cross-cutting panels to address data and information management and space-based observations had established regular meeting schedules, and were developing specific plans for action required to implement the programme. It noted that such panels provided a broad-based source of advice for the JSTC, and opportunities to engage a large number of key individuals, organizations, and agencies in the activities of GCOS and of WMO.

3.2.5.7 Congress noted that the JSTC had prepared and published an overall plan for GCOS which called for a systematic evolution from existing operational and research programmes in a phased manner. The plan identified essential observations, provided a rationale for their selection, identified current operational sources of the observations where currently available, and if not available, recommended what steps should be taken to secure them. In addition, Congress noted that the JSTC published detailed plans for data and information management and for space-based observations which would be critical for the development of the programme. It noted that the plans would be useful for system design, but encouraged the preparation of additional documentation illustrating the value of climate observations to Governments.

3.2.5.8 Congress noted the mechanisms whereby specific recommendations were developed in the GCOS panels, reviewed by the JSTC, and where appropriate, provided via WMO channels for consideration and implementation as parts of existing systems. Congress endorsed the IOS concept and recommended that Governments play an active role in its implementation, including the selection of elements for inclusion in the IOS, and support for their continued operation. Congress noted the helpful support of various WMO Programmes in meeting GCOS requirements. It observed that the GCOS activities had been closely coordinated with WCP, especially in the research and data management areas. In addition, it noted that operational programmes, particularly WWW, GAW, and HWR were essential in meeting GCOS needs. Finally, it was pleased to note the cooperation shown by the technical commissions and regional associations and encouraged a closer link between the commissions and the JSTC and its panels.

3.2.5.9 Congress expressed its appreciation to the other sponsors of GCOS. It noted that the IOC of UNESCO, with WMO, UNEP, and ICSU, was developing GOOS, which shared a common ocean climate module with GCOS. Similarly, it noted that GTOS was being planned by UNEP, FAO, UNESCO, WMO, and ICSU. Congress noted that a component of GTOS to address climate requirements from the terrestrial perspective would be developed in common with GCOS. Congress urged that the close coordination between the programmes continue.

3.2.5.10 The representative of IOC noted the close cooperation that existed between GCOS and the IOC-led GOOS in the planning and development of the ocean component of GCOS, the climate component of GOOS. The representative praised the work of the JSTC, and its panels, noting in particular that the plans for data management and space requirements would serve GOOS as models in their development of activities in those areas.

3.2.5.11 Congress endorsed the GCOS activities cited in the Fourth WMO Long-term Plan and urged continuing cooperation among the WMO Programmes to ensure that GCOS objectives were met. It further endorsed the budget provisions, but noted with concern that a number of high priority unfunded activities had been proposed. It recommended that sponsoring organizations and Members assist to obtain adequate resources to carry out essential GCOS programme activities. Congress noted that the GCOS Memorandum of Understanding established a Climate Observing Trust Fund, and urged sponsoring organizations and Members to consider it as an appropriate mechanism to provide resources for the planning and implementation of GCOS. Congress noted that without additional resources and staff, the objectives of GCOS would not be achieved.

3.2.5.12 Congress noted with concern that no clear mechanism yet existed to translate GCOS programme recommendations into national activities. In that respect, Congress welcomed the establishment of a coordinating body to pursue *The Climate Agenda* and stressed that one of the most important roles of the proposed new coordinating body should be to link GCOS with related programmes that delivered climate-related benefits and to make specific proposals to Governments for funding, which would include clear statements of resources required and ultimate benefits to Governments of the investments requested. Congress supported the GCOS JSTC in its efforts to develop concerted international programmes of observations and recommended that it should aim to establish and/or participate in international fora for the optimal planning of those programmes to involve the JSTC, the Joint Planning Office (JPO), and responsible representatives of participating Members. However, Congress recognized that a forum for a systematic and integrated discussion of all the major international programmes of observations should be a medium-term aim for implementation following the successful coordination and improved planning of the separate elements of the programmes in the atmosphere, ocean, and Earth surface.

3.2.5.13 In view of the significance of the GCOS programme, Congress adopted Resolution 11 (Cg-XII).

3.3 Atmospheric Research and Environment Programme (AREP) (agenda item 3.3)

3.3.0 Atmospheric Research and Environment Programme; the report of the president of the Commission for Atmospheric Sciences (CAS) (agenda item 3.3.0)

Fourth WMO Long-term Plan

3.3.0.1 Congress adopted Part II, Volume 3 — The Atmospheric Research and Environment Programme of the *Fourth WMO Long-term Plan*. Its decisions are recorded under agenda item 7.2.

3.3.0.2 Congress expressed its appreciation for the information provided in the documents presented: the joint overall report by the president of CAS and the Secretary-General, as well as the more specific report concerning the high priority GAW programme submitted by the chairman of the Executive Council Panel of Experts/CAS Working Group on Environmental Pollution and Atmospheric Chemistry. Congress further noted the concordance between the programme development, the Third WMO Long-term Plan and the relevant resolutions adopted by previous sessions of Congress and the Executive Council (i.e. Resolution 13 (Cg-XI) — Atmospheric Research and Environment Programme). In that context, the advantage was also emphasized of giving more attention to the development of strategic plans for individual programme present elements.

3.3.0.3 Many countries expressed a very high level of interest in the programme and insisted on the importance of maintaining its present high standard; in particular, the highest priority given to the GAW by Eleventh Congress should be maintained. Congress also emphasized that specific attention should be given to weather prediction research.

WMO Research Award for Young Scientists

3.3.0.4 Congress approved the proposition made by the Meeting of the Presidents of Technical Commissions that the WMO Research Award for Young Scientists be opened to include papers in hydrology and requested the Executive Council to amend the corresponding guidelines accordingly.

Report of the president of the Commission for Atmospheric Sciences (CAS)

3.3.0.5 Congress expressed satisfaction with the initiatives taken by CAS to streamline further its operating arrangements and to focus on a smaller number of high priority projects. In that context, Congress agreed that the new terms of reference of CAS (see agenda item 11.3) would establish a clearer role for the Commission by emphasizing its responsibilities with respect to the GAW and by clarifying its responsibilities in climate research, bearing in mind the role of the WCRP. Strong support was also expressed for initiatives taken by CAS to build more effective links with the scientific community outside of NMHSs noting the good cooperation that was occurring in the further development of GAW and in major field experiments associated with improved tropical cyclone prediction.

3.3.0.6 Congress considered appropriate the high priority being given by CAS to the implementation of GAW and noted the excellent progress which was being achieved, especially the recent major expansion of the network and the establishment of various supporting activities such as training, calibration, quality assurance, archive, and regulatory initiatives. Congress was also appreciative of the decisive follow-up action which was occurring on biologically active ultraviolet radiation (UV-B) measurements and the standardization of UV-B indices, and urged Members to give their strong support to those activities. Congress noted, in particular, the progress report presented by the president of CAS on the standardization of UV-B measurements and indices as a first step towards a WMO Statement on UV-B and recommended further consolidation of that document by CAS in consultation with CBS and CIMO.

3.3.0.7 On the related issue of the study of ozone changes, many favourable comments were made on the prominent role being played by GAW and the WMO Secretariat in the ongoing ozone depletion debate. Especially noted were the continuing preparation of periodic ozone assessments, the stimulation of instrument calibration quality control and ozone data re-evaluations and the distribution of Antarctic ozone bulletins and northern hemisphere daily ozone maps during the respective winter/spring seasons. Members operating ozone observing stations were urged to provide data in near-real-time during the winter/spring seasons which would facilitate the preparation of up-to-date information for Governments and enable WMO to remain in the forefront of the ozone issue. Congress recognized the essential support provided by the Laboratory of Atmospheric Physics at the University of Thessaloniki (Greece) and expressed appreciation for its activities in serving as the WMO Daily Ozone Mapping Centre. Congress was assured that the Centre would continue to serve Members by preparing daily ozone maps and relevant bulletins. All Members were requested to collaborate in those endeavours to the fullest extent possible. The Russian Federation informed Congress that a national centre had been established to conduct the operational analysis of the ozone layer.

3.3.0.8 In the area of weather prediction and tropical meteorology research, Congress noted that CAS had been active in promoting a number of scientific conferences and workshops. Particular commendation was made regarding the highly successful series of International Workshops on Tropical Cyclones, which had served as important fora for bringing together researchers and practitioners and for encouraging appropriate information exchange. Congress urged that those workshops be continued and also supported CAS's initiative to mount a priority mission on tropical cyclone research in collaboration with ICSU. The essential interface provided by the CAS/JSC Working Group on Numerical Experimentation (WGNE) between the NWP and climate modelling communities was noted.

3.3.0.9 Congress considered that the active role undertaken by CAS in promoting improved understanding of the underlying science associated with the physics and chemistry of clouds and their impact on NWP, as well as the translation of that knowledge into practical situations, such as weather modification applications, should be continued.

3.3.0.10 In response to a request from the forty-sixth session of the Executive Council in the context of the follow-up to UNCED, Congress also considered a report, presented by CAS, related to the scope for enhancing the role of NMHSs in issues involving environmental problems on smaller length scales and shorter time-scales than those of concern to the WCP. Congress concluded that the report provided a useful foundation upon which to proceed to develop an action plan, in collaboration with other commissions of WMO and agencies of the United Nations for eventual submission to the CSD.

3.3.0.11 Concerning the report of the progress achieved in the field of solar-terrestrial physics–meteorology (STP-M), as requested in Resolution 14 (Cg-XI) — Solar-terrestrial physics–meteorology (STP-M) research, Congress acknowledged the developments disclosed and noted the official prolongation by ICSU of the solar-terrestrial energy programme (STEP) for the period 1990–1997.

3.3.1 Global Atmosphere Watch (GAW) (agenda item 3.3.1)

3.3.1.1 Congress expressed its satisfaction with the many achievements realized in the implementation of GAW and conveyed its sincere appreciation to those specifically involved. Those accomplishments included the establishment of a number of new stations of global importance that were being added to the GAW in Algeria, Argentina, Brazil, China, Finland, Germany, Indonesia, Japan, Kenya, Norway, and South Africa. In addition, a major regional station was implemented in Iran. In support of that activity, extensive GAW training had been held in several WMO Regions. Congress welcomed the proposal by Spain to host a GAW global training course at the Izaña Observatory in Tenerife. The establishment of Quality Assurance/Science Activity Centres (QA/SACs) (Germany, Japan, and the United States) was also seen as a major step in the harmonization of the GAW global measurement and data archiving programme. Congress also recognized the importance of the role of WMO in environmental assessments, such as those for stratospheric ozone and global wet deposition. It was recognized that the successful issue of the ozone bulletins for the northern and southern hemispheres should be followed by other such environmental advisories for greenhouse gases, tropospheric ozone, and acid deposition and that data from those measurements should progressively be made available in real time. Congress commended the significant support provided to GAW by WMO Member countries and further recommended that the present essential close collaboration with the scientific community, in particular the IGBP International Global Atmospheric Chemistry (IGAC) programme, be maintained.

3.3.1.2 Congress noted that WMO already had a substantial involvement in regional pollution studies, such as those associated with the Cooperative Programme for the Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) and the European Tracer Experiment (ETEX) and commented that studies of that type were expected to grow in both importance and frequency as the links with the policy aspects of sustainable development became better defined. NMHSs had the potential to contribute substantially to those developments via their extensive monitoring system infrastructures and particular scientific expertise in areas such as numerical modelling, real-time data processing and four-dimensional data assimilation techniques. As a consequence, within the joint UNCED context, the international coordination role of WMO in environmental issues was likely to become more extensive and complex not only because of greater activity levels, but also because of the need to encompass a broader range of scientific disciplines (meteorology, hydrology, oceanography, biospheric sciences, and atmospheric chemistry) in the resolution of sustainable environmental development issues. Considering that, Meteorological Services of the world must be ready to accept those challenges. In particular, Congress recommended that CAS

organize, during the next four-year period, meetings to review NMHSs activities as well as provide information on scientific developments related to environmental problems on smaller length scales and shorter time-scales than those of concern to the WCP.

3.3.1.3 With regard to air-sea exchange of pollutants and the natural cycling of chemical elements in the global atmosphere/ocean/biosphere system, Congress highly commended a number of GAW studies implemented in cooperation with the inter-agency Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) and with IGBP, in particular those related to global changes and the air-sea exchange of chemicals, to the nitrogen dynamics in the North Atlantic Ocean basin, and to the role of the sea-surface microlayer in global change. Congress further agreed that WMO should continue to play a leading role in those fields and encouraged the continuation of GAW activities in assessing airborne pollution of the marine environment, especially for regional seas.

3.3.1.4 Congress recognized that the environmental issues which had been foremost among societal concerns over the past several years would continue through the turn of the century. In many of those issues — acid deposition, stratospheric ozone depletion and increases in UV-B radiation, climate change, tropospheric oxidant increases, and toxic chemicals in the environment due to the central role the atmosphere played — WMO had a profound responsibility. More than ever before, high quality observations of the physical and chemical elements of all those phenomena were required in order to enhance understanding and lead to their resolution. Those needs had already been forcefully stated, for example, in discussions of the UN/FCCC, the Montreal Protocol and the ECE Protocols for sulfur and nitrogen reductions.

3.3.1.5 Considering the foregoing, Congress stated that the WMO GAW must continue its quest, as based on the advice of the Executive Council Panel of Experts/CAS Working Group on Environmental Pollution and Atmospheric Chemistry, to put in place the global systems that were required for the largest-scale issues, to facilitate the investigation of regional issues, and assist with the building of national capability to address the smaller-scale problems. WMO should also be guided by future needs; that was, to give priority to problems which might emerge and to areas where deleterious changes were expected. One aspect of the overall philosophy was to give high priority to monitoring in areas where changes were expected.

3.3.1.6 Accordingly Congress endorsed actions concerning the following:

Global Atmosphere Watch (GAW)

High priority should be given to the design and implementation of improvements required to enhance data quality, data availability and global coverage in the GAW. Specific aspects for the WMO GAW to focus on during the next inter-sessional period included:

(*a*) To expand further the GAW global and regional network in Asia and the southern hemisphere;
(*b*) To complete the establishment and necessary maintenance aspects of the six new GAW stations supported by the GEF (Algeria, Argentina, China, Brazil, Indonesia, and Kenya);
(*c*) To implement the cone project in South America supported by the GEF;
(*d*) To coordinate development of the QA/SACs (Germany for Regions I and VI, Japan for Regions II and V, United States for Regions III and IV);
(*e*) To coordinate the implementation of the World Calibration Centres (WCCs) and World Data Centres (WDCs);
(*f*) To promote training and educational activities;
(*g*) To improve and assess measurement programmes.

Global issues

(*a*) To ensure appropriate contributions of GAW to the GCOS;
(*b*) To improve vertical profile ozone measurements and provide better global coverage of tropospheric ozone measurements: contribute to the design and planning of the intensive study, the International Tropospheric Ozone Years, planned for 1997–1998;
(*c*) To assess the state and evolution of atmospheric ozone both in the troposphere and stratosphere and its impact on UV-B;
(*d*) To ensure that the satellite measurements of atmospheric chemistry parameters, such as ozone, were part of GAW.

Regional issues

(*a*) To develop acid deposition activities;
(*b*) To improve tropospheric oxidants (photochemical pollution) monitoring;
(*c*) To continue participation in EMEP;
(*d*) To participate in ETEX;
(*e*) To cooperate with, and encourage the study of, atmosphere-surface exchange.

National issues

NMHSs should take a leadership role and promote sustainable development through the further development of national monitoring capabilities, scientific knowledge, and operational services (including in particular environmental forecasting).

Strategic plan

Congress also endorsed the decision of the Executive Council Panel of Experts/CAS Working Group on Environmental Pollution and Atmospheric Chemistry regarding the preparation of a GAW basic strategy document to guide the evolution of GAW into the next millenium.

3.3.1.7 Congress noted that many of the WMO GAW activities involved collaboration with other groups. Interaction with the QA/SACs, the WDCs and the WCCs was essential to progress in GAW. As well, collaboration with the work of relevant working groups and rapporteurs of CAS and other technical commissions should continue. Similarly, WMO GAW should strive to continue its fruitful interaction with programmes like IGAC and EMEP. An area which would also require continuing effort was that of UV-B measurement, prediction and indices, where cooperation with WHO was necessary.

3.3.2 Weather Prediction Research Programmes (agenda item 3.3.2)

Programme on very short- and short-range weather prediction research

3.3.2.1 Congress was satisfied with the implementation of that programme and noted the steady progress being achieved in the improved use of NWP by many Members. It realized that weather forecasting remained a central activity for NMS, and, therefore, endorsed future planning, in particular those initiatives designed to improve the accuracy and timeliness of local severe weather phenomena prediction through establishing mesoscale monitoring networks and a better understanding of atmospheric processes, including the physics of clouds. Data assimilation, very short-range weather forecasting, quantitative precipitation forecasts (QPFs) and the quantitative prediction of other meteorological elements should also have high priority within the programme.

3.3.2.2 Congress wished to emphasize the education and training aspects of the programme focused on the need to ensure that the significant major improvements made in very short- and short-range weather forecasts were accessible to all NMSs, especially those in developing countries. It noted with appreciation and encouraged the continuation of transfer of limited-area and global models from advanced NWP centres to all interested countries.

3.3.2.3 Congress expressed support for the initiative taken by the Arab League Committee on Meteorology to establish a regional research project on sand and dust storms in northern Africa and the Middle East and requested CAS, through its Working Group on Very Short- and Short-range Weather Prediction Research, to advise and provide its scientific expertise to the project. It was recognized that the research advances on sand and dust storms would not only benefit the Region but also many other Members. Congress further recommended that WMO support an appropriate expert meeting on the subject within the programme.

3.3.2.4 Congress welcomed the offer of Spain to organize an international symposium on Mediterranean cyclones and related dangerous phenomena as well as the most suitable prediction techniques and methods for each type of phenomenon within the programme during the twelfth financial period. It also considered that it was appropriate for the Mediterranean cyclone study project currently under way to be expanded to cover other dangerous weather phenomena associated with the Mediterranean area.

Programme on medium- and long-range weather prediction research

3.3.2.5 Congress noted with satisfaction the activities undertaken within the programme including the new regular publication of Annual Research Progress Reports on Long-range Forecasting, and the encouraging advances in forecasting over long time-scales. Those had resulted from improved understanding of the coupled ocean-atmosphere system, new modelling approaches including ensemble forecasting techniques, new observing techniques, and the application of integrated forecasting systems. Congress encouraged continued research on medium- and long-range weather prediction, especially in developing countries, and gave high priority to technology transfer and capacity building.

3.3.2.6 Congress stressed the importance of forecasting extreme events for protecting populations and economic activities, particularly in tropical areas, and the key role of medium- and long-range prediction research in the context of the IDNDR; major contributions could be expected in the improvement of forecasting the intensity, duration, and frequency of occurrence of extreme events such as dry spells, drought, floods, sand and dust storms, and tropical cyclone activity in both the medium-range and long-range.

3.3.3 Programme on Tropical Meteorology Research (agenda item 3.3.3)

3.3.3.1 Congress expressed its satisfaction with the achievements made in the implementation of the Tropical Meteorology Research Programme and endorsed future plans, including components on monsoons, tropical cyclones, rain producing tropical systems, arid zone meteorology and tropical droughts, application of limited area modelling in the tropics, and interactions between tropical and extra-tropical weather systems. It was emphasized that further implementation of the programme would greatly assist Members in tropical regions in reducing the effects of severe weather phenomena, particularly in the context of the IDNDR.

3.3.3.2 Congress urged Members to support the CAS priority mission on tropical cyclones in the IDNDR, which was jointly conducted by WMO and ICSU as a substantial contribution to the IDNDR. Tropical cyclone-affected Members needed to make every effort to improve the understanding and prediction of all aspects of tropical cyclones, incorporate all available observations into numerical analysis and forecast systems, and explore ways in which tropical cyclone warning and response might be improved.

3.3.4 Programme on the Physics and Chemistry of Clouds and Weather Modification Research (agenda item 3.3.4)

3.3.4.1 Congress expressed its satisfaction with the conduct of that programme and encouraged its further development. It, therefore, endorsed future plans, in particular those involving the organization of international conferences on weather modification and in cloud modelling, the preparation of guidance material for use by Members; and the continuation of activities concerning the role of cloud physics and chemistry in atmospheric pollution transport, transfer and deposition, and their possible effect on changing atmospheric composition and cloud coverage with potential effect on climate.

3.3.4.2 Concerning the preparation of guidance material, Congress requested that the Executive Council Panel of Experts/CAS Working Group on Physics and Chemistry of Clouds and Weather Modification Research should keep under constant review the WMO Statement on the Status of Weather Modification as well as the Guidelines for Advice

and Assistance Related to the Planning of Weather Modification Activities with a view to proposing amendments or new texts, when necessary, in order to maintain their consistency with rapidly changing scientific developments. Congress, in recognizing that numerous countries were interested in the scientific aspects of hail suppression and precipitation enhancement activities, recommended that CAS consider ways to keep Members informed on the planning and development of weather modification projects and to arrange for the publication and exchange of results from projects conducted by Members, to organize workshops, and to continue to organize the periodic scientific conferences which served as fora for the exchange of views and for the presentation of the latest results of weather modification activities at the international level.

3.3.4.3 Recognizing the crucial role of research on the physics and chemistry of clouds with respect to possible climate change, Congress considered that cloud physics and chemistry research should be conducted in close collaboration with WCRP in order to minimize duplication and maximize efficient application of scientific results to both WCRP and AREP objectives. Congress further stressed the essential role being played by scientific research to improve weather modification.

3.4 Applications of Meteorology Programme (agenda item 3.4)

3.4.1 Public Weather Services (PWS) Programme (agenda item 3.4.1)

3.4.1.1 Congress noted with appreciation the activities undertaken to implement the decision of Eleventh Congress to establish a new Public Weather Services (PWS) Programme. Congress decided to strengthen that programme to assist Members to improve their provision of public weather services in support of safety of life and property and for the general convenience and welfare of people. Congress recognized that PWS supplied by the Members represented their countries most visible payoff for public investment in the NMSs infrastructure of observing networks, computers and communication systems, offices, and specialized staff. The PWS Programme had a role not only of assisting NMSs to improve their services to the public, but also of ensuring through promotion and other activities that the public was fully aware of the return they might obtain for their investment.

3.4.1.2 Congress welcomed the budgetary and Secretariat staff allocation by the Secretary-General to the PWS Programme, to initiate that programme following Eleventh Congress. Congress expressed its appreciation to the CBS and the Secretary-General for the considerable number of activities that had been successfully carried out under the PWS Programme during the period of time since its establishment within WWW in October 1994. A major undertaking had been the preparation of the *Preliminary Guide to Public Weather Services Practices* based on known information as a high priority in response to a request made by CBS. Congress was pleased to note that the *Preliminary Guide* would be published as a WMO technical document in early 1996. It was planned to continue soliciting comments and contributions to the document from Members and to submit a final draft to the eleventh session of CBS in 1996 for technical approval. In that connection, Congress noted with appreciation the offer of Portugal to translate the *Guide* into Portuguese.

3.4.1.3 Congress agreed that an essential component of any well-designed weather forecast system was an ongoing verification programme and that some NMSs had, for a number of years, routinely undertaken verification of their forecast products. It further agreed that verification programmes enabled the NMSs to track the accuracy and timeliness of their forecasts as well as identify improvements in predictive skill resulting from investments in new technologies. In the context of relations with the public, the media, major clients and decision makers, verification statistics provided answers to questions concerning forecast accuracy. Equally, verification data were essential to the development of improved numerical and statistical forecast techniques. In that connection, Congress was pleased to note that methods of evaluation and verification of forecasts and warnings had been given special attention in the *Preliminary Guide*.

3.4.1.4 Congress noted with satisfaction that, in addition to the preparation of the *Preliminary Guid*e, the Secretariat had responded to concerns expressed by the Executive Council and the CBS regarding the proliferation of weather forecasts from different sources in the media and, in particular, international television broadcasts by satellite communications. Congress welcomed the initiative taken by the Secretariat to hold discussions with organizations which produced and disseminated those forecasts with a view to agreeing on "a best practice". In recognizing the importance of that issue Congress agreed that WMO should continue to assist, as appropriate, in future discussions between the international broadcasters and Members to ensure a common policy to the satisfaction and agreement of all concerned.

3.4.1.5 Congress agreed that broadcast and print media were important partners where PWS were concerned. They were usually the primary means for mass distribution of PWS products. That was particularly true with respect to the dissemination of severe weather warnings and the education of the public on severe weather preparedness and awareness. In addition, the media was an exceedingly effective ally of the NMSs in highlighting the importance of PWS to the community. Congress further agreed that maintaining close coordination with the media was essential to ensure timely and accurate distribution of weather warnings and forecasts. While emphasizing the importance of television as a powerful medium, Congress stressed that attention should also be given to developing other means of mass dissemination, such as the print media and the radio.

3.4.1.6 Congress noted that the PWS Programme primarily dealt with NMHSs to assist them with ways to develop and improve the content and delivery of their weather forecasts in the interest of their Governments and the general public. Congress also emphasized the need to ensure that the activities of the Information and Public Affairs (IPA) Programme were complementary and supportive of the PWS Programme. In that connection, the IPA

Programme was primarily responsible for providing appropriate support to the PWS Programme in presentation and dissemination techniques. Congress requested the Secretary-General to ensure appropriate resources for the two programmes bearing in mind their complementarity in some areas and relative priorities. Congress further requested the Secretary-General to examine ways of responding to the very high priority placed on the PWS Programme, particularly with respect to capacity building activities related to the delivery of severe weather warnings, forecasts, and other services to the public.

3.4.1.7 Congress noted with appreciation that, since its establishment, every opportunity had been taken to present the PWS Programme and its objectives to audiences in various international events organized or co-sponsored by WMO. In addition, regional associations had been briefed on the PWS Programme during their respective sessions and had been supportive of the directions taken to meet the objectives of the Programme. Finally, Congress was pleased to note that, as directed by the Executive Council, materials including a message from the Secretary-General and a booklet had been prepared and distributed to mark the World Meteorological Day (WMD) 1995 under the theme of public weather services.

3.4.1.8 Congress agreed that, because of their importance, public understanding, education and training were a high priority for an effective PWS Programme. In the context of PWS programmes of Members, understanding the role of NMSs in provision of PWS, the range of services available, the terminology used, and the public education through activities and materials designed to foster greater public understanding, were seen as essential. Congress, therefore, put particular emphasis on the need for education and training activities to be undertaken through the PWS Programme. The necessity and importance of conducting training events such as workshops and seminars on PWS to help build the Members' capacity in providing high quality services to the public was underscored by Congress. In expressing appreciation for the important contribution of several Members to PWS training workshops in the past, Congress also welcomed several offers by Members to host similar events on a regional scale in the future.

3.4.1.9 Congress recalled that through the WWW, WMO had, over the years, been continuously involved in initiatives aimed at enhancing the capacities of NMSs to provide warnings of natural disasters, such as tornadoes, typhoons, cyclones, and floods and at assisting in responding to them. It noted that WMO had continued its endeavour in support of safety of life and property during IDNDR. Congress expressed appreciation that, in the context of the PWS Programme and its contribution to the Decade, emphasis had been placed on providing the public with authoritative, factual, and consistent information and warnings during severe weather events. Those events presented special challenges to NMSs particularly where communications with, and education of, the public were concerned. Assisting the NMSs to ensure the existence of effective warning systems and provision of advice from a single and reliable source was seen as one of the most important roles of the PWS Programme.

3.4.1.10 Congress recalled that the Executive Council had encouraged the involvement of regional association working groups on the WWW in the PWS Programme, particularly with respect to the preparation of guidance material that was relevant to their respective Region. In that context, Congress noted the concern expressed by several Members from the Mediterranean region, which were often affected by severe and violent weather phenomena, on small spatial and time-scales. Frequent cases of loss of lives and extensive damage to property had been recorded in that area in recent years. Congress agreed that that problem merited attention and welcomed the offer of Spain to organize and host an international symposium in 1997 to consider the results of scientific research on that topic, followed by a conference with a view to design a pilot project. The conference would propose translating the results of such studies into operational aspects and operational applications in the Mediterranean region. Furthermore, the results of the pilot project would be useful for determining the feasibility of establishing a regional plan for providing operational guidance and technical support to the NMSs in the Region for issuing their own forecasts and warnings of adverse phenomena in the Mediterranean region. While appreciating the relevance of such a project to the PWS, in particular the project under that Programme entitled "Formulation and content of forecasts and warnings and the exchange and coordination of hazardous weather information among neighbouring countries", Congress felt that a phased approach to that proposal would be most appropriate. That project would be developed in collaboration with the WWW Programme, with the early phases of the project being closely related to the GDPS. Moreover, Congress noted that Spain was considering the possibility of proposing to WMO to establish an RSMC on adverse phenomena affecting the western Mediterranean. The main responsibility of such a centre would be the provision of basic operational products to all the NMSs in the Region, thus helping them to issue their own forecasts and warnings.

3.4.1.11 Congress agreed that the technical responsibility to develop the PWS Programme should remain assigned to CBS, as decided by Eleventh Congress. It further agreed that in terms of WMO Programmes, the PWS Programme should be kept under the Applications of Meteorology Programme. To implement the Programme effectively, Congress agreed that a permanent organizational structure for the PWS Programme was required and requested CBS to consider an open working group under that technical commission, with a core membership comprising of rapporteurs from each regional association of WMO.

3.4.1.12 In recognition of the vital and basic role of NMSs to provide warnings to the community on severe weather events as well as a wide range of day-to-day advice on past, present and forecast weather conditions, Congress noted the importance of helping to build Members' capacity to deliver high quality PWS and decided to include in the programme activities a project directed at that need. Congress, therefore, agreed that the activities should focus on the following projects coordinated with other WMO Programmes, as appropriate:

(*a*) Strengthening capacities of NMSs in providing weather services to the public;

(*b*) Formulation and content of forecasts and warnings and the exchange and coordination of hazardous weather information among neighbouring countries;
(*c*) Presentation and dissemination techniques;
(*d*) Public understanding, public information, education and training.

Congress noted that the Fourth WMO Long-term Plan for the PWSP should be amended to reflect that decision and agreed to include in the Plan, as a specific project, the preparation of a guide on public weather services practices.

3.4.1.13 Congress recognized the important requirement to improve PWS in both developing and developed countries. It agreed that in view of the vital role of national PWS programmes in enhancing the public visibility of NMSs, that requirement was particularly important in the case of developing countries. At the same time, it stressed the importance of support by Members to the PWS Programme, if its objectives were to be met successfully. Congress emphasized the need for a dynamic approach to that new programme indicating the continuation of supportive activities in related research, and requested the Secretary-General to give high priority to:

(*a*) Providing assistance, as appropriate, to Members to strengthen and implement their national PWS programmes, by placing special emphasis on the training and education element of the Programme. Organizing training events such as regional workshops and seminars on PWS were seen as a particularly effective and useful means of achieving that goal;
(*b*) Encouraging and assisting Members in recognizing the importance of establishing good relations and partnerships with the media and a broad spectrum of user groups including the private sector, both domestic and international. That would assist to develop common statements of requirements leading to optimum systems to meet the needs of the NMSs and their clients in the most cost-effective way;
(*c*) Continuing the development of the PWS Programme, since being basic element of all NMSs, the Programme was a new initiative of the Organization and would require substantial new resources to meet its objectives, especially in assuring the delivery of high quality forecasts and warnings to the public;
(*d*) Publishing as soon as possible the *Preliminary Guide on Public Weather Services Practices*, with a view to finalizing it following the necessary approval by the CBS.

3.4.1.14 Resolution 12 (Cg-XII), which provided for activities within the PWS Programme to be undertaken during the twelfth financial period, was accordingly adopted.

3.4.2 Agricultural Meteorology Programme; the report of the president of the Commission for Agricultural Meteorology (CAgM) (agenda item 3.4.2)

3.4.2.1 Congress complimented the Secretary-General, the CAgM and its president and vice-president on the progress made in the field of agricultural meteorology, including the publication of several technical notes and reports. It agreed that those publications were a valuable source of information for NMHSs, researchers and end-users.

3.4.2.2 Congress noted with appreciation the reports of the tenth and eleventh sessions of the Commission. It noted that the eleventh session was held in Havana, Cuba, from 13 to 24 February 1995 at the kind invitation of the Government of Cuba and expressed its appreciation for the provision of excellent host facilities. Congress further noted that the Commission had adopted as its theme for the next inter-sessional period "Operational agrometeorology for sustainable environmentally-friendly and economically-viable agricultural production".

3.4.2.3 Congress reviewed the activities proposed by the Commission for implementation during the next inter-sessional period. Congress noted that six working groups were established and that 11 joint rapporteurs were appointed by the Commission to carry out its activities. It also noted that emphasis would be placed on the provision of advice and assistance in the implementation of the ICCD including its regional implementation annexes. In particular, Congress urged members of the Commission to ensure that adequate attention was given to the implementation of the Convention in compliance with the resolution on urgent action for Africa. In that connection, Congress urged the Commission to review the experience and knowledge on applied agrometeorology, including the use of remote-sensing, required both for the operational agrometeorological services to end-users and for coping better with extreme environmental hazards including drought, desertification, desert locust infestation, and forest and bush fires. Congress also supported the decision of the Commission to prepare guidelines on the improvement of management practices in agriculture and forestry (including agroforestry) in order to cope with climate variability and climate change and on management strategies for sustainable agricultural development. Congress was of the opinion that those activities should be undertaken in collaboration with FAO and other relevant international organizations. Congress reiterated that while assessing and consolidating agrometeorological data and products, the Commission should, in particular, take into account the needs of Members to support national, subregional and regional activities and WMO Programmes.

3.4.2.4 Congress further noted the main topics discussed at the eleventh session of CAgM, among which the importance of seasonal and interannual climate predictions for operational applications to agriculture. Congress urged Members which were undertaking research into such activities to intensify their work and to keep the Secretariat and other Members informed about the results, however tentative. Congress agreed that the preparation of both short- and long-range forecasts depended on reliable and accurate data, efficient data processing, and rapid exchange of data and products. It encouraged Members to improve their observational networks, including areas where the use of carefully calibrated and maintained automatic weather stations might be found useful.

3.4.2.5 Congress noted with appreciation that the Commission had encouraged Members to use to the maximum the potential of biotechnology, the contributions of agrometeorology to the development of multiple cropping

systems, and the benefits of integrated pest management in the development of sustainable farming systems in order to ensure food security and self-sufficiency. In that connection, Congress emphasized the need to interact and strengthen links with FAO, relevant academic and research institutions, and other agricultural personnel. It also noted the efforts made by the Libyan Arab Jamahiriya to combat the screwworm infestation, which had been totally eradicated in cooperation with FAO.

3.4.2.6 Congress supported the decision of the Commission to bring out a publication listing examples of WMO/CAgM related achievements in agricultural meteorology. It was of the opinion that that publication would be particularly useful to illustrate the social and economic benefits of applied agricultural meteorology. Congress urged all Members to supply examples of such achievements for use in the preparation of that publication.

3.4.2.7 Congress noted that the eleventh session of CAgM had decided to present awards for outstanding contributions and/or exceptionally long-term services to the Commission. It also noted with appreciation that the Commission, in recognition of the outstanding contributions and exceptionally long services to the Commission, conferred the first award on Professor J. J. Burgos (Argentina), the first president of the Commission, for his services to the Commission for over 40 years.

3.4.2.8 Congress noted that drought and desertification continued to have adverse effects on agricultural and livestock production in many developing countries. Congress, therefore, complimented the Secretary-General for his efforts to ensure active participation of WMO and its Members in the negotiating process on the ICCD and its implementation in order to assist Members in combating desertification and in alleviating the effects of drought. Congress expressed strong support for the continuation of those activities.

3.4.2.9 Congress also expressed strong support to continuing the roving seminars, workshops, and other training events and missions to support the application of meteorological knowledge and information to agriculture. Such events, where possible, should continue to be organized in cooperation with FAO, UNEP and other international organizations, research institutions, including institutes of the Consultative Group on International Agricultural Research (CGIAR), and non-governmental organizations. In that connection, Congress reiterated its view that education and training in agricultural meteorology, including technology transfer, training of trainers and users should continue to receive high priority consideration. Congress agreed that more efforts should be made to satisfy the operational needs of end-users, with the support of FAO, and other users of agrometeorological data and information, including decision makers. It supported the appointment of Joint Rapporteurs on Impact of Training in Agrometeorology and urged them to make recommendations for impact improvement.

3.4.2.10 Congress noted with appreciation that a number of donor countries, including Belgium, India, Israel, Italy, the Russian Federation, and the United Kingdom had assisted developing countries to meet their training requirements in the field of agricultural meteorology. In particular, Congress was informed that Israel proposed, in addition to the existing three training courses, a workshop on drought and desertification, to be held in 1996, and that the Russian Federation planned for 1996 a training course on the utilization of satellite information in agriculture. Congress also noted the initiative taken by the Institute for Agrometeorology and Environmental Analysis for Agriculture in Florence — in its capacity as specialized centre for training in remote sensing application in agrometeorology, supported by the eleventh session of RA VI and endorsed by the forty-sixth session of the Executive Council — concerning the organization of a course/workshop on the use of computing techniques for the geographical information system (GIS), remote sensing and modelling application to agriculture, to be organized in 1996 under the aegis of WMO and with the financial support of the Tuscany regional authorities.

3.4.2.11 Congress noted with concern the reduced representation of developing countries at sessions of CAgM and requested the Secretary-General and the president of the Commission to continue their efforts to search for ways and means, including extrabudgetary resources, to improve upon the situation.

3.4.2.12 Congress adopted Resolution 13 (Cg-XII).

3.4.3 Aeronautical Meteorology Programme; the report of the president of the Commission for Aeronautical Meteorology (CAeM) (agenda item 3.4.3)

3.4.3.1 Congress noted with appreciation the report of the president of CAeM on activities carried out by the Commission, its working groups and its rapporteur during the last four years. The president and the Commission were congratulated on the remarkable work carried out since last Congress through the well-applied leverage of a relatively small budget particularly in bringing the WAFS satellite broadcast to fruition. Congress reiterated the importance it attached to an expanded and vigorous Aeronautical Meteorology Programme to meet the needs of expanding air transport. It agreed that aeronautical meteorology was still the most important activity in the NMS of many developing countries and that high priority should be given to funding in the WMO budget to the Aeronautical Meteorology Programme.

3.4.3.2 Congress noted with satisfaction that 19 training events in aeronautical meteorology had been held during the past four years and concurred that high priority should continue to be given to training. Congress acknowledged that the WMO/United States Satellite and Radar Application seminars in 1989 and 1993, the WMO/United Kingdom Seminars on NWP Products Application in 1992 and 1994, and on the Volcanic Ash Workshop conducted by Australia in 1993 were prime examples of Members' contributions to meeting meteorological training requirements of the aviation community. Congress urged Members to consider continuing to provide such training opportunities to other Members in coordination with WMO. Congress endorsed the view of the CAeM, at its tenth session, that training should continue to be the highest priority for the next four years, particularly for meteorologists, for the manipulation of the gridded datasets available from the

WAFS satellite broadcasts, and for maintenance technicians dealing with the high technology equipment now becoming available.

3.4.3.3 Congress noted the various positive results obtained in the improvement of meteorological services to aviation stemming from the work carried out by the CAeM Working Group on the Provision of Meteorological Information Required Before and During Flight (PROMET) and the code monitoring and review meeting in 1994. Those results related particularly to the development of amendments to WMO Technical Regulations [C.3.2] and [C.3.3], the successful implementation of the aeronautical meteorological codes in 1993, the improvement to the new codes, meteorological support to the implementation of the WAFS, as well as the work being undertaken to develop guidance material in support of helicopter operations. With regard to the new aeronautical meteorological codes, Congress strongly endorsed the view expressed by the tenth session of CAeM that national deviations to codes should be kept to a minimum.

3.4.3.4 Congress welcomed the initiative of the CAeM Working Group on Advanced Techniques Applied to Aeronautical Meteorology (ATEAM) in meeting six times, four of those without WMO financial support, and the increased involvement with training. The session noted the positive feedback received on the ATEAM Newsletter, which had been published five times and agreed that it was a practical means for the dissemination of information on advanced technologies and techniques to Members, particularly in developing countries. A measure of the Newsletters' success was the fact that the mailing list had nearly doubled in the previous two years due to requests from interested parties. Because of the increasing emphasis on advanced techniques and technologies in aeronautical meteorology, the valuable work by the ATEAM and its chairman, Mr C. McLeod (Canada), in communicating that information to all members concerned, was commended by Congress. In particular, WMO Technical Note No. 195 entitled *Methods of Interpreting Numerical Weather Prediction Output for Aeronautical Meteorology* (WMO-No. 770), currently being updated by the ATEAM, was singled out as being particularly timely and valuable.

3.4.3.5 The introduction of the WAFS satellite broadcast was characterized by Congress as being a watershed in the provision of timely high-speed, high-quality and high-resolution data to aeronautical meteorological services to better service aviation, and congratulations were offered to all people involved in its development. Congress urged donor countries and invited ICAO to provide WAFS equipment, technical assistance to Members and training of meteorologists and technicians in the operation and maintenance of that equipment. Several Members thanked Finland, the United Kingdom, and the United States for providing technical assistance in connection with the WAFS satellite broadcast. Congress noted that, during the last four years, several important milestones had been reached in the implementation of WAFS. Those included the satellite distribution system (SADIS) of WAFS products over Europe, Africa, the Middle East and western Asia by the London WAFC and over the Americas by the Washington WAFC in early 1995, as well as routine issuance of automated significant weather (SIGWX) charts over the North Atlantic expected to be distributed globally on an operational basis in 1995 or early 1996 from the London WAFC. Congress noted with interest that those broadcasts included GRIB coded WAFS data and also alphanumeric operational and graphical data. The United States would implement a second satellite broadcast to Asia and the Pacific in October 1995. In the ensuing discussion, it was noted that the United States was broadcasting meteorological fields in addition to those wind and temperature fields required by aviation to assist NMSs in improving services to aviation in their terminal areas (TAFs), in the preparation of warnings to aircraft of hazardous weather in the en-route phase of flight (SIGMETs), and in the preparation of significant weather charts by Regional Area Forecast Centres (RAFCs) until the final phase of the WAFS. Congress agreed that that would enhance the safety and efficiency of air operations and urged the London WAFC to consider including the same fields on the SADIS broadcast if that were possible. The Member concerned welcomed the request to broadcast those additional fields and reiterated its willingness, and indeed wish, to do so if the relevant ICAO group agreed.

3.4.3.6 Congress welcomed the implementation of the joint ICAO/WMO project making the new WMO regional telecommunication network in Region IV a common two-way satellite telecommunication system for the dissemination of WAFS and WWW products. Congress urged CBS and invited the regional associations concerned to study, in consultation with ICAO, the way in which the results of that experience could be used jointly to benefit both the ICAO AFS and the WMO GTS in other regions. The offer by ICAO to WMO to use SADIS, subject to equitable cost allocation, for the collection and exchange of any meteorological observational data and products was greeted by many Members as offering a possible mechanism for an efficient and effective use of resources, particularly in those areas of the world where telecommunications had been traditionally difficult, and it was suggested that the technical aspects of that offer should be considered. While some Members regretted that the ICAO WAFS dissemination system was not compatible with existing WMO ones, many others noted that there were sound technical reasons for those differences. Thus, it was concluded that, in addition to the technical aspects, there were also legal, policy, financial and strategy implications which should be studied. Congress, therefore, requested the Executive Council to examine the ICAO offer, that the technical aspects of the offer be examined by CBS, and that the Commission report to the Executive Council.

3.4.3.7 Congress noted the development and implementation of SADIS, the satellite distribution system of WAFS products by the WAFC London. In general, WAFS products were purely for aviation purposes and would be transmitted only to reception points authorized by the Meteorological Authorities designated to ICAO, who would have complete sovereignty on how the information would be redistributed in their territory. In that connection, Congress noted the view of the recent session of RA I, that NMSs should be encouraged to request their State Authorities to designate them as the Meteorological

Authority to ICAO. WAFS satellite products would be delivered free of charge to Meteorological Authorities at the point of reception. It was noted that ICAO had published a document containing a list of national Meteorological Authorities designated by States to ICAO. Funding for the SADIS satellite uplink and downlink and the ancillary costs incurred by WAFC London in providing the WAFS products was currently being considered by ICAO under a voluntary co-funding scheme. It was noted that no Member would be denied the right of access to the WAFS or training on any aspect of the WAFS.

3.4.3.8 It was stated that access to WAFS products by other meteorological users could marginalize NMSs. However, other Members stated that such concerns were overstated due to the control mechanism of accessing the WAFS products mentioned in the preceding paragraph and the new-found ability of Members, particularly in small developing countries, to manipulate the high-resolution gridded data fields of two of the most advanced NWP models in the world. Indeed, Congress expressed the hope that the introduction of the WAFS satellite broadcast would enhance NMS functions.

3.4.3.9 Congress agreed that the Secretary-General, together with the president of CAeM, should prepare a fact sheet, detailing the availability, costs and other relevant factors, both technical and administrative, of the various satellite-based telecommunication systems available, particularly in Europe, such as SADIS, RETIM, FAX-E and the MDD mission on METEOSAT. In that connection, several Members also suggested that WMO and ICAO should cooperate to produce clearer guidelines on exactly what NMSs could properly charge aviation for the provision of meteorological services, noting the reliance of the WAFS on information provided by the WWW.

3.4.3.10 Besides the global satellite broadcasts of WAFS products, Congress noted other areas of importance to civil aviation, such as aeronautical climatology, automated meteorological information for aircraft in flight (VOLMET) broadcasts, runway visual range (RVR), and the more accurate forecasting of adverse weather phenomena dangerous to aviation.

3.4.3.11 Satisfaction was expressed by Congress regarding the excellent cooperation that existed with bodies both within and outside WMO although some Members from Region VI expressed the view that cooperation with ICAO could be enhanced in their Region. Congress re-emphasized its view that the success of the Aeronautical Meteorology Programme was highly dependent on close cooperation and good working relationships with ICAO, the Agency for Air Safety in Africa and Madagascar (ASECNA) and aviation user groups.

3.4.3.12 Resolution 14 (Cg-XII), which provided for Aeronautical Meteorology Programme activities to be undertaken in the twelfth financial period, was adopted.

3.4.4 Marine Meteorology and Associated Oceanographic Activities Programme; the report of the president of the Commission for Marine Meteorology (CMM)

(agenda item 3.4.4)

3.4.4.1 Congress noted with appreciation the report of the president of CMM, Mr R. J. Shearman, on the work accomplished by CMM during the past inter-sessional period. Congress recognized that a number of bodies in addition to CMM, in particular the Joint IOC/WMO Committee for IGOSS, the Intergovernmental Committee for the GOOS (I-GOOS) and the DBCP, were responsible for specific aspects of the design and implementation of the WMO Marine Meteorology Programme. It, nevertheless, approved the programme as an integrated whole, without division according to institutional responsibilities. Congress adopted Resolution 15 (Cg-XII), agreeing that the substance of the programme should be as given in Part II, Volume 4 — The Applications of Meteorology Programme, Programme 4.4 of the *Fourth WMO Long-term Plan*.

3.4.4.2 Congress noted that the CMM Advisory Working Group at its eighth session (Mauritius, December 1994) had reviewed and revised the existing specific terms of reference for CMM, and that the president of CMM had proposed to Congress, on behalf of the Commission, that those revised terms of reference should be adopted. Congress approved that proposal. Specific action taken in that regard is recorded under agenda item 11.3.

Marine meteorological and oceanographic services

3.4.4.3 Congress agreed that the provision of marine meteorological and oceanographic services to meet the requirements of marine users continued to be of the highest priority, since they contributed substantially to national economies, as well as being essential for the safety of life at sea, as recognized in the International Convention for the Safety of Life at Sea (SOLAS). Congress, therefore, agreed that continuing priority should be given to assisting Members in the further implementation of both basic services, as specified in the *Manual on Marine Meteorological Services* (WMO-No. 558), including services for Antarctic waters, and also the more specialized services in support of national interests such as fisheries services, ship routeing, wave forecasts, sea-ice services, storm-surge forecasts, and forecasts and services for ports and harbours, coastal zones, closed water bodies and inland seas.

3.4.4.4 Congress noted with satisfaction that the new WMO marine broadcast system under the Global Maritime Distress and Safety System (GMDSS) (forming a part of SOLAS) had been implemented, as planned, as from 1 January 1992. Details of the system were formally adopted by the eleventh session of CMM and approved by the forty-fifth session of the Executive Council as part of the *Manual on Marine Meteorological Services*. Some concern was expressed, however, that the full GMDSS meteorological broadcast service was not yet operational in a small number of areas. It, therefore, urged CMM, and the Members concerned in those areas, to make every effort to ensure the implementation of the full service, as detailed in the *Manual on Marine Meteorological Services*, at the earliest opportunity. Congress assured the International Maritime Organization (IMO), as well as organizations representing marine users, of the continuing concern of WMO for the safety of life at sea, and its desire to provide the best possible services for the marine community.

3.4.4.5 Congress noted that a new, globally coordinated Marine Pollution Emergency Response Support System

(MPERSS) had been adopted by CMM-XI and, with the approval of the forty-fifth session of the Executive Council, implemented on a trial basis as from 1 January 1994. Congress urged CMM to continue trials and assessment of the system with a view to preparing proposals for a possible permanent system for consideration by a future CMM session. Congress also requested that a small technical document on the MPERSS, to include first results of the trials when available, should be prepared and distributed to Members concerned for their information and assistance.

3.4.4.6 Congress noted with appreciation that a major revision to the Marine Climatological Summaries Scheme (MCSS) had been developed by CMM and implemented. That revision was designed to improve the availability and quality of marine climatological datasets for use in global climate studies, GCOS, and in the provision of marine services. Congress expressed its appreciation to the designated Global Collecting Centres under the MCSS for their efforts, and invited all Members to support further the exchange and archival of marine climatological data by becoming contributing Members to the MCSS, and to send their data to the Global Collecting Centres in the prescribed manner. Congress further noted with appreciation that the Global Digital Sea-Ice Data Bank (GDSIDB) was now operational and accepting digital sea-ice data in both the full and reduced SIGRID formats. Congress agreed that the data in the GDSIDB would be valuable for climate monitoring and research. It urged relevant Members to continue their efforts to digitize sea-ice charts and to submit those data regularly to the GDSIDB.

3.4.4.7 Congress noted that the joint IOC/WMO Global Temperature Salinity Pilot Project (GTSPP) was now well-established and operating as an effective mechanism for generating a high quality set of global ocean temperature and salinity data, on time-scales relevant to both ocean services and climate research. Congress expressed its appreciation to all concerned with the project and noted that the ocean data management procedures established under the GTSPP provided an excellent basis for future large-scale management of GOOS data.

Systems for marine observations and data collection

3.4.4.8 Congress noted with approval that, following the agreement of Eleventh Congress that WMO should cooperate with IOC in the development of the GOOS, WMO was now a full co-sponsor of GOOS, along with IOC, UNEP and ICSU.

3.4.4.9 Congress reiterated its view that the development and implementation of GOOS was of considerable importance to WMO and to NMSs, in view of the need for enhanced ocean data to support meteorological and oceanographic services and global climate studies, and also because of their existing experience and facilities in coordinating and operating marine observing systems and in the collection, exchange and management of environmental data. Congress stressed the importance of maintaining close coordination between GOOS mechanisms and existing bodies, in particular CMM, CBS, the Joint IOC/WMO Committee for IGOSS and the DBCP. Congress adopted Resolution 16 (Cg-XII), on the subject of WMO's involvement in operational oceanography.

3.4.4.10 Congress noted that the WMO VOS, the IGOSS ships of opportunity (SOO), the IGOSS sea-level programme, and the ocean data buoys and oceanographic satellites formed key components of both existing and future ocean observing systems and contributed directly to GOOS. It, therefore, agreed on the importance of continued support for those activities, to be directed and coordinated through CMM, IGOSS and the DBCP, as appropriate.

3.4.4.11 Congress noted that the VOS continued to be the backbone of the WMO marine observations network. It, therefore, welcomed the successful efforts to improve the quality of ships' reports and stressed the value of such data to operational meteorology, maritime safety, and global climate studies. It expressed its appreciation to the voluntary shipboard observers and to ship owners and operators for their support for the VOS programme, and urged Members to make every effort to recruit more ships to the programme, to improve data quality and timeliness, and to strengthen their port meteorological officer (PMO) network, as a vital link between meteorological services and the mariner. Congress noted that some Members had implemented electronic systems for the recording and onboard storage of marine observations made under the VOS programme and requested the president of CMM to coordinate the development of specifications and standards to improve the efficiency, effectiveness and more widespread implementation of those systems. Congress further requested CMM to continue its efforts in the overall automation of shipboard observing systems, including, in particular, work to simplify practices for shipboard observers, as a way to assist in the expanded recruitment of VOS.

3.4.4.12 Congress noted with satisfaction the substantial increases over the past four years in the quality and quantity of ocean buoy data distributed on the GTS, and expressed its appreciation to the DBCP and its technical coordinator. It urged Members to continue and expand their support for the DBCP, including through voluntary contributions to support its technical coordinator position, in order to ensure its continuing viability.

3.4.4.13 Congress noted that the numbers of BATHY and TESAC reports distributed over the GTS had remained reasonably constant over the inter-sessional period, despite the financial difficulties being experienced in several countries. Congress noted with approval the already close collaboration between IGOSS and CBS in the area of oceanographic data management and urged Members to continue and strengthen their contributions to the IGOSS observing system, in particular through the maintenance of the SOO expendable bathythermograph (XBT) network.

3.4.4.14 Congress agreed that ocean remote sensing, including both satellite and ground-based systems, would be an essential component of the future GOOS, and would contribute data of vital importance to meteorological and oceanographic services, to global climate studies, and to oceanographic research. Congress noted with appreciation the work of the CMM/IGOSS/IODE Sub-group on Ocean Satellites and Remote Sensing. It agreed that that work was of considerable value to Members and should be continued in close collaboration with relevant activities under GCOS and CBS.

3.4.4.15 Congress noted that the INMARSAT satellite system, as well as being a key element in the GMDSS and, thus, in the new WMO marine broadcast system, was also now the primary means for transmitting meteorological and oceanographic reports from the WMO/VOS and IGOSS/SOO from ship to shore. Congress agreed that the widespread use of INMARSAT represented a major advance in two-way marine telecommunications for meteorological purposes, but that continuing efforts were required to ensure that the most efficient and cost-effective use was made of that mechanism, for the benefit of all Members. It, therefore, decided to keep in force Resolution 19 (Cg-XI) — The collection and dissemination of marine meteorological and oceanographic information using INMARSAT. Congress recognized the importance to Members of RA I of having an INMARSAT coast Earth station (CES) available in that Region for the collection of ships' meteorological reports. It, therefore, requested CMM to study the possibilities in that regard, in conjunction with INMARSAT and the Members concerned.

Programme support activities

3.4.4.16 Congress agreed that specialized seminars, workshops and similar events were of considerable value to Members involved in the operation of marine observing systems and in the provision of marine services, and should be continued.

3.4.4.17 Congress noted with much concern that a post-graduate diploma course in marine meteorology and physical oceanography at RMTC Nairobi, co-sponsored by WMO and IOC, to date had no funding and/or material support for implementation. Congress recognized that such a training capability situated within Region I was essential for the further development of marine activities by Members in the Region. It, therefore, strongly reiterated its support for the establishment of such a course, and urged all Members to explore all possibilities for providing appropriate funding and material support. Congress further requested the president of CMM and the Secretary-General to investigate other possible means for establishing and supporting the course in order to help achieve the goals and objectives of the Region.

3.4.4.18 Congress noted with appreciation the advanced planning stage for the WMO/IOC project to establish a cooperative marine observation network and specialized marine analysis centre in the Association of South-East Asian Nations (ASEAN) region. Congress agreed that the project, as well as expanding the capabilities of Members to provide marine meteorological and oceanographic services, also assisted to fulfil commitments under UNCED Agenda 21, Chapter 17, and represented a contribution to the implementation of GOOS. Congress, therefore, strongly supported the project, and requested that consideration be given to developing similar cooperative projects in other subregional areas.

3.4.4.19 Congress noted with appreciation that the *Guide to Applications of Marine Climatology* (WMO-No. 781) had recently been published, and that a large number of other technical reports and handbooks had been published during the inter-sessional period. It agreed that such publications constituted an essential component of the marine programme, and that they should continue to be supported and updated when necessary. The *Tropical Cloud Atlas* was specifically mentioned in that regard.

3.4.4.20 Congress noted with interest and appreciation the new initiatives and activities reported by a number of Members relevant to the Marine Meteorology and Associated Oceanographic Activities Programme. It urged Members to continue and to expand those activities whenever possible in support of the WMO marine programme. It also requested Members with well-developed marine programmes to provide support whenever possible to assist other Members to strengthen further their marine activities.

Cooperative programmes/projects with the Intergovernmental Oceanographic Commission (IOC) and other international cooperation within and outside the United Nations system

3.4.4.21 Congress noted with satisfaction that WMO's participation in cooperative programmes and projects with the IOC had continued at an even higher level during the past inter-sessional period. Numerous examples of that cooperation are recorded under the relevant agenda items. In that regard, Congress expressed its appreciation for the statements by the IOC representative, indicating the desire of his Organization to enhance further such cooperation in the future.

3.4.4.22 Congress further noted with satisfaction that WMO continued to collaborate closely with other international organizations concerned with international marine activities, in particular the organizations which were members of the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO) (UN, UNESCO, IOC, FAO, IMO, IAEA and UNEP) as well as the International Hydrographic Organization (IHO), and the Permanent Commission for the South Pacific (CPPS). The ICSPRO agencies used the IOC as a common mechanism for ocean-related activities and supported it in a variety of ways, including through staffing. WMO had seconded an officer to the IOC Secretariat, and Congress noted with satisfaction that that officer had worked in particular on major joint WMO/IOC activities such as IGOSS, the DBCP and GOOS. Congress, therefore, decided to continue the secondment of an officer to the IOC Secretariat and to contribute half the cost of employing a secretary for that officer.

3.4.4.23 Congress noted with appreciation that WMO had contributed actively to the preparation of the oceans and coastal area components of UNCED, and was now contributing to follow-up actions, including in particular the work of the United Nations Administrative Committee on Coordination (ACC) Sub-committee on Oceans and Coastal Areas. Congress agreed on the value of WMO's involvement in UNCED follow-up activities, and noted that those should, therefore, continue to be supported.

3.4.4.24 Congress recognized the essential value of inter-agency and interdisciplinary cooperation in meeting the major challenges in relation to the ocean environment, global climate, marine-related disasters, and marine services generally. It expressed its particular appreciation to the IOC, for the spirit of cooperation and collaboration which it had offered WMO in the past and for the new cooperative activities now being proposed. Congress noted that such

cooperation should extend also at the regional and national levels, and it urged Members to make every effort to consult with the relevant national oceanographic agencies and institutions in the implementation of marine-related programmes and activities.

3.4.4.25 Congress noted with interest that the United Nations General Assembly had designated the year 1998 to be the International Year of the Ocean. It considered that WMO should play an active role in planning for the celebrations of that international year in view of the highly interlinked nature of the global atmosphere and the ocean and of the long-standing involvement of WMO and its Members in ocean affairs. Resolution 17 (Cg-XII) on that subject was, therefore, adopted.

3.5 HYDROLOGY AND WATER RESOURCES PROGRAMME (HWRP) (agenda item 3.5)

3.5.0 HYDROLOGY AND WATER RESOURCES PROGRAMME; THE REPORT OF THE PRESIDENT OF THE COMMISSION FOR HYDROLOGY (CHy) (agenda item 3.5.0)

3.5.0.1 Congress reviewed the Hydrology and Water Resources Programme (HWRP) and the reports of the president of CHy and of the Secretary-General. It noted that the main interest of the HWRP continued to be centred on the Operational Hydrology Programme (OHP), with its components related to basic systems and to applications and environment, as well as on the promotion and development of the Hydrological Operational Multipurpose System (HOMS). The Programme was geared to the needs of Hydrological Services of Members to:

(*a*) Meet increasing demands for the assessment and development of water resources, on the one hand, and for protection from the threat of natural disasters, on the other, in support of sustainable development of water resources and of environmental management;

(*b*) Promote cooperation between them at regional and subregional levels, especially where they shared river basins or water bodies.

It was noted that those activities had been set against a background of growing concern for the environment and the concept of sustainable development in a world where freshwater resources were under increasing stress as demands for water supplies accelerated and problems of pollution expanded.

3.5.0.2 Congress also reviewed the contributions of the HWRP to various other WMO Programmes which had important hydrological components as well as assistance provided to regional associations for the implementation of regional aspects of the HWRP. It was recognized that those other programmes contributed, in turn, to the HWRP. Furthermore, it noted that despite a reduction in the delivery of WMO's technical cooperation activities, those that remained included a substantial hydrological component to which the HWRP had continued to provide technical support. Congress also considered and commended the collaboration with water-related programmes of other international organizations, in particular those of UNESCO and the IDNDR.

3.5.0.3 Congress agreed that the implementation of that major scientific and technical programme of WMO continued to prove very successful, with the valuable support of CHy, the Working Group on Hydrology of the regional associations (RAs WGH), and the contributions of Members through their national Hydrological, Hydrometeorological and Meteorological Services.

IMPLEMENTATION OF DECISIONS OF THE COMMISSION FOR HYDROLOGY (CHy)

3.5.0.4 Congress noted with appreciation the reports of the president of CHy and of the Secretary-General on the actions taken by the Commission in implementing Resolution 22 (Cg-XI) — Hydrology and Water Resources Programme. During the 1992–1995 inter-sessional period, the activities of CHy had been concerned mainly with the completion of the tasks established by its eighth session (1988) and with the implementation of the programme established by its ninth session (1993).

3.5.0.5 With regard to the ninth session of CHy (Geneva, January 1993), Congress was informed that there had been a need to change the dates and venue of that session. It noted the proposal by the president of CHy for a review of the current WMO Regulations concerning the delays to be observed when a country had to withdraw a previously issued invitation and a meeting had to be rescheduled. It was recognized that many Members had an interest in holding a relocated session as close to the original date as possible, as that would enable funds allocated by Members for attendance of their delegates to be used within the same financial year. Congress, therefore, requested the Executive Council to review the procedures relating to the acceptance of invitations for sessions of constituent bodies contained in Annex I to the General Regulations.

3.5.0.6 Congress was informed of the large participation of Members in the ninth session of CHy, which was seen as a reflection of their interest in WMO's activities in hydrology and water resources. However, concern was expressed about the relatively low participation of delegates from developing countries and the Newly Independent States and new WMO Members. The problems many of those countries faced in sending delegates to sessions of CHy prevented them from playing their full part in planning the Commission's activities.

3.5.0.7 Congress was informed that, in the light of previous experience, eight working parties had again been established during the ninth session of CHy to consider in more detail a number of specific topics. That had allowed the Commission to take well-founded decisions on those topics despite the limited time available and had contributed considerably to the success of the session.

3.5.0.8 Congress was informed that CHy had again established its Advisory Working Group (AWG) and three subject-oriented working groups. It was noted that those groups, aside from having responsibilities for the basic activities in operational hydrology, also had been assigned tasks which reflected the increased interest of the Commission in interdisciplinary work and in environment-related activities. Furthermore, the individual members of the AWG had again been assigned specific responsibilities. Congress recognized that in the period of zero growth, the allocation of those duties led to a reduction in the total number of rapporteurs

and, hence, to an increase in the support that could be provided to each individual rapporteur and working group. In that context, it also noted that the network of associate rapporteurs which had been re-established after the ninth session of CHy, currently comprising over 60 experts in specific technical fields, would be valuable in finalizing technical reports, particularly drafts to be submitted to the tenth session.

3.5.0.9 Congress noted with interest that the ninth session of CHy had considered the question of commercialization and prepared material on the subject which reviewed the similarities and differences between the situation in Hydrological and Meteorological Services. The president of the Commission had submitted that material to the Executive Council Working Group on the Commercialization of Meteorological and Hydrological Services, the report of which was considered under agenda item 11.4. It noted further that the participation of the president of CHy in the work of that working group had benefited both the working group and CHy. As recorded under agenda item 11.4, Congress invited the president of CHy to continue his work on the issue of commercialization and the international exchange of hydrological data.

3.5.0.10 The president of CHy advised Congress of the adoption of the Statement of the Ninth Session of the Commission for Hydrology. Congress noted that, for its preparation, the Commission had considered the output of several important events related to hydrology and water resources. Those included, in particular, the issues raised at the International Conference on Water and the Environment (ICWE) (Dublin, 1992), in Agenda 21 of UNCED (Rio de Janeiro, 1992), as well as those identified in the WMO/UNESCO *Water Resources Assessment Report* (1991), which was a follow-up to the Mar del Plata Action Plan. The Statement emphasized the need for improved information on water resources, including their assessment, and the identification of a global hydrological network. Congress noted with approval the recommendation of the forty-fifth session of the Executive Council that Members make every effort to ensure that the Statement be brought to the attention of decision makers at the national level, whose effective support would be needed, and saw the development of WHYCOS and other initiatives as an encouraging response to the appeal made in the Statement.

3.5.0.11 Congress was informed that the Commission had prepared a framework for important topics, problems and developments which should be considered in developing the Fourth WMO Long-term Plan for HWRP. In that context, it noted that the Commission had requested its AWG to consider what changes would be appropriate to the terms of reference of CHy, to take better account of all emerging issues, and to report its findings to the tenth session of CHy.

3.5.0.12 Congress was informed of the concern of the ninth session of CHy that more than one quarter of WMO Members were still not represented at CHy. It noted the request of the Commission that the Members concerned should be urged to nominate experts from their Hydrological Services to serve as members of the Commission, as Hydrological Advisers (HAs), as rapporteurs of CHy, and/or as officers-in-charge of HOMS National Reference Centres (HNRCs). Permanent Representatives were asked to ensure that their colleagues in the national Hydrological Services (NHSs) participated in the sessions of CHy and received the documentation for those sessions.

3.5.0.13 As regarded the progress of CHy's current intersessional activities, Congress noted that all three subject-oriented working groups and the AWG had started their work and had already met once. The Commission and the Secretariat had continued the practice of monitoring the progress of work by means of six-monthly reporting forms. Congress requested the Secretary-General to assist, as far as possible, in effecting the timely completion of tasks of the Commission before its tenth session, scheduled for late 1996.

3.5.0.14 Congress considered that it would be valuable for CHy to set performance indicators that would allow its members to assess the benefits resulting from the work of the Commission. Those might include statistical information on meetings supported and reports published. They might also include case studies which demonstrated how the activities of the Commission were being used operationally by NHSs and others.

Institutional cooperation between National Hydrological Services (NHSs) and between Hydrological and Meteorological Services

3.5.0.15 Congress highlighted the implementation of, and the need for, adequate institutional cooperation between Hydrological, Hydrometeorological and Meteorological Services. It recognized the important roles of HAs to the Permanent Representatives with WMO and of the value of Regional Hydrological Advisers (RHAs) to the presidents of regional associations. In that context, it noted that 112 WMO Members had appointed HAs, and 41 other Members had combined Meteorological and Hydrological Services. Recognizing that the appointment of HAs had become an established practice in WMO, it was considered desirable to include HAs in the General Regulations, thus reflecting their function in a manner analogous to General Regulation 167 concerning the presidents of regional associations and their RHAs. Therefore, under its agenda item 11.3, Congress adopted an appropriate amendment to General Regulation 6.

3.5.0.16 Congress noted that each of the WMO regional associations had appointed RHAs to their presidents, who in all cases were also the chairmen of the RAs WGH. Those RHAs had participated, in an advisory capacity, at the forty-fourth and forty-sixth sessions of the Executive Council (1992 and 1994), which dealt with policy questions relating to HWRP. On those occasions, meetings had been held between the president of CHy and the RHAs. They had proved to be very useful in assisting the coordination and harmonization of activities at the regional level with those of CHy.

Regional activities in relation to the Hydrology and Water Resources Programme (HWRP)

3.5.0.17 Congress was informed that, pursuant to Resolution 22 (Cg-XI) — Hydrology and Water Resources Programme, extensive technical and administrative support had been provided by the Secretary-General to the six

working groups of the regional associations in the implementation of their activities and in the organization of their sessions. It noted with interest that those six regional bodies, which had increased in membership and level of activity in recent years, were now composed in total of some 150 experts and 55 rapporteurs on different subjects. It also noted that for some associations, hydrology and water resources was one of the major areas of interest and concern. Congress recognized that that increased activity in the RAs WGH also implied increased support by the Secretariat. It noted that, as requested in the above resolution, CHy had given special emphasis to cooperation with regional associations, and had continued to provide advice to those groups. One member of the CHy AWG had again been entrusted with regional liaison. The working procedure to ensure effective communication between CHy and the RAs WGH, which had been endorsed by the presidents of the regional associations and by Eleventh Congress, had also continued to be implemented.

3.5.0.18 Congress noted that there were, however, a number of problems which were affecting the performance and output of some of the RAs WGH. One of the most common in all regions was the long delay observed in the nomination and approval of members of the RAs WGH by individual countries, thus preventing the initiation of activities of the groups and causing delays which, in some cases, exceeded one year. Noting that the ninth session of CHy had made a number of recommendations to overcome those problems, Congress recommended that they be drawn to the attention of the regional associations and of Members.

Publications

3.5.0.19 Congress noted that during the period under consideration eight publications had been issued in the Operational Hydrology Report series and 18 reports in the Technical Reports to the Commission for Hydrology series. In order to accommodate the technical reports prepared by regional associations working groups, the title of the latter series had been changed in 1992 to Technical Reports in Hydrology and Water Resources. That revised title was now being used for reports resulting from both CHy activities and those of the RAs WGH. Congress also noted the publication of the English version of the fifth edition of the *Guide to Hydrological Practices* (WMO-No. 168) (1994) and that the revised version of the *Hydrological Information Referral Service — (INFOHYDRO) Manual* (WMO-No. 683) (1995) would soon be issued. As a culmination of many years of work, the second edition of the WMO/UNESCO *International Glossary of Hydrology* had been issued in 1992. Congress noted the delays in publishing both mandatory and non-mandatory material and the resulting danger that reports might be out-of-date when issued. The hope was expressed that the finalization and publication process could be accelerated and that publications could be issued in more of the working languages of WMO.

3.5.0.20 Congress noted the concern of CHy that, while publishing costs were carried by the budget of the HWRP, no funds resulting from sales were currently credited to the Programme nor to any other scientific programme. Congress considered WMO's Publication Programme under item 5.3.

Technical cooperation and the Voluntary Cooperation Programme (VCP)

3.5.0.21 Congress noted that many Members had expressed an urgent need for technical assistance for water resources monitoring and assessment activities and had sought WMO's help to obtain funds. In view of that, Congress regretted that the support from UNDP to technical assistance projects in those fields had declined drastically following a change in UNDP policy in 1992.

3.5.0.22 Congress noted that the HWRP had been involved in the initiation of a number of technical assistance projects in the field of hydrology and water resources and in the provision of scientific guidance and technical support for their implementation. Those projects were seen as forming a major part of WMO's TCO Programme. In that context, Congress noted that HWR staff had contributed in a significant manner to develop and follow-up project proposals, such as those for the development of a coordinated flow-forecasting and warning system to serve the management of the Danube river, for the improvement of a flood forecasting system for the Joint Technical Commission of Salto (Argentina/Uruguay), as well as for a number of country projects (Bangladesh, Guyana, Mexico, Uganda, etc.) and had cooperated with other agencies, such as the World Bank, to develop projects and strategies.

3.5.0.23 Congress was informed that, since the inclusion of support to the HWRP within the VCP in 1991, more than 30 requests for assistance in water resources activities had been circulated to donors through the Permanent Representatives, their HAs, and to national agencies responsible for technical assistance. It expressed its concern that very little support had been received so far. The decisions of Congress on technical cooperation activities in general, including possibilities for obtaining external funding, such as through GEF, are recorded under agenda item 4.

Resource and visibility strategies

3.5.0.24 Congress noted that, in the light of the continuing budgetary limitations and pursuant to the request of Eleventh Congress and the forty-fifth session of the Executive Council, support had continued to be sought from Members for the implementation of the HWRP, by covering expenses of experts and rapporteurs, by co-financing specific meetings, and in several other ways. Belgium, Canada, France, Germany, Japan, Norway, Switzerland, and the United Kingdom were among the Members which had responded generously to such requests. It was noted that the ninth session of CHy had addressed resource strategies and had agreed that a document on the subject should be prepared by the CHy AWG. Those matters were considered further in relation to proposals for an enhanced role for WMO in the resolution of global water issues, as recorded below.

3.5.0.25 Congress noted with satisfaction that, as a means of assisting the promotional efforts of Hydrological Services, several brochures had been produced on aspects of the HWRP, together with a video entitled Working for the World's Water, which was available in English, French and Spanish.

Fourth WMO Long-term Plan

3.5.0.26 On the basis of the Fourth WMO Long-term Plan for the HWRP, Congress considered proposals concerning WMO's future activities in the field of hydrology and water resources. It noted that the emphasis and direction of the HWRP had been changed to respond to the concerns of recent major conferences, in particular UNCED (see paragraph 3.5.3.8 below), in order to provide an appropriate follow-up in the freshwater area. In approving the main long-term objectives of the HWRP for the decade 1992–2001, Congress agreed that the projects within that main WMO Programme should again be grouped under the three component programmes as during the previous intersessional period. The discussions and decisions of Congress are recorded under the titles of those three programmes, under agenda items 3.5.1, 3.5.2 and 3.5.3, respectively. Resolution 18 (Cg-XII) was adopted accordingly.

3.5.0.27 Congress adopted Part II, Volume 5 — The Hydrology and Water Resources Programme of the *Fourth WMO Long-term Plan*. The decision is recorded under agenda item 7.2.

Future priorities

3.5.0.28 Congress confirmed the importance of undertaking activities under all three component programmes of the HWRP, maintaining a balance between supporting basic services, with WHYCOS as an operational programme of activities developed under the OHP-Basic Systems, working on applications and environmental matters, and ensuring that WMO contributed to the resolution of global issues. As WMO's basic mandate in the field of water was for operational hydrology, Congress advised that, in times of financial constraint, priority should be assigned to those activities which related to the collection, storage and analysis of hydrological data and to hydrological forecasting, including related training and technology transfer.

African Conference on Water Resources: Policy and Assessment

3.5.0.29 Congress was pleased to note that WMO had organized that Conference in Addis Ababa, in collaboration with the United Nations Economic Commission for Africa (UN/ECA), from 20 to 25 March 1995. It saw that as an important follow-up to UNCED and expressed its appreciation to the Secretary-General for that initiative. Congress recognized the innovative approach, as set out in a new strategy and policy for breaking the "dependency syndrome", as well as a number of actions promoting sustainable development and self-sufficiency in water resources assessment.

3.5.0.30 Congress also noted that the long-term objective of the strategy and action plan agreed by the Conference was to rehabilitate, build and/or adapt the institutional, financial, manpower and technological capacity of the relevant services of the countries and regional bodies concerned. That would enable them to assess their water resources within the context of integrated and comprehensive development and to manage those resources in a sustainable manner in support of development.

3.5.0.31 Congress was informed that the strategy was based on a strong determination to overcome the issues, problems, constraints and conditions that for so long had bedeviled water resources assessment on a sustainable basis. It noted that the new initiatives proposed by the Conference to overcome the above-mentioned problems and issues would require:

(*a*) Improvement of the productivity and efficiency of national water resources agencies;
(*b*) Optimal use of human and financial resources;
(*c*) External support agencies and United Nations organizations to strengthen the coordination of the activities in support of water resources assessment at different levels;
(*d*) Demand for water resources data and information to be based on the level of socio-economic development;
(*e*) An increased political will to cooperate at river, lake and groundwater basin levels.

3.5.0.32 Congress noted the Conference recommendation that WMO and the UN/ECA should take the leadership role to promote the strategy and to implement the action plan. It was also informed that the strategy and action plan had been adopted by the Conference of Ministers of UN/ECA. Congress then adopted Resolution 19 (Cg-XII). In connection with the promotion of the strategy, Congress noted the possibility of collaborating with the UN/ECA/WMO sponsored ACMAD in developing services to hydrology. Congress considered that similar events should be organized in other regions and welcomed the proposal of the Inter-American Development Bank to collaborate with WMO in organizing a conference in WMO Regions III and IV.

Enhanced role for WMO in the resolution of global water issues

3.5.0.33 Congress considered the document by the president of CHy calling for an enhanced role for WMO in the resolution of global water issues, which had been prepared in consultation with the RHAs to the presidents of regional associations and with the members of the CHy AWG. The document of the president had been developed with the purpose of:

(*a*) Informing Congress of the situation caused by the rise in water-related problems and of the wide recognition at the international level that those must be urgently addressed, to ensure that global sustainable development could be achieved;
(*b*) Demonstrating the role that WMO could and should play in the fields of hydrology and of water resources assessment and management so as to contribute to such development;
(*c*) Explaining how the soaring demand for freshwater all over the world had initiated the global consensus formulated in a series of conferences on an international scale, that efforts towards a better assessment of freshwater resources must be doubled;
(*d*) Pointing to the increasing demand for water quality data and information to support management decisions on both surface water and groundwater resources;

(*e*) Stressing that the time for action was now and demonstrating why hydrologists had a vital role to play in all water-related questions;

(*f*) Suggesting ways in which WMO might strengthen its programme and activities in the field of hydrology and water resources, including better interaction of hydrology activities with all the Programmes of WMO, so as to enable it to fulfil its proper role in support of Members in the context of global demands and opportunities;

(*g*) Stating that WMO was responsible for promoting activities in hydrology, and considering the appropriate level of staff and financial resources to accomplish the objectives of the HWRP.

3.5.0.34 Congress recognized that in recent years, water resources issues had become more prominent in the face of increasing demands placed on the limited supply of freshwater, water pollution, and the growing toll of death and destruction from floods. It noted the pervasive role of water in the natural world — in the biophere, geosphere, atmosphere — and that many national and international institutions had recently focused their attention on "water". Congress saw WMO as having a very clear and important mandate in the field of hydrology and water resources and, therefore, considered that it was timely for WMO to strengthen its specific contribution to water issues, particularly in the light of UNCED and subsequent ministerial conferences.

3.5.0.35 Congress noted the significant accomplishments of the HWRP, including those of CHy, achieved through partnerships with other United Nations agencies and the generous support of Members (see paragraph 3.5.0.24 above). It could be said that, the Programme had provided exceptional value for the money invested. During the last CHy inter-sessional period, those accomplishments were reflected in a total of 53 technical meetings in the field of hydrology and water resources implemented or co-sponsored by WMO, in the preparation of some 24 technical reports and volumes of guidance material in various fields, in the planning and implementation of six major intercomparison projects, in the transfer of several hundred HOMS components now reaching a total of well over 3 000, and in the provision of scientific guidance and technical support for implementation of a number of technical assistance projects in the field of hydrology and water resources.

3.5.0.36 However, not all of the Programme's objectives could be achieved because of staff and resource limitations. Congress urged the Executive Council and the Secretary-General to do all in their power to ensure that the Programme received the maximum possible support, noting the priorities referred to in paragraph 3.5.0.28 above. Congress also urged Members to continue and expand the present practice of covering the expenses of experts and rapporteurs and of co-financing specific meetings and providing support in other ways.

3.5.0.37 Congress noted the valuable contribution made by the RHAs in identifying and resolving water-related issues in all regions and the involvement of those advisers in a number of other linked programmes in WMO.

3.5.0.38 Congress further suggested that the Executive Council give careful consideration to include appropriate hydrological representation in all working groups that it might establish which dealt with matters of relevance to hydrology and water resources, including technical cooperation, education and training, etc.

3.5.0.39 In view of the evolving role of WMO in hydrological issues, the president of CHy had also raised the question as to whether it would be appropriate and possible to amend the name of the World Meteorological Organization to reflect its responsibility in hydrology. One proposal was to change the name to the "World Meteorological and Hydrological Organization". Congress recognized that confusion did arise because individuals and organizations were often unaware of the role of WMO in hydrology.

3.5.0.40 Congress requested the Executive Council to consider the various matters raised by the president of CHy, in the light of the comments recorded above and in consultation with the hydrological constituency of WMO, in particular CHy and the RHAs. It asked that a report be prepared on the subject for submission to Thirteenth Congress.

3.5.1 Operational Hydrology Programme (OHP) — Basic Systems (agenda item 3.5.1)

3.5.1.1 Congress was informed of the action taken by the Secretary-General for the implementation of Resolution 22 (Cg-XI) — Hydrology and Water Resources Programme. It noted that assistance had continued to be provided to CHy and its president in the implementation of the programme of the Commission. The emphasis during the current inter-sessional period had been on the preparation of guidance material on modern operational technologies and on new trends identified by CHy as needing attention. The support to the basic activities of Hydrological Services also included the transfer of operational technologies through the HOMS and support to manpower development in operational hydrology. The growing concern for the environment and the concept of sustainable development had been reflected in the new emphasis that CHy was giving to the study of water quality, water use, and the hydrology of urban areas. In that context, Congress noted with interest that a number of workshops had been organized to address issues related to monitoring and assessment of water quality and its integration with surface water observing systems.

Guidance and regulatory material

3.5.1.2 Congress was informed that more than 40 experts from Member countries had contributed to the preparation of the fifth edition of the *Guide to Hydrological Practices*. That edition, which had been issued in a new single volume format, reflected developments in the field of operational hydrology since the publication of the fourth edition in 1981. The English version of the fifth edition had been published in August 1994. Twelfth Congress particularly welcomed the information that a number of French-speaking countries, coordinated by France, had practically completed a collaborative effort to translate the *Guide* into that language, and a similar initiative, coordinated by Uruguay, had been started by Spanish-speaking countries.

Translation into Russian by the Russian Federation was also well advanced. Similar efforts had also been initiated for translation into other languages, including Arabic, Chinese, German and Hungarian.

3.5.1.3 On the basis of Recommendation 1 (CHy-IX) — Amendments to the WMO *Technical Regulations*, Volume III — Hydrology and Resolution 11 (EC-XLV) — Report of the ninth session of the Commission for Hydrology, the proposals made by the ninth session of CHy for amendments and additions to the WMO *Technical Regulations*, Volume III — Hydrology, were approved by Congress under agenda item 2.4. Those comprised mainly new text on the functions and responsibilities of NHSs, on safety procedures, and on biological indicators of water quality. Noting that expansion of interest to include biological indicators, Congress requested CHy to consider carefully how guidance might be provided in collaboration with other appropriate agencies.

Major intercomparison projects

3.5.1.4 Congress was informed of the support that had been given to the planning and implementation of the following major WMO intercomparison projects during the period under consideration:

(*a*) Basic Hydrological Network Assessment Project (BNAP); a joint effort of CHy and the RA WGH with data holdings covering some 80 countries; the final report was under preparation;

(*b*) Intercomparison of operational hydrological network design techniques (HYNET); an ongoing project under which a sample technology had been applied in eight countries;

(*c*) Third phase of the intercomparison of hydrological instruments; its two components covered continuous discharge measuring techniques and data telemetry and transmission systems;

(*d*) Evaluation of methods for estimating areal evapotranspiration; the final report was being compiled with the assistance of Canada;

(*e*) Intercomparison of hydrological forecasting models for use in large rivers; essentially a desk study without numerical intercomparison.

In noting the status of those projects, it was recognized that they had provided valuable results and guidance material for use by Members, but that timely implementation of such projects was becoming more difficult because of the competing demands imposed on the experts and Services participating in them. In view of the potential value of those studies, Congress urged Members to continue to contribute to them.

Hydrological Information Referral Service (INFOHYDRO)

3.5.1.5 Congress was informed that, pursuant to recommendations of Elventh Congress and the ninth session of CHy, efforts had been continued for the updating of the INFOHYDRO, the computer database which contained information on national, regional and international hydrological agencies, networks, and data centres of WMO Members. About 90 Members had provided updated information for INFOHYDRO and a revised version of the *INFOHYDRO Manual* had been prepared taking into account the recent changes in a number of countries. The second edition of the *Manual* was in press. Congress agreed that the data holdings available, relating to over 160 countries, constituted a very valuable means of providing information on the World's Hydrological Services. It, therefore, recommended that the database be updated at regular intervals, and urged Members to respond to requests for information for INFOHYDRO, in particular those Members that had not done so recently.

Hydrological Operational Multipurpose System (HOMS)

3.5.1.6 Congress was informed of the progress made with HOMS in accordance with the Implementation Plan for HOMS (1992–1996) adopted by the ninth session of CHy. Some 121 Members had designated an HNRC and eight regional water resource bodies had established focal points for HOMS. Many of the new HNRCs were in the Newly Independent States and new WMO Members where they were assisting in developing the new NHSs. Congress noted that the *HOMS Reference Manual (HRM)* contained 446 components and 18 sequences and that over 3 300 components had now been transferred. It welcomed the new initiatives to make the *HRM* available for use in computer compatible form not only on personal computers but also on Internet so as to make the technology in HOMS more readily accessible to the working hydrologist. It urged that other material, such as INFOHYDRO, be made available in a similar way.

3.5.1.7 Congress commended the practice of holding regional HOMS implementation/coordination meetings in conjunction with sessions of the RAs WGH. It felt that those meetings provided valuable opportunities for Members in the regions to exchange hydrological technology, particularly technology relevant to problems peculiar to the regions, and urged that those meetings should be continued.

3.5.1.8 Congress noted the priority areas for the technical development of HOMS components and sequences laid down in the Implementation Plan. The emphasis on environmental matters was particularly welcomed. Congress was informed of the collaboration with UNEP/WHO and UNESCO in the Global Environmental Monitoring System (GEMS)/Water Programme which was contributing materially to the HOMS progress in the field of water quality.

3.5.1.9 Congress welcomed the initiative of the CHy AWG, acting as the Steering Committee for HOMS, to ask a small task group to review the status, purpose, and future demands placed on HOMS and to consider future directions and actions for the system. It urged the tenth session of CHy to take the report of that task group fully into account in preparing future plans for HOMS.

3.5.1.10 Congress noted the large contribution to HOMS made by HNRCs and urged their Governments to provide them with the staff and other resources needed to enable them to fulfil their role.

Support to manpower development in operational hydrology

3.5.1.11 Congress noted with interest the information on WMO's training activities in the field of hydrology and water

resources and expressed its satisfaction that, in pursuance of Resolution 22 (Cg-XI) — Hydrology and Water Resources Programme, WMO had continued to assist Members in the organization of, or sponsored lectures at, several international courses, training seminars and workshops. Regional training courses had been held on water quality monitoring (Trinidad, 1993), on the hydrometry of large rivers (Cairo, 1993), on the use of the HOMS Belgian components in the Spanish version (Caracas, 1993) and on systems for production of hydrometeorological information (Caracas, 1994). Collaboration had also continued with the National Weather Service of the United States in the organization of a course on hydrological forecasting. A new venture had been the international postgraduate diploma course in hydrology, held at the RMTC in Nairobi, Kenya, with the support of a number of countries and of UNESCO. That annual course, now in its fourth year, was recognized as a diploma course by the University of Nairobi. Congress noted that plans were currently being developed for a similar course to be held at the RMTC in Caracas, Venezuela which had been recognized by the Universidad Central de Venezuela and that Iran had started discussions with UNESCO on a course in hydrology to be held at the Water and Power University under the auspices of the RMTC in Tehran.

3.5.1.12 A number of delegates, especially from Africa, indicated the need for developing manpower in hydrology and water resources. Congress, therefore, urged other Members who were in a position to do so, to help the existing courses and those being proposed, for example by providing external lecturers, equipment and teaching aids.

World Hydrological Cycle Observing System (WHYCOS)

3.5.1.13 Congress was pleased to note that, as part of the follow-up to ICWE and UNCED (see section 3.5.3 below), and in response to the recent call by the second session of the United Nations Commission on Sustainable Development (New York, 1994) for an improved knowledge base in terms of the world's water resources, WMO had devoted considerable efforts to the promotion of a major long-term initiative for improving operational activities and knowledge of the hydrological cycle through a World Hydrological Cycle Observing System (WHYCOS).

3.5.1.14 WHYCOS would consist initially of about 1 000 stations (hydrological observatories) worldwide sited on the major rivers. Each station would monitor about 15 variables, such as flow, sediment load, water chemistry, and on-bank meteorological variables. The data collected would be transmitted via geostationary satellites, such as METEOSAT, and by polar orbiting satellites to national, regional and global centres. The WMO WWW data transmission system would be employed, where applicable. In turn, WHYCOS would contribute data to the WWW, to the Global Runoff Data Centre (GRDC), to GCOS and, in due course, to GTOS. In the developing world, investment would have to be put into the stations themselves and into capacity building in those Hydrological Services participating in WHYCOS. In the developed world, where many of those stations already existed, WHYCOS would essentially be a matter of upgrading and networking.

3.5.1.15 Congress was informed that a Concept Panel meeting organized by WMO (Geneva, February 1995) to discuss the concept, rationale, and objectives of WHYCOS had recommended, *inter alia*, that WHYCOS be planned to be implemented to act as a tool for the improvement of collection, dissemination, and use of high quality, standardized and consistent hydrological and related information at the national, river basin, regional and international levels. Both the quantity of water available and its quality were important and the data collected should be available to users from a database accessed through international communication networks. WHYCOS may, in that way, provide an additional means of enhancing cooperation between nations that shared international river basins. WHYCOS was also seen as part of a future United Nations Water Information System, which would make available water data of all types.

3.5.1.16 Congress also noted that the Panel recommended that WHYCOS be implemented through a two-pronged fully-integrated approach: a global conceptual basis providing a framework; and general guidance which would be developed interactively and concurrently with the implementation of national, subregional, regional and basin-wide operational components, referred to as Hydrological Cycle Observing Systems (HYCOS). That approach of implementation was seen as a flexible and adaptable process, demand driven to meet the needs of the different categories of end-users and aimed at improving the cost-effectiveness of the data and information that WHYCOS would provide. However, the first priority for WHYCOS was to meet the needs of the countries. Congress agreed that WHYCOS should be developed as a component of the HWRP.

3.5.1.17 Congress noted with appreciation that WHYCOS was being developed with the support of the World Bank and other agencies and that, in the World Bank Technical Publication No. 263, *A Guide to the Formulation of Water Resources Strategy* (1994), there was a specific recommendation for the establishment of WHYCOS.

3.5.1.18 Congress noted that the concept was currently being developed for Africa, Latin America and the Caribbean, for countries bordering the Mediterranea Sea, and for the Aral Sea basin.

3.5.1.19 Congress expressed great satisfaction that the process of establishing subregional WHYCOS components had already been initiated. The Grant Committee of the World Bank had recently allocated a grant of US$1.7 million to start the implementation of Phase I of a Mediterranean Hydrological Cycle Observing System (MED-HYCOS) for the countries of the Mediterranean rim. WMO would be the Executing Agency for that project. In addition, interested donors had already been identified to start implementation of two other components, one for the Southern African Development Community (SADC-HYCOS), and one for West and Central Africa (AOC-HYCOS). Congress noted that WHYCOS was especially suitable to countries consisting of small islands and urged that a WHYCOS component be developed for the islands of the Pacific and the Caribbean regions.

3.5.1.20 Congress noted those developments and the fact that WHYCOS was intended to be a key element in the

strategy of the international community for combating the approaching water crisis through capacity building and access to an information highway. It saw WHYCOS as an important new component of the HWRP and advised that it be carefully structured so as to ensure that it was of maximum benefit to countries. Accordingly, Congress adopted Resolution 20 (Cg-XII).

Future directions

3.5.1.21 Congress noted that, during the next financial period, the activities under the OHP — Basic Systems would be geared to the provision of guidance to, and support for, Hydrological Services in the development of their physical facilities and human resources and provision of services, so as to allow the systematic assessment of the quantity and quality of both surface water and groundwater, available for development and requiring protection. The OHP-Basic Systems continued to develop and promote appropriate uniformity and standardization in the practices and procedures employed in the measurement of basic hydrological elements. It aimed at the introduction of the latest techniques for the development and modernization of data collection, transmission, and processing systems, so as to make available technical support for the establishment of such systems.

3.5.2 Operational Hydrology Programme (OHP) — Applications and Environment (agenda item 3.5.2)

Operational hydrology for the sustainable development of water resources

3.5.2.1 Congress was informed of those activities under the HWRP whose objective was to make available a coordinated set of technical information and technology in support of sustainable development with regard to water resources. That was seen as a very timely task in the light of increasing water demands, vulnerability of water resources, and growing environmental impacts of anthropogenic activities. Congress was pleased to note the contributions that WMO made to the whole area of sustainable development of water resources, such as through the support given to the ICWE (Dublin, Ireland, 1992), UNCED and the CSD, as reported below. In all cases, the aim had been to promote operational hydrology as a necessary component of sustainable development.

Flood hazards

3.5.2.2 Congress was informed that CHy had again established a working group to handle matters relating to forecasting. It noted with satisfaction that the members of the working group had each been entrusted with the preparation of technical reports on specific problems. Their achievement should strengthen Members' capabilities in the use of hydrological forecasting systems, both for the operation of water-resource systems and for the mitigation of natural hazards of a hydrological nature. Congress noted the need to strengthen studies of urban flooding and flash floods in a variety of environments and to develop case studies.

3.5.2.3 Congress noted that the HWRP had made substantial contributions to WMO's TCP in relation to flooding and flood forecasting. Particular mention was made of the Management Overview of Flood Forecasting Systems (MOFFS), which had been developed under the TCP and discussed in more detail under agenda item 3.1.3 and to the IDNDR, discussed under agenda item 9.1.

Operational hydrology, climate, and environment

3.5.2.4 Congress noted that CHy placed importance on the links between operational hydrology, climate, and environment and was active in a number of areas bridging water-related climatic and environmental components. Commission rapporteurs dealt with water-related issues of major international climate programmes by assisting in preparing plans and monitoring progress. The relevant CHy working group was also considering global hydrological networks and data centres of all types, including water quality and groundwater. Water use and environmental sustainability had been added as new study areas in response to emerging challenges.

3.5.2.5 Interdisciplinary cooperation was recognized as being of ever-increasing importance. Congress encouraged the development of further interdisciplinary activities, in particular at the interface between hydrology, meteorology, and climatology in the context of the holistic approach to water resources management advocated by the Dublin Conference.

3.5.2.6 Congress was informed of developments within the framework of the World Climate Programme — Water (WCP-Water). The Sixth Planning Meeting for WCP-Water had been held in Wallingford, United Kingdom in 1993.

3.5.2.7 Congress noted with appreciation that WMO's GRDC, operated with the generous support of Germany, was being increasingly recognized as an important source of data on river flow. The GRDC data bank consisted of records of daily and/or monthly values of river flow observed at over 3 000 stations on more than 2 600 rivers in 143 countries. The Centre provided a valuable and expanding service to both the climatological and hydrological communities, offering a growing range of data and data products. In that context, Congress endorsed the call of CHy, contained in its Recommendation 2 (CHy-IX) — Support to Global Data Centres, for Members and the WMO Secretariat to support such centres as the GRDC. Recognizing the increasingly important role that the GRDC was being called upon to play in studies of global change and in the assessment of the world's water resources, and the need for it to receive the active support of Members, Congress adopted Resolution 21 (Cg-XII).

3.5.2.8 The WCP-Water project on long time-series of hydrological data had started its second phase with the comparative analysis of the single station results collected in the first phase. It was noted that, in the second phase of the project, the analysis of results with respect to areal variability would be performed. An important meeting of experts reviewing the progress within the project and outlining the prospects for the future had been held in Geneva in 1992.

3.5.2.9 Two planning meetings on gridding of runoff data had been held in Miedzeszyn near Warsaw, Poland and in Berne, Switzerland, in 1992 and 1994, respectively. The

results of that WCP-Water project were expected to provide a useful basis for the verification of climate studies and to contribute to a range of hydrological endeavours, in particular those related to large-scale analyses.

3.5.2.10 Congress noted that the HWRP had put considerable effort into planning the hydrological components of GCOS and GTOS and had contributed to a number of meetings that had been held for that purpose during the period under review.

3.5.3 PROGRAMME ON WATER-RELATED ISSUES (agenda item 3.5.3)

3.5.3.1 Congress was informed of WMO's cooperation with other international organizations on water-related issues. It recalled that the groundwork for such cooperation was laid in 1977 by the Mar del Plata Action Plan and was pleased to note the leading role that WMO continued to play in inter-agency collaboration.

SYSTEM-WIDE COOPERATION

3.5.3.2 Congress was informed that WMO had participated in the annual sessions of the ACC Sub-Committee on Water Resources (formerly the Inter-Secretariat Group for Water Resources). It noted that the Inter-Secretariat Group had been established in 1977 to formalize the cooperation and collaboration between those United Nations bodies and agencies which shared an interest in freshwater. The current Sub-committee had 24 members, covering virtually every component of the United Nations system. It further noted that WMO had provided the chairman for the two years terminating in March 1992.

3.5.3.3 Congress was informed of the success of the ICWE (Dublin, Ireland 1992) and of the importance of its report and of the Dublin Statement that it had adopted. It noted with satisfaction that WMO had taken the lead in convening the Conference on behalf of the many United Nations bodies and agencies which were members of the then ACC Inter-Secretariat Group for Water Resources. It also noted that the Government of Ireland had hosted the Conference and that it had been held under the aegis of UNCED, the aim being to provide the major input on freshwater to the preparations for the Earth Summit. ICWE was seen as being the most important United Nations conference on freshwater since the United Nations Water Conference in 1977, the only regret was that UNCED had not given it the recognition that it deserved. Recalling the numerous occasions when the need for inter-agency collaboration had been stressed, Congress welcomed the high degree of cooperation achieved across the United Nations system in relation to water matters.

3.5.3.4 Congress noted the contribution of the HWRP to IDNDR and that work was progressing on the Comprehensive Risk Assessment (CRASH) project as well as on the project on a System for Technology Exchange for Natural Disasters (STEND). Decisions on IDNDR are recorded under agenda item 9.1.

3.5.3.5 Note was taken of the collaboration with IAEA, the Past Global Changes (PAGES) of IGBP and the International Association of Hydrological Sciences (IAHS), in planning the International Workshop on Tracing Isotopic Composition of Past and Present Precipitation: Opportunities for Climate and Water Studies, which had been in January 1995 in Berne.

3.5.3.6 Reference was made to the widening interest in water matters among many international organizations, including the Organization of American States (OAS) and UN/ECA, and the Secretary-General was requested to follow those developments and encourage coordination and cooperation with the related activities of WMO.

3.5.3.7 The long list of governmental and non-governmental organizations maintaining close contact with WMO in relation to water matters was seen as a clear indication of the active and practical approach the Organization took to inter-agency cooperation in that field. The combination of the different efforts of the various organizations avoided duplication and ensured more rational use of the limited funds allocated to each.

UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (UNCED) FOLLOW-UP ON FRESHWATER

3.5.3.8 Congress was informed that the forty-seventh session of the United Nations General Assembly (November 1992), when discussing the follow-up action to UNCED, had adopted a resolution designating 22 March of each year as World Day for Water, it being purely fortuitious that that fell on the day preceding World Meteorological Day and that the anniversary of the adoption of the UN/FCCC was on 24 March. That resolution urged Members to devote 22 March to appropriate national activities, such as the promotion of public awareness, while the United Nations and its agencies, through the request to the United Nations Secretary-General, had been asked to make arrangements to ensure the success of the celebration. Congress welcomed the action taken by the Secretary-General in that regard.

3.5.3.9 Congress was informed that water resource issues had been highlighted during a number of meetings in 1994, namely at the second session of the United Nations Commission on Natural Resources (New York), at the Ministerial Conference on Drinking Water and Sanitation (Noordwijk), at the second session for the CSD (New York), and during the World Conference on Natural Disaster Reduction in Yokohama, the latter being discussed under agenda item 9.1. It noted that, because of the concern about the availability and sustainability of water resources, the CSD had asked for an assessment of global water resources to be presented at its 1997 session. To prepare for that assessment, WMO had been involved in several meetings with other United Nations agencies and national agencies. Congress, while pleased to note that WMO had been asked to work with UNESCO on that project with regard to the availability of water resources, recognized that there was the need for additional external resources to support that activity. It further noted that the work would make use of the data held by the GRDC and work being undertaken by UNESCO on the world's water resources.

3.5.3.10 The idea of establishing a World Water Council or Forum had been raised, but not adopted, at ICWE. Although it had not subsequently been discussed at UNCED, it had again been raised as a possibility by the International Water Resources Association, and Congress requested the Secretary-General to follow those developments closely.

WMO-UNESCO links

3.5.3.11 Representatives of UNESCO and of its IOC informed Congress of the recent plans for their activities in the area of freshwater and invited WMO to participate in several projects, such as integrated studies of the Caspian Sea. Congress saw the importance of cooperation with other international agencies in establishing a regional multidisciplinary observational/monitoring system and in studying the causes of the disastrous water level rise in the Caspian Sea. Congress accepted an invitation of UNESCO and its IOC to collaborate in formulating an outline of the project proposal for integrated studies of the Caspian Sea.

3.5.3.12 Congress was informed of the joint WMO/UNESCO/ICSU International Conference on Hydrology (Paris, France, 1993), and noted the involvement of ICSU in that fourth conference in the series. It noted that, at the recommendation of the Conference, a UNESCO/WMO/ICSU Task Group on International Water Programmes had been set up to examine what might be done to bring the water programmes of WMO and UNESCO closer together at the national and international levels. At the kind invitation of France, the Task Group had met at La Saline Royale d'Arc-et-Senans, France, in November 1993.

3.5.3.13 Congress noted that the forty-sixth session of the Executive Council had endorsed the recommendations of that Task Group and welcomed its suggestion that WMO and UNESCO had a common planning process for the preparation of the forthcoming phases of the water programmes of the two organizations. As the fifth phase of UNESCO's International Hydrological Programme (IHP) and the Fourth WMO Long-term Plan both came into effect at the start of 1996, Congress saw that coincidence as providing a rare opportunity to seek early and practical coordination, not only in their implementation, but also in the long-term planning of the two programmes. Congress saw the advantage in co-locating, in place and time, the tenth session of CHy and the twelfth session of the UNESCO Intergovernmental Council for the IHP, and requested the Secretary-General to explore with UNESCO the possibility of holding the sessions of the two bodies towards the end of 1996. It was noted that recent years had seen an increase in the extent of cooperation and, in some cases, integration between the bodies which acted as the national counterparts to the OHP and IHP. Congress urged Members to strengthen that collaboration between the IHP and OHP at the national level as that would lead to the more efficient and effective execution of programmes in hydrology at both the international and national levels.

Cooperation with the World Bank and the Inter-American Development Bank

3.5.3.14 The representative of the World Bank highlighted the increased interest of the Bank in the field of water, resulting from the principle adopted by the Dublin Conference that water was an economic good. He stressed the point that high quality, standardized and consistent hydrological data were a prerequisite for sustainable development. At the same time, he requested that socio-economic development and environment protection be kept in mind when planning systems for the acquisition, processing, and dissemination of hydrological data. He emphasized the full support of the World Bank for WHYCOS and pointed out the importance for the Bank of GRDC as the principal source of global information in the water sector.

3.5.3.15 Congress noted that the Inter-American Development Bank was interested in undertaking, jointly with WMO, a hydrological survey in the Americas and was seeking guidance from WMO to define priorities and operational procedures as a basis for its lending policies in the field of water resources.

3.6 Education and Training (ETR) Programme (agenda item 3.6)

3.6.0 Education and Training Programme; overall review (agenda item 3.6.0)

3.6.0.1 Congress reviewed the activities of the Organization in the field of education and training during the eleventh financial period, and appreciated the progress achieved and assistance provided to Members in developing their human resources. It agreed that the ETR Programme should continue to be given very high priority by the Organization and that, during the twelfth financial period, the Organization should continue to assist NMHSs in ensuring that they had the required well-trained personnel.

3.6.0.2 In appreciating the assistance given to the programme in general, and to Members in particular, under UNDP, VCP, funds-in-trust, and other multilateral and bilateral schemes, Congress expressed the hope that such assistance would not only continue to be provided to the Organization's education and training activities but that its level would be increased.

3.6.0.3 Congress appreciated the work carried out by the Executive Council Panel of Experts on Education and Training, which served as an advisory body on various aspects of technical and scientific education and training in meteorology and operational hydrology. It noted with regret that the 1995 meeting of the Panel had been postponed to the next financial period due to budgetary constraints. Congress considered the continuation of the Panel during the twelfth financial period, with an appropriate core membership, to be of great importance for the sound implementation of the Programme.

3.6.0.4 Congress recognized the value of the developments leading to the establishment of the Standing Conference of Heads of Training Institutions of National Meteorological Services (SCHOTI) and its working groups dealing with up-to-date scientific and technical issues in the education and training process. Congress encouraged the high level of cooperation between the Executive Council Panel of Experts on Education and Training and SCHOTI in seeking solutions to training problems and requested the Secretary-General to ensure that Member countries in general, and the WMO RMTCs in particular, would benefit from that cooperation.

Fourth WMO Long-term Plan

3.6.0.5 Congress adopted Part II, Volume 6 — Education and Training Programme of the *Fourth WMO Long-term Plan*. Its decisions are recorded under agenda item 7.2. Congress also adopted Resolution 22 (Cg-XII).

3.6.1 MANPOWER DEVELOPMENT (agenda item 3.6.1)

3.6.1.1 Congress reaffirmed the fundamental importance of the manpower development sub-programme in assisting NMHSs in having the required well-trained personnel. Congress stressed the need for a strategic approach to the implementation of such a programme and requested the Secretary-General to continue his efforts to assist Members in their national human resources development.

3.6.1.2 Congress noted the information provided on the results from the survey of Members' training requirements, which had been carried out during 1994. Although those results were based on replies from only 85 Member countries, certain factors were evident:

(*a*) There was still an increasing trend in the training needs of Members, particularly at the Classes III and IV levels in RA I and at the Classes I and II levels in the other regional associations;

(*b*) There were indications that a substantial number of training fellowships would be needed, both short term and long term, especially for courses leading to a degree;

(*c*) The selection of subjects for the organization of future training events by the Secretariat should be guided by the subjects' rankings, established on the basis of the survey, and so provide, to the extent possible, a match with the actual training needs of Members;

(*d*) There were clearly identified subjects which fell under the Organization's scientific programmes for which the required numbers of personnel to be trained were adequate for the organization of training events;

(*e*) Some replies (19 per cent) indicated an absence of national plans for staff development in Meteorological Services.

3.6.1.3 Congress felt that the results of the survey would constitute a useful source of information for a number of users and would be a basis for modifications and improvements in the ETR Programme and agreed that another survey should be conducted during the twelfth financial period.

3.6.1.4 Congress recognized that the survey's results identified an increasing trend in the number of personnel to be trained, and encouraged Members, especially developing countries, to make every effort to develop national plans for manpower development with the aim of achieving self-reliance in the training of meteorological and hydrological personnel. It also agreed that it would be necessary to attract financial, manpower, or other resources to enable the various identified training requirements to be met.

3.6.2 TRAINING ACTIVITIES (agenda item 3.6.2)

WMO REGIONAL METEOROLOGICAL TRAINING CENTRES (RMTCS)

3.6.2.1 Congress noted with satisfaction that, since Eleventh Congress, new RMTCs had been recognized in China, Iran, Israel, the Russian Federation, and Uzbekistan to improve regional training facilities and to meet the training requirements of the Newly Independent States and new WMO Members in Regions II and VI. Congress agreed with the view that the network of WMO RMTCs was an important component of the ETR Programme and that RMTCs, which were maintained largely by the host countries, tended to be cost-effective to the Organization. It was also noted that in some regions, RMTCs were still the only basic training institutions in the field of meteorology and operational hydrology. However, Congress confirmed its earlier view that every effort should be made to ensure that recognized RMTCs were functioning at the required level of efficiency and effectiveness in preference to the establishment of new centres. In that context, it was felt necessary to review the proper functioning of RMTCs on a regular basis and to report to the Executive Council Panel of Experts on Education and Training.

3.6.2.2 Congress noted with satisfaction that a substantial majority of centres in the network of WMO RMTCs continued to contribute significantly to the training of operational personnel from their Regions. Congress requested the Secretary-General to continue his actions in assisting the centres and in finding ways and means of strengthening them. Congress encouraged RMTCs hosting a university component to originate or strengthen joint research projects with advanced meteorological centres as an important mechanism for facilitating education and training. It expressed the view that developed countries should expand their assistance to RMTCs by providing scientists and researchers to enable centres to cope with up-to-date technological advances. Congress also requested the Secretariat to give more priority to the respective RMTCs in the placement of fellows and the award of fellowships and to continue to monitor the activities of the centres to ensure that a high standard of performance was maintained and that the training needs of the respective Regions were met.

3.6.2.3 Congress encouraged Members, in particular those hosting RMTCs, to place increased emphasis on the inclusion of new specialized subjects in their training programmes to meet the training needs of Members, especially in clearly identified areas which fell under the scientific programmes of the Organization. Congress endorsed the decision of the Executive Council on the strategy of education and training in the use of information provided by satellites and agreed that that approach could be suitable for training in other subject areas.

PREPARATION OF TRAINING PUBLICATIONS

3.6.2.4 Congress noted the number of training publications prepared and translated by the Organization, as well as those currently under preparation, and agreed on the value and suitability to WMO Members and RMTCs of the "Blue Series" of training textbooks and confirmed the importance of the availability of training materials to students, particularly in developing countries. Congress further agreed that the activities on the preparation, translation, publication, and distribution of training materials in the official languages of the Organization should be continued during the twelfth financial period.

3.6.2.5 Congress also expressed the wish to have training publications prepared on the subjects of training of instructors, marketing of meteorological information products, and on modern weather prediction techniques. At the same time, taking into account the high costs

of preparing and translating good quality training materials, Congress expressed the hope that the continued assistance of Members in those activities would substantially complement the budgetary allocations for that purpose.

3.6.2.6 Congress noted that the *Compendium of Training Facilities for Meteorology and Operational Hydrology* (WMO-No. 240) and *Guidelines for the Education and Training of Personnel in Meteorology and Operational Hydrology* (WMO-No. 258) were in the process of being revised and that the information contained in the *Compendium of Training Facilities for Meteorology and Operational Hydrology* (WMO-No. 240) had been computerized, that the database was available on diskettes, and that work was in progress for its publication. In view of the increasing usefulness of those mandatory publications, particular importance was placed on the need for their periodic updating. Congress urged Members and presidents of technical commissions to participate actively in those activities.

3.6.2.7 Noting the new environmental and technological challenges for meteorologists and hydrologists throughout the world, Congress expressed the view that the education and training curricula and the classification of meteorological personnel given in the *Guidelines for the Education and Training of Personnel in Meteorology and Operational Hydrology* should be reviewed, taking into account the output of the forthcoming worldwide Symposium on Education and Training in Meteorology and Operational Hydrology: Curriculum Needs Beyond 2000, so that the level of instruction would better reflect the actual needs of Members in view of the rapid changes in subject areas and technologies.

WMO TRAINING LIBRARY

3.6.2.8 Congress noted with satisfaction that the WMO Training Library continued to act as an exchange forum and gave advice to Members on the availability of training materials, audiovisual aids and computer-aided learning (CAL) modules and to provide those materials to Members and RMTCs. Congress also noted the volume of training aids, including video cassettes, slides and CAL modules distributed to WMO Members, RMTCs, and other users during the eleventh financial period and agreed to the continued strengthening of the Library through the expansion of its holdings and the updating of its equipment, in particular to establish a direct link with RMTCs and WMO Members using modern technology so that the library could become in the future an information system on meteorological education and training.

3.6.2.9 Congress noted with appreciation the support given by Members to the Training Library by making available training materials, such as slides, video cassettes and CAL modules, and urged Members to continue their support for the benefit of other Members and the training efforts of RMTCs. Congress recognized the importance of distance learning as a cost-effective training method and urged the promotion and use of audiovisual aids and CAL modules in some areas of meteorological and hydrological training.

TRAINING IN SPECIAL SUBJECT AREAS

3.6.2.10 Congress found that there was a continued need for training in some special subject areas which were not included in the training component of any of the scientific and technical programmes of WMO. Congress consequently agreed that such training should be continued during the coming financial period. Particular attention should be given to the training of instructors, the management of training institutions, and specialized training for personnel dealing with users of meteorological and hydrological data and products, public information and resource mobilization options. Congress also agreed that another Symposium on Education and Training should be organized during the next financial period.

3.6.3 EDUCATION AND TRAINING FELLOWSHIPS (agenda item 3.6.3)

3.6.3.1 Congress noted that the availability and award of fellowships under the various technical cooperation programmes, i.e. UNDP, the VCP, trust funds and the WMO regular budget, had been very effective in assisting Member countries in the fields of capacity building and human resources development in meteorology and operational hydrology. It also noted that the Secretariat organized study tours for newly appointed directors of NMHSs, to familiarize them with management and operational activities in selected NMHSs and with the work of the WMO, and requested the Secretary-General to continue that practice.

3.6.3.2 Congress noted with appreciation that an automated fellowship database had been established in the Fellowships Division and was operational since January 1990. That had increased the effectiveness and efficiency of monitoring the fellowship programme and had resulted in an improved and faster follow-up and retrieval of information and in providing more elaborate statistics.

3.6.3.3 Congress noted the various means through which monitoring and evaluation of fellowship activities were carried out during the eleventh financial period and decided that that should be continued in the twelfth financial period through such means as, for example, the Executive Council Panel of Experts on Education and Training and through coordination with United Nations agencies on fellowship matters.

3.6.3.4 Congress noted with appreciation that many VCP donor Members continued to provide VCP fellowships to the satisfaction of all concerned. Noting the enormous gap between training needs and the limited funding opportunities within the VCP, particularly with regard to long-term fellowships, Congress expressed the wish that more donor Members would contribute to the VCP fellowship programme. In order to make maximum use of the limited VCP financial resources, Congress urged beneficiary Members to arrange for basic training in the requesting Member country itself or in countries with most cost-effective offers. Requesting Members should clearly define the objectives of the training and, once the training had been completed, ensure that the knowledge acquired had been utilized and the Secretary-General was informed of the effectiveness of the training provided.

3.6.3.5 Congress noted with appreciation that the Secretary-General had continued, with success, the implementation of cost-sharing tripartite fellowship

arrangements, in particular in the RMTCs, for optimizing the use of limited VCP and regular budget fellowship resources. Noting that those arrangements were found most cost-effective and were working to a great advantage, Congress requested the Secretary-General to continue and further promote the implementation of those arrangements for the benefit of all concerned.

3.6.3.6 Congress noted with satisfaction that the Secretary-General had approached several new potential donors and international development funding agencies and banks soliciting voluntary contributions for the fellowships programme and requested the Secretary-General to continue his efforts to increase the traditional fellowships financial resources by tapping additional extrabudgetary resources and new potential sources of funding for the fellowships programme.

3.6.3.7 Congress noted with concern the reduction in the number of fellowships awarded under UNDP and trust funds. In view of the serious economic constraints and changing national sectorial priorities in most VCP donor Member countries, funding opportunities within the VCP were also diminishing. Congress was also concerned to note that the recent economic changes — mainly the structural adjustment, privatization and market economy measures implemented in most of the countries hosting training institutions, in particular the RMTCs' host countries — had resulted in unexpected and large increases in the tuition fees and stipend expenses as well as in the travel costs related to fellowships. Furthermore, Congress noted that the changes in central and eastern Europe and in the former USSR had resulted in the birth of Newly Independent States and that many requests for fellowships had been received from those countries.

3.6.3.8 In view of the above considerations, namely the rising costs of fellowships, the diminishing traditional fellowship financial resources, the increasing requirements for fellowships, in particular from the Newly Independent States and new WMO Members, Congress decided to continue the allocation of funds from the regular budget for the fellowship programme during the twelfth financial period, including a separate allocation of fellowships for refugees.

3.6.4 Support to training events under other WMO major Programmes (agenda item 3.6.4)

3.6.4.1 Congress noted that during the eleventh financial period more than 60 training events had been organized in all regions covering many specific subject areas under the operational programmes of WMO. It considered those training events essential for the transfer of knowledge and proven technologies among Member countries. The continued implementation of training events in specialized subjects, selected on the basis of surveys of Members training requirements, would be crucial for bridging the gap in scientific and technological know-how between developing and developed countries.

3.6.4.2 Congress noted with appreciation the organization and support of training events by Members and considered that to be of extreme value to the meteorological community. Congress urged Members to continue to develop further their national training activities and their support to WMO organized events, in particular through the hosting of events and the meeting of appropriate expenses for lecturers and participants.

3.7 Regional Programme (agenda item 3.7)

3.7.0 Regional activities: reports of the presidents of regional associations (agenda item 3.7.0)

Reports of the presidents of regional associations

3.7.0.1 Congress noted with appreciation the reports of the presidents of regional associations and expressed satisfaction that the activities of the associations were being undertaken in an effective manner, in spite of the financial constraints experienced by many Members of the associations. The reports provided an overall review and assessment of the major activities of regional associations since Eleventh Congress.

3.7.0.2 Congress recognized the important role being played by regional associations and their presidents in the implementation of the various scientific and technical programmes of WMO. It commended the presidents of regional associations for their continued dedication to the work in their respective Regions in response to the growing needs for meteorological and hydrological support in the socio-economic development of the Member countries. In that context, special reference was made to the important role played by the presidents during their missions to visit the Member countries of their respective Regions, particularly by highlighting to the planners and decision makers in the countries visited the importance of considering meteorology and operational hydrology as an integral part of their national development plans.

3.7.0.3 Congress gave its full support to the priorities and the future work programmes of the regional associations during the twelfth financial period, as highlighted in their reports, in particular those related to the creation of unified and strengthened Services, where appropriate, and the implementation of the regional component of the WMO scientific and technical programmes.

3.7.0.4 Congress noted with satisfaction the improvements in the level of implementation of the scientific and technical programmes of WMO in Member countries where deficiencies existed. However, it noted that inadequacies still existed in the networks of observations, telecommunications and data-processing facilities in some other Member countries. In that regard, Congress was pleased to note the outcome of the OWSE-AF, which resulted in improvements in the availability of observational data from Region I on the GTS. It recognized the usefulness of introducing new technology to the solution of the problems relating to the collection and transmission of meteorological data. Congress further recognized the need to improve the type of equipment used during the evaluation exercise, taking into account the local environmental conditions, where the equipment would be installed. It, therefore, invited all those concerned with the introduction of the new systems to work towards the elimination of deficiencies which were experienced during the OWSE-AF in order to make the operations of the systems viable.

3.7.0.5 Congress noted that the upgrading of the regional telecommunication network in Region IV, which started in 1993, had been handled in an able manner by the Secretariat. The point-to-multipoint satellite links utilizing VSAT technology were expected to become operational by mid-1995. In that respect, Congress appreciated the financial and technological support received from Finland and the United States to implement the telecommunication plan in Region IV.

3.7.0.6 Congress noted that the problems in the operation of the telecommunication system in the northern part of South America still persisted. The situation would be improved with the support offered by France and other countries. Congress welcomed the automation of national centres which had begun with the installation of the automatic aeronautical meteorological information display system (SAVIMA) in some countries in Region III. In that regard, Congress expressed its appreciation for the assistance provided by Argentina for the implementation of the telecommunication automation plan.

3.7.0.7 Congress welcomed the countries which had joined WMO since Eleventh Congress. It accorded great attention to the pressing needs of those new Members to enable them to meet new challenges in the maintenance and modernization of their infrastructure. In that connection, Congress expressed its appreciation to the Secretary-General for his initiatives to assist the NMHSs of those Members to ensure that their operational facilities continued to function satisfactorily.

3.7.0.8 Congress welcomed the requests for membership of WMO by several small island States in the South-West Pacific and unanimously approved their admission to WMO (see agenda item 11.6). It requested the Secretary-General to assist the NMSs of those States to discharge their responsibilities as well as to benefit from WMO Programmes.

3.7.0.9 Congress noted the progress made in the implementation of the programmes and projects in the various regional and subregional institutions related to meteorological and hydrological activities. In particular, it noted with appreciation the development that had been achieved in implementing the ACMAD programmes. It requested the Secretary-General in consultation with the UN/ECA, as appropriate, to bring to the attention of relevant bodies and the Directors of NMHSs of the African countries the progress achieved and the problems encountered by the Centre. Congress expressed its appreciation to UNDP for its continued assistance to the DMCs in Region I. Congress noted that the ASEAN ASMC became operational in January 1993. It further noted with satisfaction the inauguration of the Weather Forecasting and Climate Studies Centre (CPTEC) in Brazil and the offer of the national authorities to arrange for the Centre to serve the countries in the Region. Congress affirmed that the establishment and operation of such centres were examples of regional cooperative efforts towards a more cost-effective approach to solve problems of common interest. Congress, therefore, requested the Secretary-General to continue to provide, within available resources, the necessary support to those subregional and regional institutions.

3.7.0.10 Congress was informed that the Agrometeorological Bibliographic Centre in Lima (Peru) continued to provide valuable services to Members of Regions III and IV with support from WMO.

3.7.0.11 Congress noted with satisfaction the development of meteorological and hydrological programmes under the auspices of the subregional organizations in the various regions with the support of WMO. It welcomed the working arrangements developed between WMO and some of those subregional organizations and encouraged the Secretary-General to continue his efforts to strengthen WMO's support to them.

3.7.0.12 Congress considered the appeal made by the presidents of regional associations for Congress to consider favourable ways and means of enhancing the support to the TCO Programme (see agenda item 4).

3.7.0.13 Congress considered the proposal of RA I to change the name "Regional Association" to "Assemblée Régionale de l'OMM pour ..." in the French language and to study the corresponding terms in the other WMO official languages. It requested the Executive Council to consider that matter and to report to Thirteenth Congress.

Regional activities

3.7.0.14 Congress stressed the important role of the regional associations and the related regional activities within the Regional Programme of the Organization. In particular, Congress emphasized the following activities:

(*a*) Sessions of regional working groups whose activities constituted a basic element in elaborating regional aspects of WMO Programmes in their respective Regions;

(*b*) Regional training seminars and workshops which had proved to be effective mechanisms that assisted the Members of the Organization, particularly those of developing countries, in the development of their NMHSs and in "bridging the gap" between the Services of developed and developing countries;

(*c*) Regional technical conferences which had proved to be effective fora to assist the Members to develop their NMHSs in order to participate fully in, and reap the maximum benefits from, WMO Programmes;

(*d*) Annual meetings of the RA IV Hurricane Committee should be adequately provided for during the twelfth financial period following the strong mandate given to the president of RA IV.

3.7.0.15 Congress endorsed the views of the forty-sixth session of the Executive Council, that the regional associations would be required, during the twelfth financial period, to implement the regional component of the WMO Programmes focusing on new priority areas, particularly the climate change and related environmental issues and efforts in "bridging the gap", to promote those activities at national and regional fora which brought together policy makers, and to advise and support the efforts of NMHSs *vis-à-vis* their national authorities and relevant regional organizations. In that respect, Congress noted the priorities established by the regional associations and supported their views to include the challenges and requirements to be faced by each region in the Long-term Plan so as to have greater regional focus and be more visionary and forward looking.

3.7.0.16 Congress noted with satisfaction the steps taken by the Executive Council and the Secretary-General to encourage the participation of experts from developing countries in the sessions of technical commissions. In that regard, it endorsed the views of the Executive Council to make budgetary allocations for one expert representing each regional association to participate on a trial basis in the sessions of CBS during the twelfth financial period.

Regional Offices

3.7.0.17 Congress expressed its satisfaction at the increasing role of the Regional Offices in assisting the Members of their respective regional associations in implementing WMO technical and scientific programmes and other activities that had a regional focus. It emphasized, in particular, the efforts of the Regional Offices to contribute to the new high priority areas, such as climate change and related environmental issues, and their increasing role as the information centres for activities in their respective Regions.

3.7.0.18 Congress noted with satisfaction the commendable efforts of the Regional Offices in establishing close working relationships with other regional and subregional groupings and organizations in the fields of meteorology and operational hydrology as well as in the related environmental issues. Congress emphasized that those activities which contributed to the development of the NMHSs should be further enhanced.

3.7.0.19 Congress reviewed the roles and responsibilities of the Regional Offices. It also considered the proposal regarding the harmonization of the activities of the Regional Offices and the TCO Department (see agenda item 4). It consequently requested the Secretary-General to make arrangements for the adequate reporting of the Directors of Regional Offices to the Secretary-General in a manner similar to those for other Directors of the WMO Secretariat.

3.7.0.20 Congress examined the question of the location of the Regional Offices. It expressed its deep appreciation to the Governments of Burundi and Paraguay for having hosted the Regional Offices for Africa and for the Americas, respectively during the eleventh financial period and their generous offers to continue hosting those Offices.

3.7.0.21 Congress noted that the eleventh session of RA I had established a Task Team on the Regional Office for Africa and the Study on the Technical Cooperation Programme of the WMO Secretariat, to review the roles, location and responsibilities of the Office. In that respect, Congress requested the Secretary-General to take measures, in consultation with the president of RA I, and in accordance with the decision of Congress on the harmonization of the functions of the Regional Offices with those of the TCO Department. It further requested the Secretary-General to take appropriate actions to ensure the continued and smooth operation of the Regional Office for Africa.

3.7.0.22 Congress considered the recommendations of the recent sessions of RA II and RA V and decided that the Regional Office for Asia and the South-West Pacific should continue to be located at the WMO Headquarters in Geneva during the twelfth financial period in order to provide the necessary focal point for interaction with the WMO Secretariat. None the less, Congress noted the wish of some Members of RA V that the Office should have a more visible and active presence in the Region. It also noted with interest the offer of the Meteorological Service of New Zealand to host the Office if a decision was taken to relocate it from Geneva.

3.7.0.23 Congress considered the recommendations of the sessions of RA III and RA IV and decided that the Regional Office for the Americas should continue to be located in Asunción, Paraguay, during the twelfth financial period.

3.7.0.24 Congress noted the concern of the Members of RA IV about the need for better interaction between Members and the Regional Office for the Americas and requested that appropriate arrangements be made in that regard.

3.7.0.25 Congress considered the Secretary-General's programme and budget proposals for the twelfth financial period in respect to the Regional Programme and recorded its views under agenda item 8.

4. Technical Cooperation (TCO) Programme (agenda item 4)

Fourth WMO long-term plan

Congress adopted Part II, Volume 7 — The WMO Technical Cooperation Programme of the *Fourth WMO Long-term Plan*. Its decision are recorded under agenda item 7.2.

4.1 General review of the Technical Cooperation (TCO) Programme (agenda item 4.1)

4.1.1 Congress reviewed the information submitted by the Secretary-General on the summary and statistical data on TCO Programme activities carried out during the eleventh financial period and an analysis of the trends and issues. Congress expressed its strong support to the TCO Programme, considered as a high priority programme and as an integral part of the Organization's mandate which supported the implementation of the technical and scientific programmes, in particular, the WWW and WCP. Congress, therefore, noted with concern that during the period 1991–1994 there was significant global decrease in the technical assistance funds channelled through WMO. That decrease, mainly due to the substantial drop in the funding of WMO projects by the UNDP, had had an impact on the human resources available in the WMO Secretariat to support technical cooperation activities.

4.1.2 Congress expressed concern that over the period 1991–1994, the UNDP funding had diminished substantially. It had been steadily losing its role as the primary source of funding for WMO's technical cooperation activities. The UNDP four-year contribution added up to US$37 587 000 with a considerable reduction in comparison with the 1987–1990 contribution of US$55 122 000. Among the reasons for the decline in WMO administered and executed projects was the shift of international assistance from the science and technology sector towards the humanitarian sector, the programme approach, and the national

execution of projects, as decided by the United Nations General Assembly, in addition to a reduced level of UNDP resources. Although regional projects had been given less emphasis by the new UNDP system of approval and implementation, Congress was pleased to learn that UNDP planned to allocate more funds in the future under the Sectoral Support programme and also for regional programmes during the next UNDP cycle. In that connection, Congress encouraged the Permanent Representatives of WMO Members to play a more active role at the national level and, where appropriate, also through their countries' representatives to the UNDP Executive Board to ensure that UNDP funding was provided for national and regional projects in support of meteorological and hydrological activities for their respective countries and regions. In that respect, Congress also requested the Secretary-General to explore further possibilities for UNDP to include meteorological and hydrological projects in regional programmes. Congress recognized that that was an essential step in the follow up to UNCED and its Agenda 21. Congress took special note of the opportunity presented by the increased availability of UNDP sectoral support funds for developing technical cooperation projects based upon requests from Members and encouraged the Secretary-General to make full use of those funds.

4.1.3 Congress noted further that several Member countries and international institutions participated in the WMO TCO Programme through Trust Fund arrangements. During the period 1991–1994, 42 Trust Fund projects were either implemented or under implementation, 20 of them at the national level, and 22 at the regional or global levels. The total volume of Trust Fund assistance to countries, throughout the four years 1991–1994 was approximately US$31 554 000. The level of assistance provided under Trust Fund arrangements had increased during the four-year period. It was noted that that source offered an alternative for increased technical assistance. Congress further noted that a number of substantive Trust Fund initiatives were under negotiation.

4.1.4 Congress noted that during the reporting period, insufficient information had been received in the Secretariat regarding bilateral and multilateral assistance. Congress emphasized the importance of that type of cooperation in support of NMHSs. In that respect, Congress requested Members to provide, on a regular basis, to the WMO Secretariat, the relevant information on bilateral and multilateral assistance. Congress also requested the Secretary-General to compile the necessary information and to disseminate it among Members in order to have data on past, present and future programmes and, thus, ensure better coordination.

4.1.5 Congress also noted that through the GEF, which was established in November 1990, and was jointly managed by the World Bank, UNDP and UNEP, for projects to safeguard the global environment, WMO had been designated executing agency for three major projects with a total budget of US$9.6 million. Congress, noting that that was one of the sources identified for supporting national efforts in the implementation of UNCED decisions, in particular Agenda 21, recognized, however, that GEF was not easily accessible and consequently requested the Secretary-General to take up that matter with the GEF partners as well as with the representatives of WMO Members in the GEF Governing Board, with a view to sensitizing them on the importance of meteorology and hydrology for the global environment, and to securing sufficient funds from that source. Congress encouraged Members to make use of that facility as much as possible, stressing that the use of that facility as well as other major sources was a country-driven process. Hence, Congress called upon the concerned national authorities to take the necessary initiative and requested the Permanent Representatives to be more actively involved in accessing GEF resources.

4.1.6 Congress encouraged the expanded use of the technical cooperation among developing countries (TCDC) scheme, the objective of which was to promote and strengthen collective self-reliance among developing countries through the exchange of experience, pooling of resources, sharing of technical capabilities, and development of complementary capacities. Congress recognized that that kind of scheme could be used to enhance cooperation among Member countries, developed and developing.

4.1.7 Congress noted that the WMO Natural Disaster Assistance Fund for Meteorological and Hydrological Services, was established as requested by the Executive Council in its Resolution 4 (EC-XLIII) — Establishment of rules and procedures for the operation of the Emergency Assistance Fund. During the period 1991–1994, assistance was provided to Bangladesh, the Socialist Republic of Viet Nam, and Yemen through the donations of Member countries and private companies. However, that Fund did not have adequate resources. In view of the increasing needs, Congress requested the Executive Council to look further into the matter and consider additional measures to assist Members affected by natural disasters. Congress consequently urged Members to increase their voluntary contributions to that Fund.

4.1.8 Congress was informed that in order to enhance the efforts in resource mobilization, WMO took the lead in fostering the establishment in December 1993 of the New Sun Foundation: Alliance for Air, Water and Environment. The Foundation's aim was to tap new resources for international cooperation, including from non-traditional sources, such as those from the private sectors. Following the conclusion of a Memorandum of Understanding between WMO and the New Sun Foundation, 13 projects, benefitting 30 countries with a total value of US$607 000 were implemented in 1994. In addition, negotiations were under way for the establishment of the Air, Water and Related Environment Centre (AWARE), which was intended as a demonstration tool on the economic value of related data, information, and products. Congress requested the Secretary-General to ensure that the functions of that Centre did not duplicate those of NMHSs and to continue working closely with the New Sun Foundation.

4.1.9 Congress noted that the TCO Programme was now entering a new era which required a modified approach to its activities and noted with appreciation the efforts made by the Secretary-General to mobilize resources for the TCO Programme activities of the Organization including through

the establishment of a Resource Mobilization Unit within the TCO Department and through the active participation of WMO in several resource mobilization events, such as donor meetings for the benefit of national and regional Meteorological and Hydrological Services, and other institutions. In that context, it noted with satisfaction that the donors meeting organized by WMO in collaboration with the UNDP, at the request of the Newly Independent States and new WMO Members, in April 1995, had yielded positive results through support expressed by the donor community and further efforts planned by the Newly Independent States and new WMO Members themselves in support of Meteorological and Hydrometeorological Services.

4.1.10 Congress also noted that limited assistance had been provided to new Members of the Organization, particularly to Newly Independent States, with a view to help maintain in operation the basic WWW facilities in their countries. In that connection, Congress, noting that there was the need to address the question relating to the provision of urgently required equipment, spares and consumables in case of emergency, as indicated in paragraph 4.1.7 above, recognized the need to pay special attention to new Members of the Organization, including the Newly Independent States.

4.1.11 Congress noted with concern the adverse impacts of reduced technical assistance on the operational activities of the NMHSs of developing countries, which would definitely affect the overall functioning and effectiveness of the global WWW system. Congress encouraged Members to assist towards seeking ways and means to enhance support for the above Services and requested the Secretary-General to continue his efforts in that area. It recognized that in the light of recent developments, particularly of resources being made available primarily at the national level, Directors and other senior officials of NMHSs, should take a more pro-active role in accessing available resources, including an effective national information and public affairs activity. Congress further encouraged Permanent Representatives with WMO to provide relevant information and advice to the authorities of their countries representing them at UNDP meetings. Furthermore, the Permanent Representatives should participate actively in the formulation of Country Strategy Notes initiated by UNDP in several Member States so as to ensure the inclusion of relevant information and proposals on the contribution of meteorological and hydrological services in various development activities, as well as in the implementation of national Environmental Action Plans initiated by the World Bank.

4.1.12 Congress also noted the possibilities of tapping resources from regional development banks, the World Bank and the private sector, as well as the European Union, and encouraged Members to make use of those sources for national and regional projects. In that context also, the Permanent Representatives of Members with WMO had an important role to play in liaising with relevant government officials and institutions, so that their proposals were taken into account when negotiations were carried out with the funding authorities.

Review of the Voluntary Cooperation Programme (VCP) for the period 1991–1994

4.1.13 Congress noted with satisfaction that the progress achieved through the WMO VCP fully justified the decisions of Eleventh Congress and the forty-fourth session of the Executive Council concerning the fields of cooperation covered by that Programme.

4.1.14 Congress noted that the VCP consisted of two components, namely the Voluntary Cooperation Fund (VCP(F)) component and the Equipment and Service Programme (VCP(ES)) component. As authorized by Eleventh Congress, the Executive Council, at its forty-fourth session, approved the rules of the VCP in replacement of those approved at its thirty-fifth session and amended at its thirty-eighth and forty-second sessions. Those rules defined the resources, the management arrangements, the procedures for project formulation, their approval, and their implementation.

4.1.15 Congress was pleased to note that in the past four years, contributions to VCP(F) and contributions received in (VCP(ES)), including fellowships, averaged US$470 000 and US$6.6 million, respectively. Congress also noted with appreciation the contributions received from those Members with relatively limited financial resources as well as the support which had been provided under bilateral arrangements.

4.1.16 Congress noted that a total of 362 requests were approved for circulation, 138 projects were authorized for implementation and 162 projects were completed during the period 1991–1994. As at 31 December 1994, 92 projects were under implementation in 56 countries, 76 with full support and 16 with partial support, leaving, however, 289 projects still unfunded. In addition, 491 projects for fellowships (84 for long-term fellowships and 407 for short-term fellowships) were completed during the period 1991–1994 under the VCP Fellowship Programme. Congress noted that further efforts including resource mobilization activities and priority identification by the Secretariat, in coordination with the WMO regional associations and the technical commissions, were needed to enhance the support from the VCP, and to meet the requirements of Members.

4.1.17 Congress expressed its appreciation for the VCP activities which had been carried out during the eleventh financial period with generous contributions from donor Member countries and great effort on the part of recipient countries. In that respect, Congress expressed its appreciation to the VCP donor Members. It affirmed the important and effective role of the VCP in providing valuable assistance to the developing countries in the implementation of the WWW Programme as well as other technical programmes of WMO and in the training of personnel through the provision of fellowships. In that connection, Congress noted with appreciation several donor Members' efforts to increase their contribution to the VCP. To assist them in that endeavour, Congress requested the Secretary-General to provide donor Members with annual progress reports on the implementation of VCP projects.

4.1.18 Congress noted with satisfaction that, from the evaluation of the projects, successful results of the VCP Programme had been achieved and the reasons for possible

unavailability of services had also been identified. Congress requested the Secretariat to prepare, every two years, a summary of the evaluation reports to be submitted to the Executive Council, and invited Members to continue to participate in that valuable activity to improve the effectiveness of the VCP Programme.

4.1.19 Congress also noted that the WWW Implementation Support Revolving Fund of the VCP had permitted the provision of urgent assistance to Members of WMO and, in particular, to developing countries in the operation and the maintenance of WWW facilities through loans for the purchase of spare parts and consumables for a total amount not exceeding US$10 000 per loan. In view of the greatly beneficial nature of the Fund to developing countries, Congress noted a proposal to increase the maximum amount of the loan and requested the Executive Council to review that matter in due course. Congress encouraged Members who were in need to make use of the Fund and to take necessary measures to ensure timely reimbursement.

Contributions of the Voluntary Cooperation Programme (VCP) activities

4.1.20 Congress decided that the programme of assistance under the VCP should be continued during the twelfth financial period along similar lines as in previous years and noted that the detailed rules and procedures for the operation of the VCP Programme established during the eleventh financial period were still relevant and valid. Congress noted the need to streamline the procedures for approval and implementation of VCP projects and requested the Executive Council to take up that matter as soon as possible. It agreed that specific references to TCDC should be included in the purposes and procedures of VCP.

4.1.21 Congress adopted Resolution 23 (Cg-XII).

4.2 Organization and funding of the Technical Cooperation (TCO) Programme (agenda item 4.2)

4.2.1 Congress reiterated that the TCO Programme was an integral part of the responsibilities of the Organization and was highly important for the full implementation of the other technical and scientific programmes of the Organization. Congress also noted that due to the insufficiency of the reimbursement of support cost since 1986, the regular budget had had to make increasing contributions to the Technical Cooperation Fund (TCF). That situation was particularly serious during the eleventh financial period. Congress noted that that was due in part to the reduction in the approval by UNDP of its funding of WMO technical assistance projects, which had led: (*a*) to a substantially reduced level of technical assistance to the developing countries; that aspect was discussed under agenda item 4.1; and (*b*) to an increased deficit of the TCF from which the totality of the Secretariat support was provided for the TCO Programme. In that connection, Congress noted that the Executive Council had paid special attention to that issue and had requested the Secretary-General to convene a Study Group on the Technical Cooperation Programme to examine the difficulties being encountered and to propose possible solutions. Congress also noted the concern expressed by the WMO regional associations on the consequences of the decreased funding from UNDP on NMHSs development projects as well as on the Secretariat support to TCO Programme activities. In particular, Congress took note of Recommendation 3 (XI-RA I) — Technical Cooperation Programme, concerning improvement in resource mobilization as well as the need to maintain an adequate level of Secretariat support to TCO Programme activities.

4.2.2 Congress noted with satisfaction that the Secretary-General had, as a first step, taken appropriate measures in order to reduce the TCF deficit, including the freezing of vacant posts, strict austerity measures, and proportional charges of costs of staff to the regular budget and to the TCF according to actual support provided. A temporary reorganization of the TCO Department was also undertaken to maximize on the human resources potential, thus ensuring adequate implementation of ongoing commitments as well as the development of new projects. Congress expressed its appreciation for the efforts undertaken by the Secretary-General in the area of resource mobilization, particularly at the national and regional levels, so as to tap resources from various potential sources including banks, the private sector, and special funds, such as the GEF and Capacity 21. The new Resource Mobilization Unit was established within the approved staffing of the TCO Department by reductions elsewhere in the Department.

4.2.3 Congress also noted that, at the request of the Executive Council, the Secretary-General had convened in October 1993 a Study Group on the Technical Cooperation Programme which examined the problems being encountered. The recommendations of the Study Group were further reviewed during a Consultative Meeting, which was attended by the presidents of regional associations, Regional Directors, and senior staff from the WMO Secretariat. The meeting agreed, among other things, on the need to harmonize the functions of the TCO Department and the Regional Offices in order to ensure the most cost-effective services to Members. The overall goals of those studies were to eliminate the shortfall in the TCF, to improve the effectiveness and efficiency in the delivery of technical assistance, and to increase the level of services and technical assistance to Members. Congress noted that the Executive Council, during its forty-sixth session, had considered the conclusions and recommendations of the Study Group and the recommendations of the Secretary-General thereon. Congress agreed that the TCO Programme was an integral element of the WMO mission in supporting the provision of meteorological and hydrological services, that severe reduction in the funds available to the Programme would have adverse impacts on Members, and that the TCO Department should have certain core functions supported by the regular budget. Those core functions included programme planning and coordination, collaboration with other relevant agencies and institutions, and resource mobilization. Congress also agreed that WMO should play a catalytic role in project formulation, evaluation and follow-up. Congress requested contributors to technical assistance to provide the necessary funds to cover the costs of support

activities associated with project formulation, implementation, evaluation and follow-up, and other related activities.

4.2.4 Congress noted that in the light of the recommendations of the Study Group and of the views expressed by the forty-sixth session of the Executive Council, several options and alternative structures were considered within the Secretariat. The options took into account projected revenues from project implementation activities during the twelfth financial period and the need for the establishment of the core group supported by the regular budget to coordinate the activities of the TCO in order to ensure the continuity of activities within the framework of that important Programme. Consideration was also given to funding from the TCF of Secretariat staff of the ETR Department for servicing of the fellowships awarded, of the Resource Management (Personnel and Finance) Department, and of the Support Services (Procurement) Department on a pro-rata basis according to the workload related to technical cooperation activities. Congress noted that the new structure still required adequate support from other technical departments in order to be effective.

4.2.5 Congress reviewed the proposals concerning the reorganization of the TCO Programme and agreed that the activities of that Programme and of the Regional Programme should be harmonized. In that respect, Congress agreed that the Secretary-General should adapt the roles and responsibilities of the Regional Offices to include some relevant aspects of technical cooperation activities (see agenda item 3.7.0). Congress considered that the establishment of suitably located subregional offices might contribute towards enhancing the implementation of WMO activities in the Regions. The functions of the subregional offices should focus on technical cooperation activities, particularly those related to the identification of requirements, the formulation of project proposals, the evaluation and follow-up of projects, and the mobilization of resources at the national and regional levels, through closer contact and liaison with bilateral and multilateral development agencies and financial institutions, as well as with regional intergovernmental organizations. Congress also agreed that, during the twelfth financial period, the Secretary-General could establish on a trial basis, in association with the TCO Programme, subregional offices, within the staff ceiling of the Organization and within the budgetary allocations approved by Congress for the TCO and Regional Programmes (see agenda item 8), and without long-term obligations to the Organization. Congress noted that some national and regional institutions/organizations could be of assistance in providing the required support in that respect.

4.2.6 Congress requested the Executive Council to monitor developments in that matter especially as to the success of the subregional offices in carrying out their functions and requested the Secretary-General to submit a report on the experience gained on the implementation of the new organization of the TCO Department and the Regional Offices to Thirteenth Congress.

4.2.7 Congress authorized the funding of the posts of the Director of the TCO Department and of two staff from the regular budget, within the overall ceiling of 246 posts. Congress agreed to allocate on a one-time basis, SFR 4.5 million from the regular budget for Secretariat support to the TCO Programme activities, to allow for the phased elimination of the TCF deficit by the end of the twelfth financial period (see agenda item 8).

4.2.8 Congress noted that the TCO Department was now required to operate in a different mode to enable it to function more effectively in the new economic environment and requested the Secretary-General to proceed with the reorganization of the TCO Department taking into account Congress decisions on that matter and other relevant recommendations of the Management and Organization Study of the WMO Secretariat. In that connection, Congress adopted Resolution 24 (Cg-XII) on the organization and funding of the TCO Programme.

4.2.9 Congress also noted that in several Organizations of the United Nations system, TCO Programme activities were also considered an integral part of their mandate. Regular budget, voluntary contributions, support costs, and other funds were being used to different degrees to fund technical cooperation activities in those Organizations, to assist countries, and for Secretariat support.

4.2.10 Congress recognized that the Permanent Representatives of WMO Members had an important role to play in the mobilization of resources for technical assistance, especially from UNDP, by maintaining frequent and productive liaison with the UNDP Resident Representatives and relevant Ministries in their respective countries. Furthermore, the Permanent Representatives concerned should liaise closely with the representative of their countries in the UNDP Executive Board in order to acquire its support for inclusion of meteorological and hydrological components in the UNDP programmes and projects.

Mechanism for reviewing the WMO technical cooperation activities

4.2.11 Congress noted with appreciation that the Secretary-General had convened, as requested by the forty-sixth session of the Executive Council, a Technical Cooperation Programme Forum to discuss the need for, and the form of, a mechanism to review major issues relating to TCO Programme activities. The Forum, which was held from 2 to 4 February 1995, recognized the importance of the TCO Programme and noted the need to ensure that appropriate external resources were mobilized to sustain and enhance the technical cooperation activities in support of meteorological and hydrological services of Members as well as of major WMO Programmes. Congress agreed that the TCO Programme was an integral part of the activities of the Organization.

4.2.12 Congress noted that the Forum expressed the need for the establishment of a mechanism to review, on a regular basis, issues related to technical cooperation activities in view of the difficulties being encountered within the framework of the TCO Programme. Congress reviewed the proposed terms of reference as prepared by the Forum and noted the budgetary implications for the establishment of such a mechanism.

4.2.13 Congress also reviewed the comments and suggestions of the Secretary-General on the proposals of the Forum, particularly those concerning the advisory nature and the universality of the mechanism as well as its terms of reference.

4.2.14 Congress considered that such a mechanism was necessary. Congress agreed that it should be of an advisory nature to the Executive Council. Congress also agreed that the mechanism should be called the Executive Council Advisory Group of Experts on Technical Cooperation. The functions of the Group would be to advise the Executive Council on technical cooperation matters and to assist in the promotion of technical cooperation activities. The functions should also include those entrusted to the Executive Council Panel of Experts on the WMO Voluntary Cooperation Programme. Congress agreed that the Group should be open-ended with one core member from each WMO regional association. Congress agreed that both developed and developing countries should be represented by experts on technical cooperation matters. Congress further agreed that the Group should meet at least twice during the twelfth financial period. The financial implications for the functioning of the Group are reflected under agenda item 8.

4.2.15 In view of the above, Congress requested the Executive Council to establish the Executive Council Advisory Group of Experts on Technical Cooperation using, as a basis, the proposed terms of reference as prepared by the Forum and reviewed by Congress, with amendments and additions as might be necessary.

5. PROGRAMME SUPPORT SERVICES AND PUBLICATIONS (agenda item 5)

Congress expressed its appreciation to the Secretariat for preparing and distributing the documents of Twelfth Congress, including the *Congress Journal*, in a more timely fashion.

5.1 CONFERENCES (agenda item 5.1)

5.1.1 Congress examined the information submitted by the Secretary-General on the invitations extended for hosting sessions of constituent bodies during the twelfth financial period (1996–1999). Additional information provided by delegations at Twelfth Congress permitted the establishment of a provisional programme of sessions of those bodies (see Annex II to this report). The Secretary-General was requested to continue further negotiations to find host countries for those regional associations/technical commissions that had no invitation at the time, in order to ensure that as many sessions as possible would be held outside Geneva. That decision was in line with the policy laid down by previous Congresses. Congress noted that, in accordance with General Regulation 17, if no invitation was received 300 days before the scheduled opening of the session concerned, it would be held at WMO Headquarters.

5.1.2 Congress requested the Executive Council to ensure that, as far as possible, sessions of constituent bodies were arranged so that the workload of Members and the Secretariat could be distributed evenly during the twelfth financial period.

5.1.3 Congress also examined the policy established by previous Congresses with regard to the assistance provided by the Organization to host sessions of constituent bodies. The present procedure by which provision was made of an amount equivalent to that which would be required if the session were held in Geneva was confirmed for sessions of technical commissions. As for sessions of regional associations, Eleventh Congress had approved the proposal of the Executive Council that the budgetary allocations for those sessions should be based on the cost of the meeting at the Regional Office location (if there was one) or on the cost of the meeting in Geneva, whichever was the most favourable to the host country, in order to encourage hosting the session in the Region.

5.1.4 The budgetary implications with regard to the programme of sessions of constituent bodies during the twelfth financial period were discussed under agenda item 8.

5.2 LANGUAGES (agenda item 5.2)

5.2.1 Congress noted the report presented by the Secretary-General on a survey of language arrangements in the United Nations system as well as the cost analysis of WMO linguistic activities required for conference servicing and correspondence during the tenth and eleventh financial periods.

5.2.2 Congress noted with satisfaction the efforts made by the Secretary-General to reduce the cost of language services and encouraged him to pursue along the same lines, taking advantage of all technological advances.

5.2.3 Having asserted the need to treat all WMO official and working languages in an equitable manner for language services for constituent body meetings, Congress examined the use of Arabic and Chinese for documentation at such meetings and Spanish for interpretation at RA VI and, taking into account the financial constraints prevailing in the Organization as well as in Member countries, adopted Resolution 25 (Cg-XII).

5.2.4 Congress requested the Secretary-General to implement the decisions contained in Resolution 25 (Cg-XII). In order to keep the cost of language services within the regular budget allocation for language services, the Secretary-General was requested to seek all ways and means to reduce the volume of documentation for constituent body meetings during the twelfth financial period to the maximum extent possible, including the improvement of presentation of information contained in documents, bearing in mind a target reduction by one third, and to implement such further economy measures as were necessary, such as:

(*a*) Exploiting all possibilities of reducing costs of documentation and interpretation, whilst preserving their quality, by tendering work out on a contractual basis (for example by exploring the possibilities offered by national Meteorological Services whose language was an official and working language of WMO) and monitoring independently the work of the contractors;

(*b*) Exploring possibilities of reducing documentation and interpretation requirements for those meetings, of

reducing translation of technical annexes to correspondence from the Secretariat, and of reducing costs by the use of computer-aided translation software. Congress requested the Secretary-General to report on the implementation of those measures as well as on the projected progress to the Executive Council and to Thirteenth Congress.

5.2.5 Congress considered the request presented by Angola, Brazil, Cape Verde, Guinea Bissau, Mozambique, Portugal, and Sao Tome and Principe concerning the use of Portuguese as an official and working language of the Organization and adopted Resolution 26 (Cg-XII).

5.3 PUBLICATIONS (agenda item 5.3)

5.3.1 Congress noted with satisfaction the work carried out under the Publications Programme during the eleventh financial period. It commended the Executive Council for the continuing measures taken to promote the Programme, and the effective use made by the Secretariat of new technology and working methods to reduce the bulk and cost of publications, while consistently improving their appearance and utility, and thereby enhancing WMO's image. The vast range of promotional material produced during the last four years was also much appreciated. Congress extended thanks to Members which had actively contributed to the Programme by translating and preparing publications. Congress encouraged the Secretariat to continue to seek the most economical use of resources in preparing publications, whilst maintaining full control of the accuracy and content of all versions of material published by the Organization.

5.3.2 Congress expressed its appreciation of the report on electronic publishing which included information on possible file types and distribution media that could be considered, the benefits which could be offered to the Organization and its Members, and the caveats therein.

5.3.3 Whilst acknowledging that paper publications would be required by some users in parallel with electronic versions and also that the cost of printing smaller quantities than hitherto would reduce costs somewhat, it would also result in higher unit costs, Congress considered that it would be important to reduce requirements for printed publications to a minimum as soon as satisfactory electronic alternatives became available.

5.3.4 Noting that the medium of distributing information should not affect its generation, Congress considered that the existing working relationships and allocation of responsibilities between the Publications Programme and the scientific and technical departments should continue as before, and that full advantage should be taken of the potential of electronic distribution within budgetary resources. It considered that the net cost of the Publications Programme should not be increased by the transfer to electronic distribution media. Congress noted that about half the costs of printing mandatory publications were generated by the sales of publications and urged the Executive Council to ensure that electronic distribution of information did not result in a diminution of the resources available to that key activity. Considering the potential benefits to Members, Congress agreed that WMO should begin electronic publishing trials, starting with publications such as *Weather Reporting* (WMO-No. 9) and the *Technical Regulations* (WMO-No. 49), to allow the phased introduction of distributing publications by electronic means during the twelfth financial period.

5.3.5 Reiterating the importance of the WMO Publications Programme, Congress requested the Executive Council to continue to review regularly the progress of the Programme and to provide guidance on the overall programme of publications, including planning, production and distribution, particularly as regarded electronic publishing, taking into account Members' requirements and the facilities available to them, options as regarded electronic file types and distribution media and their costs, protection of WMO copyright, and sales (pricing policies and preservation of the Publications Fund) thus ensuring that the prices charged for publications did not include any element of charge for the meteorological or hydrological data they might contain.

5.3.6 Congress adopted Resolution 27 (Cg-XII) defining the broad policies in connection with the WMO Publications Programme during the twelfth financial period. The annex to that resolution contains the list of WMO mandatory publications and the languages in which they shall be issued during the twelfth financial period. Congress noted that the list included the addition of four new mandatory publications and proposed that they should be funded by transfer of resources from the budgets of the programmes concerned.

5.4 OFFICE AUTOMATION AND INFORMATION TECHNOLOGY SUPPORT (agenda item 5.4)

5.4.1 Congress noted with appreciation the report on the new office automation system in the Secretariat and congratulated the Secretary-General for laying the foundations for a modern and efficient office environment, which had enabled the Secretariat to make good use of modern office tools and positions for best exploiting new technological advances.

5.4.2 Congress noted the development priorities for the twelfth financial period — development and extension of the existing office automation system (OAS), telecommunications and electronic dissemination of information, creation and integration of information systems, and increasing the size and capabilities of the audience of OAS users in the Secretariat. Congress encouraged the Secretary-General to pursue those goals, guiding available resources towards the areas which would most enhance the productivity and efficiency of the Secretariat.

5.4.3 Congress noted that the scope of the plans for the twelfth financial period exceeded the available staff resources and the twelfth financial period budget proposals designated the addition of highly qualified human resources to the Information Systems Division, in the form of consultant services, as a new high priority unfunded activity. Congress addressed that aspect of the request under agenda item 8.

5.4.4 Congress asked the Secretary-General to investigate the possibility of providing additional human resources for the OAS within the approved maximum expenditures,

with a view to ensuring that, as the OAS became an ever more crucial component in the work and efficiency of the Secretariat, the professional capabilities of the division responsible for it remained sufficient for its operations and user support, and for the design and coordination of the growth and development of the OAS.

5.4.5 Congress also pointed out that considerable information technology expertise existed in Members' national Services and encouraged Members to consider providing appropriate help to the Secretariat for the OAS in the form of seconded experts, especially for specific, self-contained tasks.

6. Information and Public Affairs (IPA) (agenda item 6)

6.1 Congress reviewed the actions taken during the eleventh financial period to enhance the WMO Information and Public Affairs (IPA) Programme by increasing collaboration with Members and by supporting the scientific and technical programmes, as well as by improving the visibility of the Organization by undertaking information and communication activities that raised public awareness of the valuable contributions of meteorology, operational hydrology and related environmental disciplines to sustainable development. Congress agreed that those activities provided a sound base from which the Programme could be strengthened and developed further during the twelfth financial period.

6.2 Congress emphasized the need for a more dynamic approach to information and public affairs especially in light of the follow-up of UNCED and the implementation of Agenda 21, particularly the UN/FCCC, ICCD, and other relevant parts of Agenda 21 such as those on freshwater and capacity building.

6.3 Congress expressed its appreciation for increased efforts in involving the NMHSs in public information activities through the designation of IPA focal points in Member countries. Those focal points had been instrumental in spreading WMO's messages and in publicizing its activities around the world.

6.4 Congress expressed its appreciation for the increasing number and wide variety of IPA services and improved quality of products, such as booklets, pamphlets, posters, press releases, media features, press kits, fact sheets and other printed material. In that connection Congress emphasized the need for press releases to be presented in a more journalistic style while maintaining the scientific content in order to capture the attention of the media, the public, and decision makers. It welcomed the joint UNEP/WMO production of fact sheets on climate change and supported increased collaboration between UNEP and WMO in information and communication. Congress also welcomed the organization of media briefings and press conferences during major events, the mounting of exhibitions and displays, as well as the co-productions of radio programmes, videofilms, television documentaries with media organizations and with other United Nations agencies.

6.5 Congress welcomed the new emphasis on capacity building of the NMHS, particularly in improving their presentation and communication skills, and in enhancing their visibility through training workshops, and by building alliances with the print and broadcasting media. In particular, it expressed appreciation for the successful Training Workshop on TV Weather Presentation Systems and Communication Skills for English-speaking Representatives of Eastern and Southern Africa, which was held in Nairobi, Kenya, in November 1994 and the Training Workshop on Public Weather Services with Particular Emphasis on TV Weather Presentation and Communication Skills, which was held in Singapore in April/May 1995 with the support of the United Kingdom and the United States. Congress considered that high priority should be attached to further developing that component of the IPA Programme in collaboration, as appropriate, with the IPA focal points in the NMHSs.

6.6 Congress recognized the importance of, and the need for, the IPA Programme to be the mechanism within the Organization for maintaining relations with the media and the general public. It stressed the need for WMO, through the IPA Programme, to build alliances with media representatives and other organizations and to enhance that partnership through joint activities. That would ensure that WMO would achieve its aim of increasing global public awareness of the benefits to society of effective meteorological information and services. Congress stressed, in particular, the need for the IPA Programme to contribute to capacity-building efforts, such as in training, seminars, and workshops and in developing communication tools and techniques, guidelines and handbooks.

6.7 Congress also emphasized the need to ensure that the activities of the IPA Programme remained complementary to, and supportive of, the PWS Programme. Congress noted that the PWS Programme primarily dealt with NMHSs to assist them with ways to develop and improve the content and delivery of their weather forecasts in the interest of their Governments and the general public (see agenda item 3.4.1). In that connection, the IPA Programme was primarily responsible for providing appropriate support to the PWS Programme in presentation and dissemination techniques. It also acted as the focal point within the Secretariat for contacts with the media. Congress requested the Secretary-General to ensure appropriate resources for the two Programmes, bearing in mind their complementarity in some areas and relative priorities.

World Meteorological Day (WMD) and World Water Day

6.8 Congress recognized that WMD was celebrated with success each year by a large number of Members all over the world. It agreed that WMD provided an opportunity to focus the attention of the public and policy makers on the important contributions that were being made by WMO and the NMHSs to society. Congress noted that WMD provided an excellent platform for increased public awareness of WMO's Programmes and activities through the given designated themes. Congress noted the success of the WMD'95 celebration on the theme "Public Weather Services" and as a valuable contribution to the fiftieth anniversary celebrations of the United Nations (UN50).

Congress also expressed its satisfaction for the efforts to link the information and publicity for WMD with those of World Water Day on 22 March of each year.

6.9 Congress welcomed the initiative to launch a global alliance of broadcasters, broadcast meteorologists, and other media professionals to encourage their active support and involvement in the promotion of WMD. Targeted at broadcasters around the world, the success of the initiative depended greatly on the support of all Members and especially the IPA focal points of the NMHSs. Congress considered that that global alliance would rely on increased contacts with media organizations, the regular production, and global dissemination by WMO of high-quality audiovisual material such as videofilms, radio and television "spots" that would encourage radio and television networks to give top priority to WMD themes and events for scheduling on their regular broadcast agenda.

Major global conferences

6.10 Congress noted with appreciation the IPA activities at the following major global events: UNCED, ICWE, IGM-WCP, the "Climate Agenda", the United Nations Conference on the Sustainable Development of Small Island States, the World Conference on Natural Disaster Reduction, the International Conference on the Economic Benefits of Meteorological and Hydrological Services, and other conferences. Congress considered that those global events were given wide media coverage and enhanced WMO's image and role in sustainable development. Congress noted the close cooperation that existed between WMO and other United Nations agencies in information and communication through collaborative efforts within the ACC Joint United Nations Information Committee (JUNIC). Congress requested the Secretary-General to take measures for the participation of WMO in the forthcoming International Conference on Women, to be held in Beijing in September 1995, and to enhance the roles of WMO and women in meteorology and hydrology.

6.11 Congress expressed its appreciation to the Secretary-General for the great improvements that had been made since Eleventh Congress despite the limited resources available. That demonstrated the effectiveness of the new thrust in WMO's IPA strategy and the media's favourable response to the Organization's efforts in conveying its messages to a broader public.

Preparation of a plan for the celebration of WMO's fiftieth anniversary (WMO50)

6.12 Congress noted that WMO would be reaching its fiftieth anniversary in the year 2000. Drawing on the recent inter-agency experience of the UN50 celebrations, Congress requested the Secretary-General to make the necessary arrangements well in advance of the celebrations and to prepare a proposal for WMO50 to be discussed by the Executive Council in 1997.

Exhibitions and displays

6.13 Congress expressed its appreciation for WMO's participation at exhibitions and for the mounting of displays showing the work of the Organization at special conferences and promotional events as well as during annual technical exhibitions of meteorological and hydrological equipment that were held in conjunction with Congress, and at Meteorex, MeteoHydex, the "Climate Agenda" and Meteohytec 21.

Activities during the twelfth financial period

6.14 As global environmental issues continued to capture the world's attention, the central role that was played by WMO and the NMHS needed to be recognized and their activities better appreciated as key contributions to sustainable development. Congress emphasized that public information and communication were crucial to decision-making and action. In order to ensure the effective monitoring of environmental trends and to ensure that WMO remained at the forefront of the global environmental agenda, Congress agreed that a pro-active IPA Programme would be essential to the successful implementation of WMO's plans as it entered into the twenty-first century.

Further enhancement of Information and Public Affairs activities

6.15 Congress stressed the importance of Members' support to the WMO IPA Programme. It considered IPA a high priority area given the increased importance of meteorology and operational hydrology within the global environmental agenda and the Organization's need to be on the forefront of those activities. Congress agreed that without that sustained visibility and prominence there could be a risk of a marginalization of WMO's activities in the eyes of decision makers, donors, and the general public. It also emphasized that WMO's credibility would be maintained by continuing the solid basis provided by WMO's scientific and technical programmes.

6.16 The decisions of Congress on the programme and budget for 1996–1999 were recorded under agenda item 8. In carrying out the work programme for the next financial period, Congress requested the Secretary-General to give high priority to:

(*a*) Providing assistance and advice to Members which were in most need, particularly to training in the field of public information and communication;

(*b*) Taking the necessary measures to strengthen the IPA Office in order to respond adequately to the needs of Members, the media, and the general public by improving WMO's capability to produce public information materials both in print and in electronic form; and building a global alliance with radio and television networks to co-produce and disseminate videofilms, radio and television "spots", documentaries, and other projects about WMO's activities;

(*c*) Developing an audiovisual library for the collection of photographs, slides, films and other audiovisual material for use by Members, the broadcast media, and other organizations, and to ensure that an audiovisual historical record of the Organization's milestones would exist for posterity. Funding the equipment for the audiovisual project should come from extrabudgetary resources, with the possibility of seeking donations of equipment and other audiovisual supplies from organizations in the private sector;

(*d*) Implementing the proposals related to UNCED follow-up, such as the organization of media seminars, information, education, and communication workshops in country and/or regional locations on Agenda 21-related topics, including climate change, desertification and drought, and freshwater.

6.17 Congress adopted Resolution 28 (Cg-XII).

7. LONG-TERM PLANNING (agenda item 7)

7.0.1 Congress considered a report by the Executive Council on progress and performance in the implementation of the Third WMO Long-term Plan (1992–2001) along with the draft volumes of the *Fourth WMO Long-term Plan* (1996–2005) and the Secretary-General's proposals for preparation of the Fifth WMO Long-term Plan (2000–2009).

7.0.2 Congress expressed its appreciation to the Executive Council, its Working Group on Long-term Planning, and the Secretary-General for their substantial contribution to the development of the long-term planning process in WMO, particularly on the preparation of the draft *Fourth WMO Long-term Plan*. Congress reviewed the many challenges facing international meteorology as it entered the twenty-first century, particularly those relating to the climate issue and sustainable development.

7.1 REPORT ON THE MONITORING OF THE IMPLEMENTATION OF THE THIRD WMO LONG-TERM PLAN (agenda item 7.1)

7.1.1 Congress noted with appreciation the report of the President, submitted on behalf of the Executive Council, on progress and performance in the implementation of the scientific and technical programmes of WMO over the period 1990–1993, i.e., covering the relevant parts of the Second and Third WMO Long-term Plans. It was noted that the report was based on the programme monitoring and evaluation scheme developed by the Executive Council at the request of Congress.

7.1.2 During its review, the Executive Council concluded that the Organization and the Member countries had made great progress in research and in the provision of meteorological and hydrological services, which had resulted, most notably, in:

(*a*) Substantially greater accuracy of forecasts over the whole globe;

(*b*) Improvements of warnings of environmental and severe weather and hydrological events;

(*c*) Increasing reliability of seasonal forecasts in the tropics; and

(*d*) More extensive and better validated scientific basis for providing advice to the world community on climate variability and change.

7.1.3 Congress shared the view of the Executive Council that despite continuing financial difficulties that required substantial holdback of regular budget funds in most programmes as well as curtailment of Members' activities in support of WMO objectives, the Organization had contributed significantly to the UNCED and post-UNCED agenda for sustainable development and had ensured that meteorology and operational hydrology were effectively factored into national and international planning for the remainder of the decade through initiatives, such as the restructuring of the WCP, the establishment of the GCOS, and strong participation in the activities of the IDNDR.

7.1.4 Congress noted, however, that several serious problems continued with many NMHSs suffering budgetary-induced cutbacks in core operations, leading to restrictions in data availability, and curtailment or degradation of services. Despite some significant steps that had been made in transferring technology to developing countries, significantly more progress was required in bridging the gap between the national Services of developing and developed countries. There remained much work to be done in improving those relations and in sharing in research, technology, and training. The helpful assistance provided through WMO initiatives to the Newly Independent States and new WMO Member would help ensure that those countries were able to maintain viable national Services, despite facing very serious problems.

7.1.5 Congress further noted that the results of the monitoring proved to be useful in providing factual information about activities carried out within the individual scientific and technical programmes, and that a similar review should be made with regard to the programmes of the Fourth WMO Long-term Plan. Congress agreed with the view of the Executive Council that future monitoring exercises should include more specific, quantitative information and assessments of concrete improvements in meteorological services and their benefits to users.

7.2 FOURTH WMO LONG-TERM PLAN (agenda item 7.2)

7.2.1 Congress considered the Fourth WMO Long-term Plan covering the period 1996–2005, which was prepared in accordance with the decision of Eleventh Congress. Part I included the proposed overall policy and strategy of the Organization and the overall and main long-term objectives of the scientific and technical programmes. Part II, in separate volumes, provided detailed plans for the scientific and technical programmes of WMO. Congress also noted that the Part II volumes had been closely reflected in the Secretary-General's programme and budget proposals for the twelfth financial period.

7.2.2 It was noted that inputs to the Fourth WMO Long-term Plan received at various stages from constituent bodies, their working groups, Executive Council panels, and other bodies had been taken into account when preparing the Plan. It had also been circulated to all Members for comments in 1994.

7.2.3 Congress recognized that the Organization was currently facing many new challenges following UNCED, its Agenda 21, and other related instruments, such as the UN/FCCC and ICCD. Congress agreed that WMO should respond actively to those challenges and ensure that meteorology and operational hydrology contributed substantially towards environmentally- and economically-sound sustainable development. Congress noted, in that connection, that the draft *Fourth WMO Long-term Plan* well reflected the importance of the major issues related to global environment problems and sustainable development,

including climate change, natural disasters, water quality and availability, which required a vigorous response by WMO.

7.2.4 While agreeing that increased emphasis should be given to the fields of environment, Congress stressed that the main responsibility of WMO was to maintain and strengthen the existing basic observing networks, systems, and information services which provided all Member countries with access to the data and information they required in order to provide essential basic services to their national communities. It was stressed that the need for regular provision of weather, climate and hydrological information, and the current global interest in climate change and environmental issues, required strengthening the principle of the free and unrestricted international exchange of meteorological data and products in order to ensure that national and international programmes and services could be implemented for the benefit of mankind. Major efforts should also be deployed towards enhancing the capabilities of NMHSs, intensifying the greater use of meteorological and hydrological data and information, and undertaking public awareness activities for improving the visibility of those Services.

7.2.5 Congress was aware that the success of WMO Programmes would depend on the ability of all NMHSs to participate in, and benefit from, all those Programmes. WMO, through its strategic approach to technical cooperation, must support the transfer of knowledge, technology and proven methodology to national Services in developing countries with the aim of benefiting and contributing to the Programmes of the Organization. The goal was to ensure that the level of services provided to policy makers, planners, and citizens was raised in developing countries in order to contribute effectively to sustainable development and to the environmental safety and security of citizens.

7.2.6 Congress recognized that WMO Programmes had, since their inception, been dependent on the principle of free and unrestricted exchange of meteorological and related data and products between participating countries. The programmes dependent on that principle enabled all countries to provide higher quality meteorological, hydrological and related services at a far lower cost than would otherwise be possible. The interest of all countries was, therefore, best served by maintaining and even enhancing that international exchange, and by their having access to the products of advanced data-processing centres.

7.2.7 Congress examined in detail Part I — The WMO Long-term Plan: Overall policy and strategy, 1996–2005 of the *Fourth WMO Long-term Plan* and agreed upon a number of specific amendments to be included in that part prior to its publication. Congress authorized the Secretary-General to undertake additional minor editing to ensure the necessary internal and linguistic consistency and readability of the *Plan*. In view of the usefulness of WMO Long-term Plans as a guide for the preparation of national plans in meteorology and operational hydrology, particularly in developing countries, Congress requested the Secretary-General to arrange for the publication and distribution of Part I of the *Plan* and its Executive Summary to all Members and constituent bodies of WMO and to other international organizations, as appropriate, and to arrange to have available the Part II volumes for the interested Members, upon request, in a suitable form, such as hard copy or electronic format.

7.2.8 Congress requested the Executive Council to use the Part II volumes of the *Fourth WMO Long-term Plan* as a benchmark for monitoring the progress of the scientific and technical programmes during the twelfth financial period. The Executive Council was requested to submit a report to Thirteenth Congress on the implementation of the scientific and technical programmes over the period 1994–1997 on the basis of the objectives set down in the relevant parts of the Third and Fourth WMO Long-term Plans.

7.2.9 The decisions of Congress on the Fourth WMO Long-term Plan (1996–2005) are recorded in Resolution 29 (Cg-XII).

7.3 Preparation of the Fifth WMO Long-term Plan (agenda item 7.3)

7.3.1 Congress considered the various aspects of long-term planning in WMO with a view to providing guidance on the preparation of the Fifth WMO Long-term Plan. In that connection, Congress was advised that during the preparation of the Fourth WMO Long-term Plan some Members and constituent bodies had made comments regarding the format, lead time, and usefulness of the Plan. Congress expressed its appreciation to the Executive Council for its thorough review, at its forty-sixth session, of those comments, and for formulation of the recommendations, which facilitated discussions of the issue by Congress.

7.3.2 Congress noted that there appeared to be almost universal agreement that the long-term planning process had been useful in helping WMO achieve greater cohesion, coordination, and responsiveness to Members' wishes and changing external circumstances, as had been sought by the Ninth, Tenth and Eleventh Congresses. It also noted that most Members, especially developing countries, had found the published Plans of value in their national planning activities. However, while most of those involved had been broadly satisfied with the scope and detail included in Part I and in its Executive Summary, there was a wide range of views on the usefulness of the Part II volumes and on whether they should be discontinued, simplified or upgraded. Views were also expressed by some Members, similar to those of the presidents of the technical commissions at their 1993 meeting that, in those times of quickly evolving scientific and technical programmes, a 10 to 12-year horizon for detailed planning was unrealistic. Therefore, the process of undertaking those planning activities could be limited to a single planning document with a longer-range outlook for each major Programme. There was, therefore, the need to better balance the time and resources devoted to planning and implementation of WMO Programmes and activities.

7.3.3 After discussion of the different views, Congress agreed that the Fifth WMO Long-term Plan covering the period 2000–2009 should be prepared. It also agreed, however, that the Executive Council should review comprehensively, at an early stage in the twelfth financial period, the purpose, role, and organization of the WMO planning

process, including those needed for the monitoring and evaluation of performance of both the activities of Members and the Secretariat in implementing long-term plans; and, taking into account the critical financial situation of the Organization and the need to streamline the process, determine the necessary level of detail in, and structure of, the Fifth WMO Long-term Plan.

7.3.4 Congress endorsed the view that long-term planning in WMO should contribute to the smooth and effective operation of the programmes and activities of the Organization by providing an effective mechanism through which Members might work together to identify their common objectives and develop coordinated plans for achieving them. In particular, long-term planning should help ensure that:

(*a*) WMO Programmes were sensitive and responsive to the needs and aspirations of Members and that a stronger sense of commitment to the action necessary to implement the agreed plans was fostered;

(*b*) Advance consideration was given to the possible impacts on WMO Programmes of foreseeable scientific, technological, and economic developments;

(*c*) There was necessary coordination between programmes to optimize the WMO programme structure and use of the available resources;

(*d*) The Secretary-General's programme and budget proposals to Congress for the next financial period were developed in harmony with the wishes and intentions of Members.

7.3.5 Congress stressed that the long-term planning should operate as an integral part of the total WMO programme management machinery through which Members identified their common objectives and goals and developed and implemented agreed plans for achieving them. Therefore, the planning process and the plan should encompass not just the activities of the constituent bodies and the Secretariat but should have, as their foundation, agreed total intentions of WMO and its Members. The plan should be forward–looking and strategically-oriented and should set realistic targets reflecting the goals, objectives and priorities of the Organization to be achieved within each major Programme. At the same time, the planning process should be kept simple and flexible to ensure that a response would be possible to any new challenges and needs that might arise in the rapidly changing world. In that context, the interprogramme and intercommission coordination, particularly the role of technical commissions in formulating objectives and priorities within the scientific and technical programmes under their respective responsibility were seen as essential for ensuring the integrity of the planning process.

7.3.6 Endorsing the procedure which proved to be useful during the preparation of the previous Plans, Congress requested the Executive Council to review WMO policies, strategies, and priorities for the period of the Fifth WMO Long-term Plan, and to finalize its proposals regarding the programme structure and layout for that Plan at its forty-ninth session in 1997, i.e. two years before Thirteenth Congress. That would be linked with a preliminary discussion of the programme and budget for the thirteenth financial period, a traditional agenda item of the session of the Executive Council two years before Congress.

7.3.7 Congress stressed that during the preparation of the Fifth WMO Long-term Plan there should be maximum opportunity for input from Members to ensure that WMO Programmes and activities were developed in response to the wishes and aspirations of Members. In particular, the regional associations should be instrumental in providing an integrated view of their respective activities and priorities within the context of the Fifth WMO Long-term Plan.

7.3.8 Congress recognized that a broad new thrust, to which WMO should attach special attention when elaborating the Fifth WMO Long-term Plan, was the urban environment in which most people lived, most energy was consumed, and many disasters, including pollution, took place. WMO, with its unique expertise in dealing with such problems, should be prepared to take a lead role in the promotion of, and contribution to, suitable studies.

7.3.9 The decision of Congress is recorded in Resolution 30 (Cg-XII).

8. CONSOLIDATED PROGRAMME AND BUDGET — 1996–1999 (agenda item 8)

GENERAL

8.1 Congress considered the programme and budget proposed by the Secretary-General for the twelfth financial period (1996–1999). Under that agenda item, Congress considered and decided on the broad funding levels based on the priorities for various programmes and parts of the budget. The detailed discussions of various scientific and technical programmes and other activities, and the decisions of Congress thereon, are recorded under the appropriate agenda items.

8.2 The Secretary-General presented his programme and budget proposals giving an overview of the priorities in each programme area and stressing the need to provide sufficient resources to meet the many challenges facing the Organization as it approached the end of the millennium and prepared for the next during the twelfth financial period. The Secretary-General described the process by which the programme and budget was coordinated with the Fourth WMO Long-term Plan and was prepared in full collaboration with Members through inputs from the Executive Council, regional associations, technical commissions, and other organs of the scientific and technical programmes. The Secretary-General also gave an overview of the proposed staffing structure of the Organization and indicated that no new posts had been requested in his proposals. Furthermore, he presented the status of the new WMO Headquarters building project for which the foundation stone ceremony had just been held.

8.3 Many Members congratulated the Secretary-General on his clear presentation of the proposals and on the quality and transparency of the budget documents. Congress concluded that the priorities, as given in the Secretary-General's proposals, responded to the wishes of Members and to the recommendations of the forty-sixth session of the Executive Council and, therefore, was a good basis for the strategic allocation of resources to the various

programmes. The Secretary-General's proposals had been prepared on the basis of zero real growth plus provisions for financing the cost of the new WMO Headquarters building. Several Members reiterated that the highest priority should be the WWW Programme. Other Programmes also indicated as high priority were the WCP, ETR, HWR, Regional Programme, and TCO.

8.4 Congress reviewed the implementation of full budgeting during the eleventh financial period and considered the recommendations of the Executive Council and the Financial Advisory Committee, which had supported its continuation in the twelfth financial period. In that regard, the price level of the proposals was adjusted for the Canton of Geneva consumer price index through April 1995, and the projected inflation estimates for May 1995 through 1999 were adjusted downwards to the most recent Consultative Committee on Administrative Questions (CCAQ) estimates of 3 per cent per annum. On that basis, the Secretary-General's proposals which had totalled SFR 274 million originally were recosted to an amount of SFR 261.05 million including the zero real growth amount at price levels of April 1995 computed at SFR 238 million plus full budgeting estimates of SFR 19.8 million and SFR 3.25 million above zero real growth for the financing of the new WMO Headquarters building. The recosted zero real growth amount for 1996–1999 without added provisions for the new building would have been SFR 257.8 million.

8.5 Congress considered requirements which would have to be absorbed within the zero real growth budget under the Secretary-General's original proposals. Those items included primarily the 5 per cent vacancy factor which had been incorporated in the proposals in order to fund extrabudgetary posts in new high priority areas, additional costs of restructuring the TCO Programme, and the estimated higher operating cost of the new WMO Headquarters building. Congress decided that in order to achieve a realistic budget allocation to the various programmes, those previously "unfunded" items should be taken into consideration when setting the maximum expenditure by parts and programmes.

8.6 Considering the financial constraints felt by many Members it was decided to approve a budget below zero real growth as had been recommended by the Financial Advisory Committee. Congress noted that the views of Members had ranged from some who had supported a modest real increase in the budget and those supporting zero real growth in accordance with the recommendations of the forty-sixth session of the Executive Council, to those who wished to support zero nominal growth. However, Congress decided to approve the maximum expenditure amounting to SFR 255 million for the twelfth financial period (1996–1999) and adopted Resolution 31 (Cg-XII). That amount was SFR 2.8 million below the zero real growth amount and was arrived at by adjusting downwards the different parts of the budget on a proportional basis in the light of the programme priorities approved by Congress and the maximum expenditure amount of SFR 255 million stated above. The amount of SFR 255 million was based on a programme of SFR 235.4 million at price levels of April 1995 and full budgeting provisions of SFR 19.6 million to cover cost increases due to inflation from 1 May 1995 through 31 December 1999 at the CCAQ estimated rate of 3 per cent per annum.

8.7 Congress recognized that many additional proposals in support of training and regional activities would be desirable but that the funding limitations of the proposed budget ceiling would not allow for them without reducing other high priority programme activities. Congress, therefore, requested the Executive Council and the Secretary-General to explore possible ways of accommodating those activities by seeking extrabudgetary sources of funding or by combining with other training events or sessions or, if possible by economies within the relevant major programmes to achieve the programme objectives in the most effective and economic way.

8.8 Congress, referring to its decision taken under agenda item 3.4.1, indicated the need for cooperation between the PWS, IPA and other Programmes of WMO and requested that the Executive Council and the Secretary-General should examine ways of responding to the very high priority placed on the PWS Programme, particularly with respect to capacity building activities related to the delivery of severe weather warnings, forecasts, and other services to the public. As a specific action to increase the initial momentum of the new PWS Programme, Congress accorded a high priority to accommodating such requirements, where possible, by shifting resources among the programmes involved.

8.9 Regarding additional support to regional organizations or requirements of subregional offices, Congress, in accordance with its decisions reflected in general summary paragraph 4.2.5, requested the Executive Council to review the financial implications and approve any planned establishment of new office location from within the provisions approved for the Regional Programme or for the TCO Programme or from extrabudgetary resources, if available.

8.10 Congress considered that efforts should be made to reduce the projected financing and operating costs of the new WMO Headquarters building to the minimum amount and to ensure sufficient rental revenue. Additionally, a study on the possibilities of reducing costs through other means should also be carried out. Congress agreed with the recommendations of the forty-sixth session of the Executive Council, that the maximum annual cost of the new building to WMO Members should not exceed SFR 1.5 million per annum. Congress further decided that the rental income and financing expense of the new building should be clearly segregated and reported in the new budget Part 8. Congress requested the Executive Council to maintain close oversight of cost implications as the new building project proceeded.

8.11 With regard to the funding of the new WMO Headquarters building in the twelfth financial period, Congress included the necessary provisions in Part 8 for the net financing cost and an amount for higher operating costs in Part 6 based on anticipated occupancy for 15 months in the second biennium of the twelfth financial period. Provisions for the new building were made from within the

maximum expenditure of SFR 255 million, it being understood that the appropriations for that purpose would be approved by the Executive Council for the second biennium (1998–1999) only. There was, however, substantial support for the elimination of the building costs from the approved total of SFR 255 million.

8.12 Congress noted that the present estimates for the TCO Programme would require a very major restructuring to reduce that area from its current staffing levels in order to meet the linear declining limit on regular budget funding recommended by the forty-sixth session of the Executive Council. Congress confirmed the recommendation of the forty-sixth session of the Executive Council in that regard. It also noted that that staff reduction would have to be made in addition to other reductions required to remain within the financial limits of the maximum expenditure. Congress requested the Executive Council to review the TCO Programme in connection with its annual reviews foreseen under Financial Regulation 14.6.

8.13 With regard to the proposed funding of TCO Programme activities from the regular budget, Congress decided to provide for the proposed core staff and the shared cost of administrative staff formerly funded by the TCF. Also, Congress approved a one time supplement to TCF revenue of SFR 4.5 million to be funded from the regular budget as had been recommended by the forty-sixth session of the Executive Council. That was a transitional requirement during the process of restructuring the TCO Programme in the twelfth financial period and would be utilized in a linearly declining way over the twelfth financial period and arrived at zero cost by the beginning of the thirteenth financial period.

8.14 Congress reviewed the proposed structure of the Secretariat for the twelfth financial period and considered the question of staffing levels and the issue of the vacancy factor which had been raised in the budget proposals. Various options were considered as to how to adapt the budget to the approved level of maximum expenditure while accommodating the proposed absorbtion of various proposals. Congress decided that the Secretary-General should be allowed maximum flexibility to arrange the structure of the Secretariat for the twelfth financial period in the best way possible within the financial limitations imposed by the approved maximum expenditure and the Financial Regulations and taking into account the decisions of Congress and the Executive Council on staff matters.

8.15 In order to respond to the Secretary-General's request for flexibility in staffing, Congress approved:

(*a*) A total regular budget staff cost ceiling of SFR 176 million;

(*b*) A flexible approach to the number of personnel employed at any one time provided that the overall staff cost ceiling for the financial period was not exceeded and that the total number of staff on permanent contracts and fixed term contracts of two years or more at no time exceeded the existing staff post ceiling (246). That number included three unclassified posts. The ceiling of 246 regular budget posts did not include the Secretariat staff for the joint activities covered by the WMO/ICSU/IOC agreement, IPCC, GCOS, and INC/FCCC and also did not include those posts funded from extrabudgetary funds.

8.16 In making those decisions, Congress noted that a balanced proportion of staff and programme had been maintained in the approved budget and requested the Secretary-General to ensure that the implementation of the staff flexibility provision reflected the priorities set by Congress in the approved programme and budget in a way that would continue to achieve an appropriate balance between staff and programme activities. Congress also recognized the ongoing need to take due account of the legitimate interests of the staff regarding their conditions of service.

8.17 Congress reviewed the proposed provisions for consultants and seconded expert services amounting to over SFR 5.0 million. It was felt that substantial cost savings could be made by taking advantage of secondments where Member countries were willing to absorb the salary costs and provide the specific desired expertise that was not otherwise available in the Secretariat. Congress, therefore, requested the Secretary-General to continue to make the maximum use of seconded experts whenever made available by Members and reduce the number of consultants employed at all times bearing in mind the required level of expertise.

8.18 Congress considered the overall structure of WMO, including all of its constituent bodies, and determined that further study was required regarding possible future streamlining and rationalizing with a view to achieve optimum cost effectiveness. The possibility of reducing the number of technical commissions was noted as an example. It was recalled that studies of the Organization structure had been conducted in the past, although no changes had resulted. Congress decided that a review of the overall Organization structure was again necessary given the current financial constraints and, therefore, requested the Executive Council to create a small (one or two persons) task team in order to study the overall structure of WMO using previous studies as a starting point, and to make recommendations for consideration by the Executive Council and Thirteenth Congress that would improve efficiency and effectiveness while reducing the overall cost of the Organization's structure to Members. Congress considered that the cost of such a review should also be carefully limited.

8.19 Some Members expressed concern over the financial well being of WMO in the future in light of indications that funding levels would most likely be continuing to decline and considered that WMO should take actions that would enable it to adapt better to such future financial constraints. Congress requested the Executive Council to give guidance about achieving a more flexible and economic organizational structure with lower fixed staff costs as it undertook the longer-term planning (the Fifth WMO Long-term Plan) for the future of the Organization.

8.20 With regard to official and working languages for documentation and interpretation at sessions of constituent bodies, Congress indicated that it was necessary to treat all WMO official and working languages in an equitable manner and that any added cost of new language

requirements would have to be met from reductions and savings in other languages and documentation costs. With regard to other languages, Congress decided that the provision of Portuguese language services would continue to be funded from extrabudgetary resources and, therefore, would not affect the regular budget.

8.21 Congress noted that the report of the management consultant firm Coopers and Lybrand contained proposals for comprehensive changes in the programme and budget process of the Organization. Also, it was noted that the role of regional associations, technical commissions, and other constituent bodies would be modified under the consultants' proposals in such a way that would give them more formal responsibilities for budget setting and might require changes in the existing Financial Regulations. The Secretary-General's response to those proposals, while acknowledging the good intention of the consultant recommendations, indicated that the practical aspects of timing of quadrennial sessions of constituent bodies and overlapping programme areas and roles would make the proposed scheme unworkable. It was recognized that some of the recommendations would not be possible to implement during the twelfth financial period due to the late stage of the planning cycle. As an alternative, a matrix allocation was prepared for the consideration of Twelfth Congress in order to identify allocation of resources for various constituent bodies and entities. Congress decided, however, that the programme and budget for the twelfth financial period should be approved on the basis of the existing programme structure approved by the Executive Council and in conformity with the Fourth WMO Long-term Plan.

8.22 Congress requested that budget information should be made more readily available to the constituent bodies before and during their sessions to facilitate their costing and review of priorities of proposals put forward for consideration by them. However, no formal budget setting authority for those bodies was given and no change to the Financial Regulations was made. Congress requested that the matrix presentation of the programme budget along the lines of constituent bodies should be updated for Congress decisions and provided to the various constituent bodies to convey the budgetary limitations of WMO Programmes to them.

8.23 Regarding the implementation of climate research activities under the agreement with ICSU and IOC, Congress decided to continue the practice adopted during the eleventh financial period of contributing to the WMO/ICSU/IOC Joint Climate Research Fund (JCRF). The Executive Council was authorized to determine biennially the amount of WMO's contribution to the JCRF. Once a decision was made by the Executive Council, the amount should not be exceeded.

9. COOPERATION WITH THE UNITED NATIONS AND OTHER INTERNATIONAL ORGANIZATIONS (agenda item 9)

9.1 COOPERATION WITH THE UNITED NATIONS AND OTHER ORGANIZATIONS (agenda item 9.1)

9.1.1 Congress reviewed the existing relations with the United Nations and other international organizations and decided that close cooperation, consultation, and coordination with those organizations should be maintained on the basis of the policy laid down in Resolution 6 (Cg-V) — Relations with the United Nations and other international organizations.

9.1.2 Congress noted with satisfaction the action taken by the Executive Council in concluding agreements and working arrangements with other international organizations. Such relationship contributed to the improvement of the effectiveness of WMO Programmes throughout the world. It, therefore, authorized the Executive Council to consider, when appropriate and where mutually beneficial, the advisability of concluding formal agreements with other international organizations and to enter into such further working arrangements as might be necessary subject to the provisions of Article 26 of the WMO Convention.

9.1.3 Congress noted, in United Nations General Assembly Resolution 49/22 B — International Decade for Natural Disaster Reduction: early warning capacities of the United Nations system with regard to natural disasters, of 23 January 1995, the recognition of WMO's crucial contribution to the improvement of "early warning capacities of the United Nations System with regard to natural disasters". Congress noted further the active participation of WMO in the inter-agency coordination of programmes through the ACC. It agreed that the Organization should continue to participate in the work of the ACC and its subsidiary machinery. It expressed the desire that appropriate information on the work of WMO would be included in the report on early warning systems that would be submitted to the United Nations General Assembly at its fiftieth session.

9.1.4 Congress also noted that the Organization had participated in the preparation for, and proceedings of, a number of international conferences and meetings convened by the United Nations or its specialized agencies. In that connection, it noted arrangements for the follow-up actions to UNCED and the relevance of certain WMO activities in that area. Congress welcomed WMO involvement in such activities and requested the Secretary-General to contribute as far as possible, and as appropriate, to the implementation of the programme for action, or the relevant resolutions or decisions adopted by such conferences and meetings.

9.1.5 Congress was informed of progress in the development of the Global Network of Isotopes in Precipitation (GNIP), a joint project between WMO and IAEA. That had provided the basis for discussions on tracing the isotopic composition of past and present precipitation which had been held at a recent workshop near Bern and which had been convened jointly by WMO, IAEA, the PAGES project of IGBP, and IAHS. Congress noted that the recommendations of that workshop concerning improvements in the monitoring and study of isotopes in precipitation and in water bodies would be considered by the appropriate WMO bodies.

RECOMMENDATIONS ADDRESSED TO WMO BY THE UNITED NATIONS

9.1.6 Congress took note of the action being taken by WMO in response to past recommendations of the United

Nations General Assembly and other bodies directly related to the programmes of WMO. Congress noted, in particular, the resolutions of the forty-ninth session of the General Assembly addressed to the Organization, and actions on some of those resolutions being considered under the relevant agenda items on the programmes and activities of the Organization. The Secretary-General was requested to continue his cooperation in those areas with the United Nations and other bodies and agencies of the United Nations system. Congress also took note of those other recommendations of the General Assembly addressed to all bodies, organizations, and agencies of the United Nations system, including WMO. It invited the Secretary-General to take those into account in so far as they were appropriate and relevant to the activities of the Organization.

Joint Inspection Unit (JIU)

9.1.7 Congress reconfirmed its acceptance of the Statute of the JIU on the understanding that the procedure whereby reports of the Unit were submitted to the Executive Council by the Secretary-General fulfilled its commitments under paragraph 2 of Article 1 of the JIU Statute. It requested the Secretary-General to continue to give maximum assistance to the Unit, within the limits of resources available, with priority attention being given to those activities of the JIU which were particularly relevant to WMO.

International Decade for Natural Disaster Reduction (IDNDR)

9.1.8 Congress recalled that the IDNDR had commenced in 1990 and would run until the year 2000, and that its aims were coincident with those of WMO with regard to disasters of meteorological and hydrological origin. The Organization had made significant contributions to the activities of the Decade, including the work of the IDNDR Secretariat and in support of the various meetings held to coordinate Decade-related activities at the international level.

9.1.9 The most important meeting had been the World Conference on Natural Disaster Reduction, which had been held in Yokohama in May 1994. Congress endorsed the appeal made by the Conference for "a safer world, based on common interest, sovereign equality, and shared responsibility".

9.1.10 The World Conference had invited "all countries to defend individuals from physical injuries and traumas, protect property and contribute to ensuring progress and stability, generally recognizing that each country bore the primary responsibility for protecting its own people, infrastructure and other national assets from the impact of natural disasters". Congress saw here a very important role for NMHSs and called upon Members to accept that responsibility.

9.1.11 At the international level, Congress accepted the leading role that WMO should play in regard of disasters of meteorological and hydrological origin and emphasized once again that a major portion of the Organization's regular programme supported that.

9.1.12 Information was provided on developments with the four special projects that had been launched by WMO in support of the IDNDR, namely those on a Tropical Cyclone Warning System for the South-West Indian Ocean, Comprehensive Risk Assessment, System for Technology Exchange for Natural Disasters and, in conjunction with ICSU, that on Tropical Cyclone Disasters.

9.1.13 Congress recognized that the WMO Plan of Action for the IDNDR adopted by Eleventh Congress needed to be revised to take account of various developments and to incorporate appropriate references to the Fourth WMO Long-term Plan. Accordingly, it adopted a revised Plan, which is contained in Annex III to this report. It requested the Executive Council to review the Plan periodically and to introduce whatever amendments might be appropriate. The Secretary-General was requested to provide all possible assistance to the implementation of the Plan. He was asked to follow developments closely with the implementation of the Decade at the international level and to advise the Executive Council and eventually Thirteenth Congress accordingly. He was also asked to consider what role WMO might play in the follow-up to the Decade and to place any proposals before the fiftieth session of the Executive Council so that they might be consolidated for subsequent submission to Thirteenth Congress.

9.1.14 Congress noted that precautionary and actual predictions could be made for a range of disasters of meteorological and hydrological origin other than those for which forecasts and warnings were currently exchanged. Furthermore, such predictions, forecasts and warnings were being provided to an increasing extent for other kinds of natural disasters, notably tsunamis and volcanic eruptions. The Secretary-General was asked to ensure that WMO worked with the IDNDR Secretariat and other United Nations bodies, including IOC, and ICSU, to establish the extent to which such predictions and forecasts could be made both scientifically and practically and how they could benefit from better international coordination; the aim should be for those responsible for developing the science and practice of those predictions and warning procedures to benefit from WMO's long experience in such coordination, and to ensure that any protocols for international warnings be agreed by the appropriate international scientific and governmental bodies, and with relevant NMHSs. The Secretary-General should seek extrabudgetary resources to assist in that work.

9.1.15 The representative of the IDNDR Secretariat referred to the Yokohama Strategy and to its Plan of Action and to the particular challenge placed on the IDNDR for its second half, namely ensuring access and affordability of existing scientific knowledge and disaster reduction technology, the emphasis being on national capacity building to enable their application in practice. He also noted the importance of WMO playing an active role, within the United Nations system, in the improvement of early warning capacities for natural disasters and in disaster reduction in small island developing States.

Support to humanitarian and relief efforts

9.1.16 Having noted the view of the forty-sixth session of the Executive Council that consideration should be given to the role of WMO in coordinating the meteorological and hydrological support to humanitarian and relief efforts of

the United Nations during and after natural disasters and other crises, Congress noted the actions taken by the Secretary-General in cooperation with the Permanent Representatives of Costa Rica and the United States to the United Nations Office at Geneva to coordinate the provision of relevant weather and climate information to United Nations humanitarian and relief efforts. Congress especially noted the important role WMO Members played in providing information on the 1994–1995 winter outlook for the Balkans and in providing weather information for refugee efforts in eastern Africa. Congress noted that the involvement of the WMO in two specific real situations involving United Nations humanitarian and relief efforts had provided an important opportunity for other parts of the United Nations system to recognize the significance of meteorological and hydrological information in humanitarian and relief efforts and for the WMO Secretariat to be able to coordinate a response to the needs of other United Nations agencies to be provided by Members and by RSMCs.

9.1.17 Congress expressed its strong desire for WMO to continue to interact actively with other parts of the United Nations system which provided humanitarian relief and to coordinate the provision of relevant meteorological and hydrological information for United Nations humanitarian and relief efforts related to natural disasters and other crises. Recognizing WMO's primary role as the authoritative scientific voice within the United Nations system on the state and behavior of the Earth's atmosphere and climate, Congress felt that it was incumbent upon WMO to continue its involvement, to the extent possible, with other United Nations agencies to mitigate the suffering and tragedy associated with natural disasters and other crises.

9.1.18 Congress requested, with urgency, the Secretary-General to develop and establish appropriate mechanisms, within available resources, whereby Members and RSMCs might provide, as needed, relevant meteorological and hydrological information to United Nations humanitarian and relief efforts, both at Headquarters and in the field. Congress recognized that within those mechanisms, the WMO Secretariat would not have an operational role, but would have to coordinate with the United Nations in Geneva and New York as well as with Members and the RSMCs. Congress also requested the Secretary-General to strengthen collaboration with the UN/DHA, as the focal point within the United Nations for humanitarian and relief efforts, as well as with other relevant agencies and non-governmental humanitarian and relief organizations. Congress expressed appreciation to the United States for the initial funding of that activity and looked forward with interest to the possibility of further external funding. Congress felt that urgent and careful consideration should be given to establishing appropriate channels between NMHSs, RSMCs, and the United Nations agencies concerned, due attention being given to the various responsibilities of each.

9.1.19 The representatives of UN/DHA, the IDNDR Secretariat and UNHCR expressed strong support for the initiative of WMO to provide meteorological and hydrological information in support of humanitarian and relief efforts before, during, and after natural disasters and other crises. They agreed on the need to work closely with WMO during such emergencies and offered assistance in developing an appropriate mechanism to make that initiative a reality.

9.2 Follow-up to the United Nations Conference on Environment and Development (UNCED) (agenda item 9.2)

9.2.1 Congress noted with appreciation the Secretary-General's actions related to WMO's active participation and involvement in, and the follow-up to, UNCED. Congress took note in that respect, of the close liaison maintained with international institutions and the United Nations system in enhancing the Organization's capabilities and position in all related UNCED follow-up activities despite the non-availability of funds in the regular budget for such activities during the eleventh financial period.

9.2.2 Congress expressed its gratitude to the Secretary-General for his efforts in keeping Members informed on related UNCED follow-up activities through circular letters, the preparation of publications, the presentations and discussions at meetings, press releases, and other means. Congress considered that the WMO publications issued in relation to UNCED follow-up activities were of great help to NMHSs in providing relevant information in support of the goals of UNCED. Among the relevant publications already distributed were:

(*a*) *WMO and UNCED — 1992. Protecting the Atmosphere, Oceans and Water Resources: Sustainable Use of Natural Resources* (WMO-No. 760);
(*b*) *WMO and the Ozone Layer* (WMO-No. 778);
(*c*) *WMO and Global Warming* (WMO-No. 741);
(*d*) *Meteorology and Hydrology for Sustainable Development* (WMO-No. 769);
(*e*) *Climate Variations, Drought and Desertification* (WMO-No. 653);
(*f*) *Beyond the Earth Summit: WMO and the Follow-up to UNCED* (WMO-No. 817).

Congress noted in that respect that Members were also keeping the Secretary-General informed about activities related to UNCED in their respective countries. Congress requested the Secretary-General to keep up such efforts and also requested Members to continue informing the Secretary-General on their activities related to UNCED.

9.2.3 Congress noted with satisfaction Resolution 14 (EC-XLIV) — The Rio Declaration and Agenda 21, and expressed its gratitude to the Secretary-General for his prompt response to the resolution. Congress emphasized the great usefulness of the Guidelines on the Role of National Meteorological and Hydrological Services in the Implementation of Agenda 21 and the Framework Convention on Climate Change, prepared by the Executive Council Working Group on the Follow-up to UNCED, including Capacity Building in fulfilling the Services' role in the follow-up to UNCED activities. In that respect, Congress requested Members to take positive action in implementing the Guidelines in order to ensure, at the national level, the visibility of the NMHSs in the post-UNCED activities.

Congress requested the Secretary-General to update the information provided in the Guidelines and to monitor the actions taken by Members as well as to encourage them to utilize the material provided in applying for funding of UNCED-related activities.

9.2.4 Congress expressed its appreciation to Dr H. Fijnaut and members of his working group for their efforts on the follow-up to UNCED.

9.2.5 Congress took note of the involvement of the different WMO Programmes in the UNCED follow-up activities and the establishment of the Resource Mobilization Unit and the efforts made to maintain close liaison with external funding institutions including development banks, private sector, national and multinational organizations, UNDP Capacity 21, and GEF. Congress noted that post-UNCED activities were a challenge to the NMHSs and recognized the important role that the Directors of NMHSs could play in securing funds for post-UNCED activities for national and regional projects and the role of the New Sun Foundation in that respect.

9.2.6 Congress considered that it was important that WMO should be involved in GEF in order to ensure the inclusion of national and regional projects aimed at monitoring the atmosphere and at ensuring the participation of the NMHSs, particularly those of developing countries and small island States, in the implementation of the UN/FCCC and ICCD. Congress requested the Secretary-General to contact the GEF partners, the World Bank, UNDP, and UNEP with a view to explore the possibilities of WMO involvement in GEF and to report the outcome to the forty-eighth session of the Executive Council. Congress also requested the Secretary-General to continue assisting developing countries to access GEF and other sources of funding in implementing post-UNCED activities.

9.2.7 Congress recognized the important role of WMO on the follow-up action toward the implementation of UNCED including Agenda 21, the UN/FCCC, and ICCD following its ratification. The role of the NMHSs in implementing the UN/FCCC and ICCD is reflected under agenda item 9.3. Congress congratulated the Secretary-General on the efforts that went into maintaining proper coordination and cooperation with the United Nations system and other international bodies, particularly the CSD, the Inter-agency Committee on Sustainable Development, UNESCO, FAO, UNIDO, etc. Congress expressed its satisfaction for the participation of WMO in the preparation of Task Managers' reports, covering water resources assessment, climate changes, oceanography, manpower development, etc. Congress requested the Secretary-General to ensure that WMO continued to be the leading scientific voice in matters related to climate through the IPCC and the four main thrusts of the WCP and its associated activities recommended by the IGM-WCP. Congress also requested the Secretary-General to continue with the available resources to promote cooperation with the United Nations system and other institutions.

9.2.8 Congress was also pleased with the efforts made in incorporating UNCED follow-up activities in the plans and projects of the scientific and technical programmes of WMO. Congress noted the actions taken by the technical commissions and regional associations to respond actively to UNCED and Agenda 21 in organizing relevant projects in accordance with UNCED objectives taking into consideration the available financial resources. Congress requested the Secretary-General, in that respect, to provide the technical commissions and the regional associations with all information on developments related to the involvement of WMO in UNCED follow-up activities.

9.2.9 Congress endorsed the view of the Executive Council on the importance of ensuring effective and constructive WMO input to the 1996 CSD cluster review of atmosphere, oceans and all kinds of seas, as well as the relevant cross-cutting issues, including through WMO participation in the Inter-agency Committee on Sustainable Development, where WMO was a core Member. In that respect, Congress noted with satisfaction the action taken by the Secretary-General, as mentioned under agenda item 3.2, and requested the Secretary-General to reinforce WMO's involvement for the benefit of small island States. Congress requested the Secretary-General to continue assisting Members in their efforts in the preparation of their national reports for the 1996 CSD review by providing Members, especially the Permanent Representatives, with an appropriate informative WMO position document by the end of 1995, as requested by the Executive Council at its forty-sixth session. Congress also noted the important opportunity provided by the 1997 CSD overall review of Agenda 21 for WMO to provide a comprehensive overview of its contribution to the post-UNCED activities.

9.2.10 As regarded the action taken by CAS in reviewing the current position and potential for the development of a monitoring system, scientific knowledge, specialized advice, as well as the development of an action plan as requested by the Executive Council at its forty-sixth session, Congress recorded its view under agenda item 3.3.

9.3 Status reports on the Conventions on Climate Change and on Desertification (agenda item 9.3)

9.3.1 Congress stressed the vital role of Members' national meteorological and hydrological observing networks and their research and monitoring programmes in providing an essential part of the scientific basis for the work of the Conference of the Parties to the UN/FCCC and of the Intergovernmental Negotiating Committee for the International Convention to Combat Desertification (INCD). Congress reaffirmed the importance of strengthening Members' basic WWW networks and the other building blocks of GCOS as well as the research, monitoring, and training efforts under the WCP to the further work currently under way under both Conventions.

International Convention to Combat Desertification (ICCD)

9.3.2 Congress expressed its appreciation to the Secretary-General on the actions taken for the implementation of the United Nations General Assembly Resolution 47/188 — Establishment of an intergovernmental negotiating committee for the elaboration of an

international convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa, of 22 December 1992. In particular, Congress noted with satisfaction the active role played by WMO in the negotiating process for ICCD. Congress also noted that the full text of the Convention, including the four regional implementation annexes, had been circulated to all Members for their information and necessary attention.

9.3.3 Congress noted with appreciation the scientific and technical contributions of the WMO/UNEP IPCC in the negotiation of the text of ICCD. Congress considered that IPCC should continue to liaise with the Interim Secretariat of the INCD to ensure that the most updated scientific knowledge was made available for consideration of the first session of the Conference of the Parties.

9.3.4 Congress noted that by 20 April 1995, 105 countries and one intergovernmental body had signed the Convention and that two countries had ratified it. Congress emphasized the need for necessary action by Members in order to sign and ratify the Convention as soon as possible. Congress requested the Secretary-General to continue to ensure the participation of WMO in the work of INCD and to collaborate and provide the necessary support, within available resources, to its Interim Secretariat in the implementation of the Convention. Congress also expressed its support for the continuing fruitful collaboration between WMO and the INCD.

9.3.5 Congress noted that the eleventh session of CAgM had established a Working Group on Desertification and Drought to advise, among other things, on the agrometeorological aspect of the implementation of ICCD (see also agenda item 3.4.2). Further WMO actions regarding implementation of the Convention would be undertaken under relevant WMO Programmes, such as the Agricultural Meteorology Programme, WWW, WCP, HWR, AREP, and ETR.

9.3.6 Congress strongly urged Members to continue to strengthen and expand their activities relating to research, training and capacity building, observation data collection, and exchange on matters relating to drought early warning, preparedness, and public awareness.

9.3.7 Congress emphasized the need for training in the fields of drought and desertification, taking advantage of the funding facilities available under the Convention. In that connection, Congress noted with appreciation the offer of Israel to organize in 1996, in cooperation with WMO, an international workshop on drought and desertification.

United Nations Framework Convention on Climate Change (UN/FCCC)

9.3.8 Congress noted with satisfaction that the UN/FCCC had entered into force on 21 March 1994. Congress considered that WMO and NMHSs should participate actively in the implementation of the Convention, particularly as regarded the commitments on research and systematic observations stated in the Convention. Furthermore, Congress emphasized the importance for NMHSs to make full use of the implementation of the Convention to strengthen the position of the Services at the national level. Congress requested the Secretary-General to continue fostering participation of the NMHSs in the work of the Conference of the Parties and to arrange for the exchange of experience accumulated in that regard by a number of NMHSs.

9.3.9 Congress commended the Secretary-General for the actions taken to ensure the active participation of WMO in the work of the INC/FCCC and the First Conference of the Parties and for the support provided to the Interim Secretariat. In that regard, Congress requested the Secretary-General to pursue his efforts in support of the implementation of the UN/FCCC and to continue to ensure the provision of scientific and technical support to the Permanent Secretariat, including, as necessary and within available budgetary resources, the secondment of qualified professional and other staff. Congress considered that such arrangements would facilitate maintaining close connections between WMO and the Permanent Secretariat and thereby would contribute to the enhancement of WMO's profile in the UN/FCCC implementation. At the same time, Congress requested the Secretary-General to explore ways and means of using the funding mechanism envisaged in the Convention to provide support to staff secondment to the Permanent Secretariat.

9.3.10 Congress noted with appreciation the scientific and technical contributions of the WMO/UNEP IPCC in the negotiation of the Convention including the formulation of relevant methodologies. Congress considered that IPCC should continue to liaise with the Permanent Secretariat of the Convention and the Subsidiary Body on Scientific and Technological Advice (SBSTA) in order to ensure that the most updated assessments were made available for consideration by the Parties. In that respect, it was considered that SBSTA should be advised on the leading role of IPCC in the provision of such assessments. Congress reiterated the need to ensure that adequate financial, technical and personnel support would be provided to the efforts of IPCC.

9.3.11 Congress noted the appeal made by the Executive Council to Members to make available the expertise of NMHS in national delegations to the sessions of the Conference of the Parties to the Convention and to sessions of its subsidiary bodies. That was considered particularly important in connection with a number of issues related to the technical and financial support of Parties from developing countries, and of those with economies in transition. Congress requested the Secretary-General to issue a circular letter to Members addressing that issue.

9.3.12 Congress emphasized the crucial importance of development of response strategies to mitigate and/or adapt to climate change. It was stressed that both emission reduction and adaptation strategies must be developed on a strong scientific basis with contributions from climate research and application activities within WMO and NMHSs and that should, in turn, justify the requirement for strong support for those activities. Congress further stressed the need for the UN/FCCC to represent a vehicle for provision of much needed assistance to developing countries in their efforts concerning the implementation of the UN/FCCC and sustainable development in general.

10. ADMINISTRATIVE AND FINANCIAL QUESTIONS (agenda item 10)

10.1 FINANCIAL MATTERS (agenda item 10.1)

FINANCIAL REPORT OF THE SECRETARY-GENERAL

10.1.1 Congress noted that the audited accounts at 31 December 1993 covering the first biennium of the eleventh financial period showed a net cash surplus of SFR 3 313 008 after commencing the eleventh financial period with a net cash deficit of SFR 1 425 890 carried forward from the tenth financial period. That improvement in the financial situation during the first biennium was due to a budgetary surplus of SFR 3 426 914 resulting from postponement of activities and economy measures stringently applied. During the biennium, revenue from contributions and other sources fell short of the amount required to cover the total amount of the approved budget and the deficit carried forward from the tenth financial period.

10.1.2 Congress examined the overall financial situation of the Organization for the eleventh financial period. It was satisfied that the Secretary-General was taking all possible steps to administer the financial resources made available to the Organization in a manner consistent with the provisions of the Financial Regulations and the decisions of Eleventh Congress and the Executive Council. However, a combination of factors — such as cash shortages brought about by the delayed and non-payment of Member's contributions, the requirement to implement a number of unfunded high priority programme activities, and a substantial drop in revenue to support the TCF — would almost certainly result in over expenditure compared to the budget approved by the Executive Council for the current biennium (1994–1995). Every effort was being made to reduce expenditure.

10.1.3 Congress also noted that the financial situation was regularly reviewed on an annual basis by the Executive Council and the Financial Advisory Committee. The members of the Executive Council had been informed by correspondence of the serious situation which prevailed during the current financial period as well as of steps taken by the Secretary-General to redress the situation.

10.1.4 Congress noted with satisfaction the payment by some Members of their long-outstanding contributions. It, nevertheless, noted with much concern that, in some cases, Members were delaying the settlement of their assessed contributions for unduly long periods, which deprived the Organization of cash resources required to implement the programmes.

10.1.5 Congress noted that due to a dramatic reduction in UNDP funding of the technical assistance activities, together with changes in methods of implementing projects, the reimbursement of Secretariat support cost and the revenue to the TCF had been substantially reduced. Congress further noted that it had been necessary to provide a subvention from the regular budget of SFR 4 829 670 to the revenue of the TCF during the first biennium (1992–1993) of the eleventh financial period. The Executive Council at its forty-fifth session had approved a further subvention for the second biennium of SFR 4.505 million. In accordance with the decisions of Eleventh Congress (general summary, paragraph 4.4.6) the Secretary-General had taken action to reduce costs. However, in spite of considerable reductions made in staff costs through restructuring, and by freezing recruitment to vacant posts, which had produced savings of SFR 775 193 during the first biennium of the eleventh financial period, and were expected to produce savings of some SFR 4.3 million during the second biennium, it might be necessary to increase that subvention to the revenue of the TCF to an estimated SFR 6.9 million during the second biennium (1994–1995) from economies made within the regular budget.

10.1.6 Congress noted that in accordance with Regulation 9 of the Financial Regulations the Secretary-General continued, during the course of the eleventh financial period, to administer a number of trust funds and special accounts covering a wide range of activities associated with WMO Programmes, including the financial administration of the WMO/UNEP IPCC.

STAFF COMPENSATION PLAN RESERVE FUND

10.1.7 On the recommendation of the Executive Council, Congress decided to maintain unchanged the level of that Fund during the twelfth financial period.

PUBLICATIONS FUND

10.1.8 Congress noted that paragraph 5 of the annex to Resolution 17 (EC-XLIV) — Publications Fund, stated that at the end of each financial period, subject to the approval of Congress, the unobligated cash balance available in the Publications Fund should be transferred to the credit of the Fund on 1 January of the subsequent biennium. Congress also noted the Secretary-General's report on that Fund and agreed that any balance remaining in the Fund at 31 December 1995 would be carried forward to the twelfth financial period.

JOINT CLIMATE RESEARCH FUND (JCRF)

10.1.9 Noting that the agreement between WMO, ICSU and IOC provided that amounts standing to the credit of the Fund at the end of any biennium should remain in the Fund, Congress agreed that any balance in the Fund at 31 December 1995 be carried forward to the twelfth financial period.

MANAGEMENT AND ORGANIZATION STUDY OF THE WMO SECRETARIAT BY THE COOPERS AND LYBRAND FIRM

10.1.10 Congress noted with appreciation and interest the outcome of the Management and Organization Study of the WMO Secretariat, which was commissioned by the Secretary-General through an external management firm Coopers and Lybrand in February 1993. It noted in that connection the progress made so far in the implementation of the various recommendations made in their report by the firm Coopers and Lybrand. Congress also noted with satisfaction that the Executive Council had participated in facilitating its implementation.

10.1.11 The firm Coopers and Lybrand had recommended, among other things, an "internal trading" scheme for WMO. Internal trading meant establishing a buyer/seller relationship between substantive programmes and the supporting programmes of the Organization. Under the system, the service was provided on request only and was

charged in accordance with an agreed standard price which the Supporting Programme Department established. Under the internal trading, the cost of services for example translation, text processing, printing, etc. were to be charged to the Departments requesting such services, on the basis of a standard list of unit costs. The operation would involve the development of a price list of the services offered and the exercise of serious management controls, through methods such as time-sheeting systems, in order to achieve the established break-even target between receipts and expenditures.

10.1.12 During the interim, for the twelfth financial period (1996–1999), Congress decided to suspend Financial Regulation 4.2, only to the extent required, so that funds approved in Part 5 of the budget for languages, publications and conferences could be allocated to the user programmes to enable the implementation of the internal trading scheme. In view of the advantages expected from the scheme in the operations of the Secretariat, notwithstanding Regulation 4.2 of the Financial Regulations, Congress decided to authorize the Secretary-General to make inter-part transfers from Part 5 to other parts of the budget for that purpose. Congress also requested the Secretary-General to present his budget proposals for the thirteenth financial period (2000–2003) including the allocation of funds under the internal trading scheme for the various parts of the budget based on the experience gained from the functioning of that scheme during the twelfth financial period (1996–1999). It was understood that the language services provided by the application of the relevant General Regulations would continue as at present and would not be affected by the implementation of the internal trading scheme.

10.1.13 The decision of Congress regarding the reporting proposal of the Regional Directors is recorded under agenda item 3.7.

10.1.14 The decision of Congress regarding improvements to the programme and budget process is recorded under agenda item 8, and that regarding the TCO Programme is recorded under agenda item 4.

Revision of the Financial Regulations

10.1.15 Noting that at the request of the United Nations General Assembly, the ACC, of which WMO was a member, had adopted a set of common accounting standards to be applied to the United Nations and the specialized agencies, and recalling the practice to align whenever feasible WMO practices and the text of the WMO Financial Regulations to those of the United Nations and specialized agencies, and considering the recommendation of the Financial Advisory Committee and the Executive Council, Congress agreed that the text of Financial Regulation 7.3 be amended to reflect the recommended practice contained in the United Nations System Accounting Standards. Congress also agreed to amend Financial Regulations 9.3, 9.6 and 10.1 to incorporate changes in respect of interest earned on the Working Capital Fund. In that regard, Congress adopted Resolution 32 (Cg-XII).

New Headquarters building

10.1.16 Congress noted the actions taken by the Secretary-General during the eleventh financial period for the con- struction of the new WMO Headquarters building. Decisions regarding the financing and operating of the new WMO Headquarters building are contained under agenda item 8.

10.2 Proportional contributions of Members (agenda item 10.2)

Eleventh financial period

10.2.1 Congress noted that Eritrea became a Member effective 7 August 1993 and following the decision of the United Nations to assess Eritrea at the minimum level, a provisional WMO assessment was established at 0.02 per cent. Congress confirmed the level of assessment for Eritrea at 0.02 per cent for the eleventh financial period.

10.2.2 Congress noted that provisional proportional contributions for the following countries, who also became Members during the eleventh financial period, had been established by the Executive Council in accordance with Resolution 36 (Cg-XI) — Assessment of proportional contributions of Members for the eleventh financial period:

Member	*From*	*Percentage assessments* 1992/93	1994/95
1. Republics of the former USSR:			
Latvia	14 June 1992	0.15	0.15
Lithuania	3 July 1992	0.18	0.18
Estonia	20 September 1992	0.08	0.08
Armenia	16 October 1992	0.15	0.15
Turkmenistan	3 January 1993	0.07	0.07
Uzbekistan	22 January 1993	0.31	0.30
Kazakhstan	4 June 1993	0.41	0.41
Tajikistan	9 September 1993	0.06	0.06
Georgia	1 October 1993	0.25	0.25
Azerbaijan	26 January 1994		0.26
Kyrgyzstan	19 August 1994		0.07
Rep. of Moldova	21 December 1994		0.18
2. The former Yugoslav Republics:			
Slovenia	19 September 1992	0.10	0.10
Croatia	8 November 1992	0.15	0.14
The former Yugoslav Rep. of Macedonia*	1 July 1993	0.02	0.02
Bosnia & Herzegovina	1 July 1994		0.04

* Following the decision of the United Nations General Assembly on 8 April 1993, the State is being provisionally referred to for all purposes within the Organization as "the former Yugoslav Republic of Macedonia" pending settlement of differences that have arisen over its name.

Congress confirmed the level of those assessments for the eleventh financial period.

Scale of assessment of contributions

Twelfth financial period

10.2.3 Congress examined the proposals submitted by the Secretary-General following the recommendation of the Executive Council in respect of the establishment of the

scale of proportional contributions for the twelfth financial period. Congress examined various options available to revise the scale of assessment of contributions for the twelfth financial period. It decided to move progressively towards the United Nations scale and adopted the following scheme for the twelfth financial period:

(*a*) A scale for 1996 using a weighting of 75 per cent of the WMO scale for 1994–1995 and 25 per cent of the United Nations scale for 1996;

(*b*) A scale for 1997 using a weighting of 50 per cent of the WMO scale for 1994–1995 and 50 per cent of the United Nations scale for 1997;

(*c*) A scale for 1998 using a weighting of 25 per cent of the WMO scale for 1994–1995 and 75 per cent of the United Nations scale for 1997;

(*d*) A scale for 1999 based on the United Nations scale for 1997 adjusted for difference in Membership.

For each year, the minimum rate of assessment of 0.02 per cent adopted for the eleventh financial period was retained as the minimum for the twelfth financial period. Corrections were made to ensure that no Member's rate of assessment would increase over the twelfth financial period to a level which exceeded 200 per cent of the WMO scale for 1994–1995.

10.2.4 Congress adopted Resolution 33 (Cg-XII) and requested that Secretary-General to calculate the advances due to the Working Capital Fund from new Members joining the Organization after 1 January 1996 on the basis of the scale of contributions for the year 1999, and requested the Executive Council to review the question of proportional contributions during the course of the twelfth financial period and present to Thirteenth Congress a document setting out recommended criteria. The criteria would be based on a review of that used by the United Nations and other specialized agencies to calculate their porportional contributions.

Working Capital Fund

10.2.5 Congress considered the recommendation of the Financial Advisory Committee and the Executive Council that the level of the Working Capital Fund should be 2 per cent of the approved maximum expenditures in accordance with the decision of Eleventh Congress. It agreed with the Executive Council that the Working Capital Fund had proved to be an important means of coping with temporary cash shortfalls of limited duration. It also agreed that the Working Capital Fund could not solve problems resulting from sizable cash shortfalls of a long-term nature for which alternative solutions had to be found. Congress, therefore, decided to restore the Working Capital Fund to the level of 2 per cent of the approved maximum expenditures of the twelfth financial period, and that the increase in the capital of the Working Capital Fund should be provided by crediting interest earned on the investments of cash resources of the Working Capital Fund to individual Members accounts in the Working Capital Fund, rather than to assessment of additional advances on Members. Congress requested the Executive Council to monitor the cost of implementing that decision, and recommend any efficiencies. Furthermore, it decided that notwithstanding the provisions of Regulations 8 and 9 of the Financial Regulations, advances made by existing Members should be frozen at the level fixed for the eleventh financial period, and that advances assessed for New Members joining the Organization after 1 January 1996 would be assessed at the rates established for 1999.

10.2.6 Congress adopted Resolution 34 (Cg-XII).

Measures to overcome persistent cash flow problems

10.2.7 Congress examined a proposal submitted by the Secretary-General at the request of the Executive Council on measures to overcome persistent cash flow problems arising from non-payment and delayed payment of Members' assessed contributions. Congress decided to maintain in force Resolution 37 (Cg-X) — Suspension of Members for failure to meet financial obligations.

Consideration of past resolutions on matters related to contributions

10.2.8 On the recommendation of the forty-sixth session of the Executive Council, Congress decided to keep in force Resolution 31 (Cg-X) — Incentive scheme for early payment of contributions. In respect of Resolution 39 (Cg-IX) — Settlement of long-outstanding contributions, noting that it had adopted new resolutions in respect of related contributions matters, Congress adopted Resolution 35 (Cg-XII).

Short-term borrowing authority

10.2.9 Congress considered the recommendations of the Executive Council, based on the advice of the Financial Advisory Committee, to maintain in force the short-term borrowing authority during the twelfth financial period. It noted that in the opinion of the Executive Council, circumstances might warrant making available, under the same conditions as prevailed in the eleventh financial period, additional cash resources to the Secretary-General in order to allow for the timely delivery of the approved programmes. Congress adopted Resolution 36 (Cg-XII).

10.3 Staff matters (agenda item 10.3)

Classification of posts

10.3.1 Congress noted the action taken by the Secretary-General during the eleventh financial period for the classification of the Secretariat posts in the Professional category, including those of Directors, in accordance with the Master Standard of Classification of the International Civil Service Commission.

Grade distribution of Professional category staff and above

10.3.2 Congress noted the recommendation of the forty-sixth session of the Executive Council that there was no need to restructure the grade distribution of Professional category staff and above in the Secretariat.

Views of the staff on their conditions of service

10.3.3 Congress noted with concern the views of the staff with regard to their conditions of service and in particular the issue related to pensions and expressed its appreciation and recognition for their continuing devotion and hoped that serious efforts would be made to solve any difficulties.

10.3.4 While reaffirming its commitment to the United Nations Common System, Congress emphasized the importance for the United Nations General Assembly and other responsible inter-agency bodies of the Common System to consider any justified representations made by staff bodies when making their decisions.

10.4 SECRETARY-GENERAL'S CONTRACT (agenda item 10.4)

10.4.1 Congress decided that, with retroactive effect from 1 March 1995, the annual salary of the Secretary General should be US$105 808 taking into account the salaries of the Executive Heads of other comparable agencies. Congress also decided to authorize the Executive Council to carry out any readjustment of salary which might become necessary during the twelfth financial period if changes in the salary of comparable United Nations staff should occur.

10.4.2 Congress further decided that during the twelfth financial period the representation allowance for the Secretary-General should be established in Swiss francs at a level of SFR 24 000 per year.

10.4.3 Congress adopted, in that connection, Resolution 37 (Cg-XII) to which the contract to be signed by the President of the Organization and the Secretary-General for the twelfth financial period is attached.

SALARIES AND ALLOWANCES OF OTHER UNGRADED OFFICIALS

10.4.4 With retroactive effect from 1 March 1995, Congress set the salaries of the Deputy Secretary-General and the Assistant Secretary-General at US$97 122 and US$89 226 per annum, respectively. Those were the levels which applied to Deputy and Assistant Executive Heads of comparable specialized agencies of the United Nations. Congress further decided that during the twelfth financial period, the representation allowances for the Deputy Secretary-General and the Assistant Secretary-General should be established at SFR 12 000 per annum. In that connection, Congress decided to authorize the Executive Council to carry out any adjustment of salary which might become necessary during the twelfth financial period if an increase in the salaries of comparable United Nations staff should occur.

PENSIONABLE REMUNERATION OF UNGRADED OFFICIALS

10.4.5 Congress noted that an increase in pensionable remuneration had been promulgated by the International Civil Service Commission and that comparable United Nations agencies (ITU and UPU) had consequently adjusted the pensionable remuneration of their ungraded officials. Congress, therefore, decided also to apply with retroactive effect from 1 November 1994 the following levels of annual pensionable remuneration:

Secretary-General	US$176 505
Deputy Secretary-General	US$163 141
Assistant Secretary-General	US$151 005

LIMITATION OF THE TERMS OF OFFICE OF THE SECRETARY-GENERAL

10.4.6 Congress also considered, under this agenda item, a proposal to limit the terms of office for the position of Secretary-General. Congress recalled that similar proposals had been considered in the past but were not adopted (Second and Ninth Congresses). However, in view of the fact that such a term limitation had again been proposed, Congress concluded that further consultations would be necessary to increase the prospects of consensus on that issue. It welcomed the offer of France to facilitate those consultations.

11. GENERAL AND LEGAL QUESTIONS (agenda item 11)

11.1 IMO AND WMO PRIZES (agenda item 11.1)

Congress noted that the IMO Prize represented the highest distinction that was offered by WMO. Congress requested the Secretary-General to maintain the existing arrangements for awarding the Prize.

11.2 QUESTIONS CONCERNING THE CONVENTION (agenda item 11.2)

Congress noted that no proposals to amend the Convention were submitted within the time limit set forth in Article 28, namely six months in advance of their consideration by Congress.

11.3 REVISION OF THE GENERAL REGULATIONS (agenda item 11.3)

PROPOSALS OF THE EXECUTIVE COUNCIL

11.3.1 Congress examined the proposals by the Executive Council for amending the General Regulations. In that connection, Congress adopted Resolution 38 (Cg-XII), the annex of which gives the texts of those new or amended regulations.

11.3.2 Congress also noted that the Executive Council approved at its forty-fifth session (general summary paragraph 16.2.2) the following statement in the application of General Regulation 74(*b*) in conformity with General Regulation 2(*f*):

> "The eligibility of candidates for election by correspondence for the purpose of Resolution 37 (Cg-XI) shall be that prevailing on the date of dispatch of request to nominate candidates to fill an office or a place as prescribed in Regulations 15, 16(*a*) and 144 of the General Regulations. This condition shall satisfy the eligibility requirements of Regulation 74(*b*) of the General Regulations".

11.3.3 Congress reviewed that statement by the Executive Council as prescribed under General Regulation 2(*f*) and decided to confirm its application with respect to decisions of Congress on the eligibility of nationals of Members who were in arrears of payment of their contribution for nomination or reconsideration for elected offices of constituent bodies or as members of the Executive Council.

11.3.4 In applying that statement, Congress requested the Secretary-General to make the necessary arrangements to notify, as appropriate, the Members concerned whose nationals or representatives would not be eligible to be nominated to fill the vacant office by correspondence. That notification should be sent by the most speedy facility to the Members concerned, at least 45 days before dispatching the letter requesting nominations.

TERMS OF REFERENCE OF THE TECHNICAL COMMISSIONS

11.3.5 Congress noted with appreciation the action taken by the Executive Council and the technical commissions to review and, where necessary, to propose revisions to the terms of reference of the latter in order to allow them to play their full part in WMO post-UNCED activities related to the environment, climate change, and sustainable development. Of particular note in that connection were the proposals regarding the terms of reference of CBS aimed at ensuring the support of the basic systems for all WMO and relevant non-WMO programmes. Congress adopted Resolution 39 (Cg-XII) containing the revised terms of reference for CBS, CIMO, CAS, CAeM, CMM, and CCl. It was agreed that the terms of reference of CHy and CAgM, which were still under consideration, should be reviewed at Thirteenth Congress. Congress confirmed that the general terms of reference applicable to all technical commissions would remain unchanged.

USE OF CHINESE AND PORTUGUESE

11.3.6 Congress considered the proposal submitted by China to amend General Regulations 118 and 121 relating to the use of Chinese, one of the official and working languages of WMO, in documentation for constituent bodies. Congress agreed by its Resolution 25 (Cg-XII) that the documentation for sessions of Congress, the Executive Council, and Regional Association II should also be provided in Chinese. To that end, Congress decided to amend General Regulations 118 and 121 as given in the annex to Resolution 38 (Cg-XII).

11.3.7 Congress also considered the proposals submitted by Angola, Brazil, Cape Verde, Guinea Bissau, Mozambique, Portugal, and Sao Tome and Principe to amend General Regulations 117, 118, 120, 121 and 122 to adopt Portuguese as an official and working language of the Organization. However, due to a number of considerations, including those of budgetary nature, Congress was of the opinion that it was not appropriate at that stage to adopt Portuguese as an official and working language of the Organization. Congress adopted Resolution 26 (Cg-XII) concerning the use of Portuguese for interpretation in sessions of Congress as well as of Regional Associations I and III, subject to the availability of extrabudgetary resources.

11.4 FUTURE ARRANGEMENTS FOR THE EXCHANGE OF METEOROLOGICAL DATA AND PRODUCTS (agenda item 11.4)

11.4.1 Congress noted the actions taken by the Executive Council and by its Working Group on the Commercialization of Meteorological and Hydrological Services (WGCOM), and by the Secretary-General in response to the request from Eleventh Congress to study the problems related to commercial meteorological activities and their potential to undermine the free and unrestricted exchange of meteorological data between NMSs. In particular, Congress considered the report of the chairman of the WGCOM, submitted on behalf of the Executive Council. It also noted the views on that topic of sessions of regional associations, technical commissions and other WMO bodies.

11.4.2 In presenting his report, the chairman of WGCOM stressed that maintaining and enhancing the international exchange of meteorological and related data and products among WMO Members to sustain their WMO Programme activities was considered the major issue to be resolved while recognizing the requirement by some Members that their NMSs initiated or increased their commercial activities.

11.4.3 Congress expressed its appreciation for the diligent efforts since Eleventh Congress of constituent bodies and of the Secretary-General to examine various aspects of the issue. It also acknowledged the work of WGCOM in preparing material for consideration by Congress.

11.4.4 In considering the issue, Congress agreed that a particular concern was the impact of NMSs' commercial activities on the traditional exchange of services and the transfer of technologies between them. Congress encouraged Members to maintain and to augment those free exchanges and transfers, particularly to lesser developed Services on a non-commercial basis.

11.4.5 Congress shared the view of the Executive Council that the data exchange issue needed to be coordinated with other international organizations concerned — particularly IOC, UNEP and ICSU, which, with WMO, sponsored such programmes of global importance as GOOS, GCOS, WCRP and IGOSS — as well as with FAO, as a major user of meteorological data. Congress also agreed to affirm the WMO commitment to the research and educational communities to provide continued free and unrestricted access to meteorological and related data and products for their non-commercial activities, and to strengthen the WMO and ICSU WDCs.

11.4.6 While recognizing the need of some Members to commercialize some of their services, Congress noted the great concern expressed by many Members, particularly from developing countries, regarding possible adverse impacts on the development and operation of their NMSs from increased commercial activities in their countries by foreign providers of meteorological services.

11.4.7 With regard to the procedure for monitoring and documenting the impacts of commercialization and after having adopted Resolution 40 (Cg-XII) Congress agreed that WMO Programmes should address both the operational and policy aspects of the impacts and should be general enough to solicit pertinent views and perceptions of Members, open to diverse and changing information input, and credible to Congress and/or the Executive Council when they considered the documentation. Existing coordination mechanisms and constituent bodies should be relied upon to accomplish the task to the extent possible. Congress agreed that the responsibilities of WMO constituent bodies and the Secretary-General in the process should be the following:

(*a*) Technical commissions (and other technical bodies such as the Executive Council Working Group on Antarctic Meteorology, tropical cyclone coordination bodies, etc.) should assume the responsibility for acquiring and studying the views of their members on the technical impacts;

(*b*) Regional associations should monitor and study both operational and policy impacts at the regional level;

(*c*) The presidents of regional associations and technical commissions (and the chairmen of other technical bodies, as appropriate) should submit their reports on the noted impacts to the Secretary-General for compilation into a single overview report;

(*d*) The Secretary-General should seek to identify operational and policy impacts, compile the information provided and report on it to the Executive Council and to Congress, as appropriate.

Congress requested the technical commissions, the regional associations, other appropriate bodies (or their presidents or chairmen), and the Secretary-General to take actions as described.

11.4.8 With regard to information needed by Members to explain the practice and the guidelines adopted in Resolution 40 (Cg-XII), Congress requested the Executive Council to ensure that such information was developed and distributed to Members.

11.4.9 In addition to the activities referred to in Resolution 40 (Cg-XII), the Executive Council was requested to:

(*a*) Take appropriate steps for the full implementation of the resolution, taking into account both technical and policy issues;

(*b*) Advise CBS on the ongoing requirement of many Members for the use of the high frequency radio broadcast system for distributing and receiving GTS data and products.

11.4.10 In addition to the activities outlined in Resolution 40 (Cg-XII), the Secretary-General was further requested to:

(*a*) Monitor the impacts of commercial activities on NMSs through surveys and other means and to take appropriate actions, as necessary;

(*b*) Encourage the transfer of information among Members regarding Members' experiences in introducing commercial and cost recovery activities into their NMSs. The experiences of developed and developing countries and countries with economies in transition should be considered;

(*c*) Provide assistance to NMSs, particularly in developing countries and those countries with economies in transition, in alerting their Governments to the importance of their NMSs' contributions to their country's well-being.

11.4.11 Congress, noting the discussions by the WGCOM on that issue and the references outlined in the Fourth WMO Long-term Plan, decided that in all WMO publications, documentation and official correspondence, the abbreviation NMS(s) should be used to denote "national Meteorological or Hydrometeorological Service(s)", while NMHS(s) should denote "national Meteorological and Hydrological Service(s)". The acronym NHS(s) should be used to denote "national Hydrological Service(s)".

11.4.12 Congress urged Members to adhere to the guidelines adopted in Resolution 40 (Cg-XII) recognizing the risk that the meteorological commercial activities of one Member could seriously affect another Member's NMSs situation with its Government.

11.4.13 Congress noted that the Members which formed the European Economic Area (EEA) declared that the EEA was to be regarded as a group of countries forming a single economic group, within the terms of Resolution 40 (Cg-XII).

11.4.14 Congress also noted the Statement on Requirements for the International Exchange of Data and Products to Support all WMO, and WMO-sponsored, Programmes, as prepared by an Intercommission Task Team coordinated by CBS. Congress expressed its appreciation to the president of CBS for the Commission's prompt and efficient response to the request of the Executive Council. The Statement of Requirements provided important and valuable input to Congress' deliberations on the practice for the exchange of meteorological and related data and products.

11.4.15 Some Members stressed that particular emphasis should be placed on the international exchange of products required in support of time-sensitive operations regarding severe weather warnings and tropical cyclones.

11.4.16 Congress endorsed the view of the Intercommission Task Team that a consolidated list of data and product requirements to support all WMO Programmes should be included in WMO regulatory material, and requested CBS, in consultation with the other technical commissions, to review and update relevant parts of the list, as necessary, at regular intervals.

11.4.17 In conclusion, Congress adopted Resolution 40 (Cg-XII).

11.5 Review of previous resolutions of Congress (agenda item 11.5)

11.5.1 Congress noted with satisfaction and pleasure Resolution 15 (EC-XLVI) — Restoring rights and privileges to the Government of the Republic of South Africa as a Member of WMO, by which the Executive Council took prompt action to restore the rights and privileges to the Government of the Republic of South Africa as a Member of WMO after the fulfillment of the two conditions laid down in Resolution 38 (Cg-VII) — Suspension of the Government of the Republic of South Africa from membership of the World Meteorological Organization, for lifting the suspension of the membership of the cited Government. In that respect, Congress welcomed the historic development of the elimination of the policy of apartheid and the establishment of a united, democratic, non-racial Government of the Republic of South Africa. Congress, therefore, decided not to keep in force its Resolution 38 (Cg-VII).

11.5.2 Congress examined its previous resolutions in force in order that those which no longer had a purpose or which had been replaced by new decisions should not remain in force. Congress accordingly adopted Resolution 41 (Cg-XII).

11.6 Requests for membership of the Organization (agenda item 11.6)

11.6.1 Congress considered the request received from the Government of Cook Islands, which was not a Member of the United Nations, for admission in the membership of the Organization in accordance with provisions of Article 3(*c*) of the Convention.

11.6.2 The admission of Cook Islands as a Member State of the Organization was unanimously approved by Congress.

11.6.3 Congress considered the request received from the Government of Niue, which was not a Member of the United Nations, for admission in the membership of the Organization in accordance with the provisions of Article 3(*c*) of the Convention.

11.6.4 The admission of Niue as a Member State of the Organization was unanimously approved by Congress.

11.6.5 Congress considered the request received from Portugal, which was responsible for the international relations of Macao, for the admission of Macao as a Member Territory of the Organization in accordance with Article 3(*e*) of the Convention.

11.6.6 The admission of Macao as a Member Territory of the Organization was unanimously approved by Congress.

11.6.7 Congress considered also the request received from the Government of Tonga, which was not a Member of the United Nations, for admission in the membership to the Organization in accordance with the provisions of Article 3(*c*) of the Convention.

11.6.8 The admission of Tonga as a Member State of the Organization was unanimously approved by Congress.

11.6.9 Congress noted the decision of the Government of the Kingdom of the Netherlands to continue the membership of the territory of the Netherlands Antilles with WMO under Article 3(*d*) of the Convention as a group-membership for the group of territories of the Netherlands Antilles and Aruba. Aruba was a part of the Netherlands Antilles in September 1951 when the Government of the Kingdom of the Netherlands deposited the instrument of ratification of the WMO Convention for Netherlands Antilles as a Member Territory in accordance with the provisions of Article 3(*d*) of the Convention.

12. Elections and appointments (agenda item 12)

12.1 Election of the President and Vice-Presidents of the Organization (agenda item 12.1)

12.1.1 Congress unanimously elected Dr J. W. Zillman, Director of Meteorology, Bureau of Meteorology of Australia, as President of the Organization.

12.1.2 Congress elected, by secret ballot:

Mr C. E. Berridge, Coordinating Director, Caribbean Meteorological Organization, as the First Vice-President;
Dr N. Sen Roy, Director-General of Meteorology, India Meteorological Department, as the Second Vice-President;
Mr M. Bautista Pérez, Director-General, National Meteorological Institute of Spain, as the Third Vice-President.

12.2 Election of members of the Executive Council (agenda item 12.2)

Congress elected the following as members of the Executive Council in accordance with the provisions of Article 13(*c*) of the Convention.

A. A. Al-Gain	Saudi Arabia
Z. Alperson	Israel
A. Athayde	Brazil
A. Bedritsky	Russian Federation
J.-P. Beysson	France
B. K. Cheang	Malaysia
A. B. Diop	Senegal
E. W. Friday	United States
J. C. R. Hunt	United Kingdom
C. A. Igeleke	Nigeria
P. Leyva-Franco	Colombia
G. A. McBean	Canada
M. S. Mhita	United Republic of Tanzania
T. Mohr	Germany
E. A. Mukolwe	Kenya
L. Ndorimana	Burundi
K. Ninomiya	Japan
A. M. Noorian	Iran, Islamic Republic of
I. Obrusnik	Czech Republic
G. E. Ortega Gil	Mexico
G. K. Ramothwa (Ms)	Botswana
N. A. Salem	Egypt
G. C. Schulze	South Africa
R. A. Sonzini	Argentina
J. Zielinski	Poland
Zou Jingmeng	China

12.3 Appointment of the Secretary-General (agenda item 12.3)

Congress unanimously appointed Professor G. O. P. Obasi as the Secretary-General of the Organization for the twelfth financial period.

13. Scientific lectures and discussions (agenda item 13)

IMO Lecture

13.1 The eighth IMO Lecture was delivered at Twelfth Congress by Professor W. M. Gray (United States). The title of his lecture was "Tropical cyclones". It was noted that the study undertaken by Professor Gray would be published by WMO in the series of IMO Lectures.

13.2 Congress agreed that in continuation of the tradition, an IMO Lecture should be delivered at Thirteenth Congress and requested the Executive Council to make the necessary arrangements, including the selection of the lecturer and the theme for the ninth IMO Lecture.

Scientific lectures

13.3 A programme of scientific discussions had been arranged by the Executive Council in accordance with the decisions of Eleventh Congress. The following lectures were presented:

(*a*) The status of the global warming hypothesis (G. A. McBean, Canada);
(*b*) Ozone layer depletion and global climate change: where are we now? (R. D. Bojkov, WMO Secretariat);
(*c*) Interactions of desertification and climate (L. Ogallo, Kenya);
(*d*) Seasonal climate prediction — status and prospects (D. R. Rodenhuis, United States).

13.4 Congress noted that the texts of the lectures would be published by WMO in a suitable form and requested the Secretary-General to take appropriate action.

13.5 Congress also decided that a programme for scientific discussions should be arranged for Thirteenth Congress and requested the Executive Council to select a theme for that purpose and to make the necessary arrangements.

14. DATE AND PLACE OF THIRTEENTH CONGRESS (agenda item 14)

Congress decided that Thirteenth Congress should be held in Geneva from 4 to 26 May 1999, subject to any change which might be decided by the Executive Council.

15. CLOSURE OF THE SESSION (agenda item 15)

Twelfth Congress closed at 4.20 p.m. on 21 June 1995.

RESOLUTIONS ADOPTED BY THE SESSION

RESOLUTION 1 (Cg-XII)

TECHNICAL REGULATIONS OF THE WORLD METEOROLOGICAL ORGANIZATION

THE CONGRESS,

NOTING:

(1) Article 8(*d*) of the Convention,

(2) Resolution 1 (Cg-XI) — *Technical Regulations* of the World Meteorological Organization,

(3) Recommendation 1 (CHy-IX) — Amendments to the WMO *Technical Regulations*, Volume III — Hydrology,

(4) Recommendation 15 (CMM-XI) — Amendments to the WMO *Technical Regulations* (WMO-No. 49),

(5) Recommendations 2 to 12 (CBS-Ext.(94)),

ADOPTS the amendments to Volume I (Chapters B.1 and C.1) and Volume III (Chapters D.1.1 and D.1.2) of the WMO *Technical Regulations* as given in the annex to this resolution;

DECIDES that these amendments shall come into force on 1 July 1996;

REQUESTS the Secretary-General to arrange for the amendments given in the annex to this resolution and for any consequential editorial amendments to be included in the WMO *Technical Regulations*;

AUTHORIZES the Executive Council:

(1) To approve Recommendations 2 to 12 (CBS-Ext.(94));

(2) To approve the incorporation of the text, *mutatis mutandis*, of Amendment 70 to ICAO Annex 3 in WMO Technical Regulation [C.3.1];

(3) To approve amendments to WMO Technical Regulations [C.3.3], consequential to the amendments incorporated in WMO Technical Regulation [C.3.1].

NOTE: This resolution replaces Resolution 1 (Cg-XI), which is no longer in force.

ANNEX TO RESOLUTION 1 (Cg-XII)

AMENDMENTS TO THE WMO *TECHNICAL REGULATIONS*

1. Amendments proposed by the Commission for Marine Meteorology

Volume I, Chapter B.1 — Climatology

(*a*) Text of paragraph [B.1.] 2.1.2 to read:
"The international maritime meteorological tape format shown as Appendix I.13 of Annex VI (*Manual on Marine Meteorological Services*) should be used for recording surface synoptic observations made at sea stations".

(*b*) Text of paragraph [B.1.] 3.1.5 to read:
"When supplying synoptic surface observational data from mobile ship stations to meteorological services for international use, the international maritime meteorological tape format reproduced as Appendix I.13 of Annex VI (*Manual on Marine Meteorological Services*) should be used; when supplying such data originating before 1960, the coding procedures given in Appendix I.13 of Annex VI (*Manual on Marine Meteorological Services*) should also be used, or some mutually acceptable format."

Volume I, Chapter C.1 — Meteorological Services for Marine Activities

(*a*) NOTE under paragraph [C.1.] 2 to read:
"NOTE: In this context, the term "high seas" applies to open oceans or sea areas of responsibility of Members for issuing weather and sea bulletins, governed by the procedures given in Part I of Annex VI (*Manual on Marine Meteorological Services*)".

(*b*) Text of paragraph [C.1.] 2.5.1 to read:
"Members operating fixed ship stations, selected, supplementary and auxiliary ship stations should ensure that all surface observations from these stations are put on magnetic tape in accordance with the layout of the international maritime meteorological tape format and dispatched at quarterly intervals to the Members (Global Collecting Centres) having accepted the responsibility for processing these data."

(*c*) Note under paragraph [C.1.] 3 to read:
"NOTE: In this context, the term "coastal and offshore areas" applies to areas for which Members issue weather and sea bulletins, governed by the procedures given in Part II of Annex VI (*Manual on Marine Meteorological Services*)".

(*d*) Text of paragraph [C.1.] 4.3.1 to read:
"Port Meteorological Officer services shall include at least those specified in 2.2.3 of Part III of Volume I of the *Manual on the Global Observing System* (Annex V to the WMO *Technical Regulations*)".

2. Amendments proposed by the Commission for Hydrology

Volume III — Hydrology

(*a*) Amendment
Paragraph [D.1.2] 1.1 (*f*) to read:
"Chemical and biological properties of the water of a river, lake or reservoir".

(*b*) Additions

New text for inclusion in Chapter [D.1.1]:

"[D.1.1] 8 **The functions and responsibilities of national Hydrological Services**

[D.1.1] 8.1 **General**

[D.1.1] 8.1.1 Each Member should ensure that there exists a national capacity to acquire, store, and disseminate the water-related data and information required for sustainable development and management of its water resources, and for the mitigation of water-related hazards.

NOTE: Detailed guidance on the acquisition of water-related data and hydrological information is provided in the *Guide to Hydrological Practices* (WMO-No.168), fifth edition.

[D.1.1] 8.2 **Organization**

[D.1.1] 8.2.1 Arrangements should be made appropriate to the Member's system of Government, socio-economic and geographic characteristics, to ensure efficient and effective coordination and communication amongst the providers and users of water-related data and hydrological information. Where several agencies and/or levels of Government have separate responsibility for providing or using information, their responsibilities and relationships should be clearly established and their efforts coordinated using appropriate administrative and legal arrangements.

NOTE: Examples of methods for organizing the acquisition of water-related data and hydrological information are provided in *Casebook of Examples of Organization and Operation of Hydrological Services* (WMO-No. 461) and in *The Legal Basis and Role of Hydrological Services* (WMO/TD-No. 602).

[D.1.1]8.3 **Functions**

[D.1.1]8.3.1 In general, the routine functions of national Hydrological Services should include:

(*a*) Coordinating the agencies which have responsibilities for acquiring and/or using water-related data and hydrological information;

(*b*) Establishing the requirements of existing or possible future users of water-related data and hydrological information, including the requirements of other organizations that are collecting environmental and environmental-impact data in relation to land use and climate change;

(*c*) Defining the standards (accuracy, precision, timeliness, accessibility, etc.) of the data which are implied by those requirements;

(*d*) Designing, establishing, and operating hydrometric networks to measure the various types of data required. Both "use-specific" and "basic" networks may be needed, which may be complementary or even overlapping, and which should be integrated;

(*e*) Evaluating the adequacy of the existing network to ensure that the data and information collected meet the requirements of the users;

(*f*) Establishing a quality assurance programme including staff qualifications, training and development, documentation of data collection and analysis methods and procedures, procurement and calibration of instrumentation, and review and approval of reports;

(*g*) Developing methods for extrapolating data from sites at which measurements have been made to points or regions for which they are intended to be representative;

(*h*) Collecting data, and maintaining quality control of the data collection process by inspection of both field installations and field practice;

(*i*) Assembling water-related data and hydrological information generated by non-governmental, international, and private sector organizations, and ensuring their future accessibility;

(*j*) Transmitting, processing and archiving data, and maintaining control of the quality and security of the archived data;

(*k*) Making the data accessible to users, when, where, and in the form they require. For example this may include:

(i) The dissemination of hydrological forecasts and warning;

(ii) The publication of yearbooks of basic data, in paper, microfiche, or computer-compatible form;

(iii) The preparation of reports on water resources, in which data are comprehensively analysed. This may include media such as hydrological atlases, or databases in geographical information systems;

(iv) Informative or educational material for use by the general public, the news media, or schools;

(v) Design information;

(vi) Supporting global data centres, international programmes, and projects;

(*l*) Informing potential users of the information that is available to them, and assisting them to make the best use of it;

(*m*) Adapting or developing new methods and technology, related to:
  (i) Network design;
  (ii) Instrumentation and methods of observation;
  (iii) Data transmission and processing;
  (iv) Hydrological forecasting;
  (v) Data analysis, interpretation, and presentation;
(*n*) Carrying out research into hydrological and related processes, in order to assist the user in interpreting and understanding the data;
(*o*) Securing qualified staff and providing staff training and development;
(*p*) Collaborating with agencies which acquire water-related or other relevant information, such as water quantity and quality, sediment, hydrogeological, water use, topographic and land use, or meteorological information;
(*q*) Participating with foreign water-sector agencies in international programmes and projects;
(*r*) Furnishing hydrological information for inclusion in countries' periodic reports on the state of the environment;
(*s*) Undertaking water resources assessment studies for development purposes;
(*t*) Participating in the planning, development and management of water resources projects."

New text for inclusion in Chapter [D.1.2]:

"D[D.1.2] 5 **Safety procedures**

[D.1.2]5.1 **Each Member shall ensure that proper safety procedures are specified, documented, and utilized in all its operations.**

[D.1.2]5.2 **A handbook for national safety procedures shall be established which stresses precautions and practices specific to the conditions in the country concerned.** These procedures must also satisfy all of the requirements of the country including legal, health, and safety codes.

[NOTE: In addition to the regulations in this section, countries are referred to the *Guide to Hydrological Practices* (WMO-No. 168), fifth edition, which contains detailed guidance on safety procedures.]"

RESOLUTION 2 (Cg-XII)
WORLD WEATHER WATCH PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 2 (Cg-XI) — World Weather Watch Programme for 1992–1995,
(2) Resolution 3 (Cg-XI) — World Weather Watch systems support activities,
(3) Paragraph 3.1 of the general summary of the *Abridged Report with Resolutions of Eleventh Congress* (WMO-No. 756),
(4) Resolution 29 (Cg-XII) — Fourth WMO Long-term Plan,
(5) *World Weather Watch: Seventeenth Status Report on Implementation* (WMO-No. 823),
(6) United Nations General Assembly Resolution 3234 (XXIX) — International Cooperation in the Peaceful Uses of Outer Space,

EXPRESSES:

(1) Its satisfaction that progress has been made in the further improvement of the operation of the WWW during the period 1992–1995, through the increased use of meteorological satellites for observations, data collection and dissemination, the continuing efforts to introduce new and automated observing capabilities and to improve the quality of observational data, the increase in the capabilities of meteorological data-processing centres to offer a large number of high-quality data and products, and through the continued automation of centres and upgrading of circuits within the GTS;
(2) Its concern that long-standing deficiencies remain and that new deficiencies have arisen in the implementation of the WWW in several Regions;
(3) Its firm opinion that intensified and coordinated activities in support of the implementation, operation and maintenance of the WWW are needed to meet the objectives of the WMO Long-term Plan and maximize the benefits available to all Members;

CONFIRMS:

(1) That the WWW has the highest priority as the basic WMO Programme on which nearly all other programmes of the Organization depend;
(2) That the WWW provides the basis for the operation of meteorological and hydrological services as well as for most of the other programmes of WMO;

(3) That the WWW continues to provide an effective mechanism for the application of developments in science and technology in operational meteorology so that the full benefits can be reaped by all countries of the world;
(4) That the WWW should be used only for peaceful purposes, due account being taken of the national sovereignty and security of States, in accordance with the provisions of the Charter of the United Nations and the spirit and tradition of the WMO Convention;

CONSIDERING:

(1) That data gaps still exist in the surface-based networks of the GOS, particularly in the tropical belt, over the oceans and in remote land areas,
(2) That shortcomings continue to exist in implementing and operating circuits and equipment of the GTS,
(3) That the implementation and utilization of modern data-processing and data management techniques are not consistent throughout the WWW System,
(4) That increasing requirements for meteorological and related environmental monitoring, combined with limited resources available worldwide for the implementation and operation of the WWW, make it all the more necessary to maximize cooperation and coordination and ensure optimum effectiveness,
(5) That the application of advanced technology continues to open new possibilities of improving the WWW system, but also calls for special efforts in the provision of technical guidance and specialized training,

DECIDES:

(1) That the substance of the WWW Programme be as indicated in Volume 1, Part II of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);
(2) That special attention should be given to carrying out the WWW systems support activities as integral parts of each of the WWW programme components, with priority being given to:
   (*a*) Assisting developing countries in obtaining at least the minimum operational capabilities to meet national needs and to facilitate their participation in the WWW;
   (*b*) Increasing the level of implementation, especially in developing countries, and integration of key WWW components and facilities;
   (*c*) Improving the efficiency of WWW systems and operations;
   (*d*) Introducing new technology and techniques as necessary and appropriate;

STRESSES the role to be played by regional associations in identifying deficiencies, specifying requirements, and planning system support projects on a regional scale;

INVITES the regional associations:

(1) To recommend projects and procedures, as necessary, for the implementation of the WWW Programme during the period 1996–1999;
(2) To recommend systems support and technical cooperation activities needed to assist Members in their implementation and operation of the WWW in accordance with the Programme;
(3) To keep the WWW Programme under continuous review and establish requirements for adjustments in the light of Members' changing requirements and developments in science and technology, bearing in mind the principles and directives laid down in the plan;

REQUESTS the Executive Council:

(1) To ensure that the further development and implementation of the WWW Programme is carried out in accordance with the Fourth WMO Long-term Plan;
(2) To adjust the Programme as necessary, particularly in the light of the recommendations made by CBS and the regional associations;
(3) To assist WMO Members in all possible ways in meeting their respective responsibilities within the WWW Programme;
(4) To promote the establishment of, and review the Secretariat support to, cooperative arrangements for the implementation, operation, and maintenance of WWW system components, as appropriate;
(5) To consider the financial, policy and strategic aspects of the use of new technology in the WWW;

REQUESTS the Executive Council and the Commission for Basic Systems:

(1) To identify appropriate initiatives which might be pursued by Members and/or groups of Members, to maximize the value of the WWW;
(2) To promote the use of environmental satellite systems in support of all WMO Programmes;

URGES all Members of the Organization, especially donor countries individually and through appropriate multinational arrangements, to cooperate actively and enthusiastically, in the implementation and operation of the WWW, and in particular:

(1) To continue as far as possible to implement, operate, and maintain the surface-based subsystem of the GOS, especially in the data-sparse areas of the globe, and to ensure higher quality and regularity of observations;
(2) To implement, operate, and maintain, and as far as possible to upgrade the GTS, including space-based data collection and dissemination capabilities, to ensure the timely and reliable collection and distribution of data and products;
(3) To further develop, maintain, and operate the space-based subsystem of GOS;
(4) To improve the integration of the WWW system components by further developing and implementing suitable data management principles and functions;
(5) To coordinate and pool their national efforts and resources, in order to establish realistic goals, minimize the implementation and operational costs, and avoid duplication of WWW activities as far as possible;
(6) To participate in the deployment and use of new systems and techniques and, individually or collectively, to evaluate their effectiveness and their integration in the WWW;
(7) To keep the Secretary-General fully informed about their plans and activities regarding the implementation of the WWW;

URGES those Members concerned with the development and operation of meteorological satellites to continue to coordinate their activities with the Secretary-General so that all Members may receive the maximum benefit from meteorological satellites;

APPEALS to Meteorological Services of non-Member countries to apply the WWW procedures and techniques;

REQUESTS the Secretary-General:

(1) To keep WMO Members fully informed of progress and developments in the planning and implementation of the WWW Programme;
(2) To continue to improve the monitoring and operational information service of the operation of the WWW;
(3) To assist Members, as necessary, in overcoming difficulties which may arise in the implementation of the WWW Programme during the twelfth financial period;
(4) To propose projects and priorities for the consolidation and further implementation of key WWW facilities;
(5) To coordinate the requirements of other WMO Programmes for systems support that could be provided by the WWW;
(6) To assist the Executive Council, the regional associations and CBS in the implementation of this resolution;
(7) To bring this resolution to the attention of all concerned;
(8) To submit a report to Thirteenth Congress on the implementation of the plan during the twelfth financial period together with proposals for the continuation and further development of the WWW.

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NOTE: This resolution replaces Resolutions 2 (Cg-XI) and 3 (Cg-XI), which are no longer in force.

RESOLUTION 3 (Cg-XII)

RADIO-FREQUENCIES FOR METEOROLOGICAL ACTIVITIES

THE CONGRESS,

NOTING:

(1) The Fourth WMO Long-term Plan,
(2) The present radio-frequency allocations to the Meteorological Aids and Meteorological Satellite Services in the Radio Regulations of the International Telecommunication Union (ITU),
(3) The forthcoming ITU World Radiocommunication Conferences (WRC-95 and WRC-97),

CONSIDERING:

(1) The prime importance of radio-frequencies for meteorological activities required for the safety of life and property, the protection of the environment, and climate change studies,
(2) The prime importance of the allocation of suitable radio-frequency bands for the operation of surface-based meteorological observing systems, including in particular radiosondes, weather radars, wind profiler radars,
(3) The crucial importance of suitable radio-frequencies for the operation of meteorological satellites, including data acquisition, data collection, and data distribution links,
(4) That some radio-frequency bands, in particular in the 50–71 GHz range, are a unique natural resource due to their special attenuation characteristics enabling space-borne passive sensing of the atmosphere, and deserve adequate protection from interference,

EXPRESSING its serious concern at the threat to the frequency bands allocated to meteorological activities posed by the development of other radiocommunication services,

REQUESTS the Commission for Basic Systems to keep under continuous review regulatory and technical matters related to radio-frequencies for operational and research meteorological activities, in coordination with other technical commissions, and in liaison with other relevant international bodies, in particular the Coordination Group for Meteorological Satellites (CGMS);

URGES all Members to do their utmost to ensure the availability and protection of suitable radio-frequencies required for meteorological operations and research, and in particular:

(1) To ensure that their national telecommunication administrations are fully aware of the importance of, and requirements for, radio-frequencies for meteorological activities, and to seek their support in the ITU World Radiocommunication Conferences and Radiocommunication Sector (ITU-R) activities;
(2) To involve further meteorological experts, especially from their Meteorological Services, in the relevant activities of the ITU-R, and in studies carried out by relevant ITU-R Study Groups;
(3) To register adequately with their national telecommunication administrations all meteorological radiocommunication stations and radio-frequencies used for operational, research, and other meteorological purposes;

APPEALS to the International Telecommunication Union to give due consideration to the WMO requirements for radio-frequency allocations for meteorological operations and research;

REQUESTS the Secretary-General:

(1) To pursue as a matter of high priority the coordination role of the Secretariat in radio-frequency matters, especially with the ITU-R, including participation of WMO in ITU-R Radiocommunication Study Groups, Conference preparatory meetings and World Radiocommunication Conferences;

(2) To facilitate the coordination between NMHSs and their national telecommunication administrations, particularly in preparating the ITU World Radiocommunication Conferences, by providing appropriate information and documentation;
(3) To assist CBS in the implementation of this resolution.

RESOLUTION 4 (Cg-XII)

INSTRUMENTS AND METHODS OF OBSERVATION PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 4 (Cg-XI) — Instruments and Methods of Observation Programme,
(2) Resolution 4 (EC-XLVI) — Report of the eleventh session of the Commission for Instruments and Methods of Observation,
(3) The Fourth WMO Long-term Plan,

CONSIDERING:

(1) The increased need for the provision of high quality and homogeneous meteorological data which are of the utmost importance for operational and research programmes of WMO as well as for climate change studies,
(2) That the Instruments and Methods of Observation Programme has the ultimate aim of improving meteorological and related geophysical and environmental data especially through ensuring the standardization of instruments and methods of observation,
(3) The importance of the increased use of new technology for effective and economical measurement and acquisition of data and, in particular, for the automation of observations,
(4) The need to monitor developments in space-borne observations so as to ensure complementarity and cost effectiveness of all observing systems,
(5) The ever-increasing demand for specialized training of instrument specialists and technicians for the operation and maintenance of observing systems,
(6) The expertise of CIMO in carrying out intercomparisons of instruments and observing systems,
(7) The need for close collaboration between WMO and manufacturers and suppliers of meteorological and related geophysical and environmental instruments,

REAFFIRMS that WMO, in further developing and implementing its Instruments and Methods of Observation Programme, should continue the collaboration with international organizations outside of WMO, such as ISO, and with manufacturers and suppliers of meteorological and related geophysical and environmental instruments;

DECIDES that the substance of the Instruments and Methods of Observation Programme be as given in Part II, Volume 1, Programme 1.6 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

REQUESTS the Executive Council, with the assistance of CIMO and other relevant technical commissions to promote, guide, and assist in the implementation of the WMO Instruments and Methods of Observation Programme;

INVITES the regional associations to continue providing active support for regional aspects of the Instruments and Methods of Observation Programme, especially as regards capacity building;

REQUESTS the presidents of technical commissions to keep under continuous study and review the aspects of instruments and methods of observation related to their fields of specialization and to communicate their requirements to CIMO;

URGES Members:

(1) To collaborate actively in, and to give all possible support to, the implementation of the Instruments and Methods of Observation Programme;
(2) To continue and, if possible, increase their activities for the development of new observing systems and improved instruments, including sensors for monitoring atmospheric composition and cost-effective upper-air observing systems;
(3) To support and participate, as appropriate, in global and regional intercomparisons of instruments and new methods of observation and to apply the results of those comparisons to instruments and methods of observations used at stations under their control;
(4) To continue the development of methods and algorithms for quality control of observing practices and procedures;
(5) To ensure the training of instrument specialists and technicians through national and regional training programmes, as required;
(6) To participate actively in the work of other international organizations, such as ISO, in the field of standardization of instruments and observing methods;

REQUESTS the Secretary-General, within the available budgetary resources:

(1) To arrange for the effective overall coordination of WMO's activities under the Instruments and Methods of Observation Programme;
(2) To provide assistance and advice to Members in the field of instruments and methods of observation;
(3) To bring this resolution to the attention of all concerned.

NOTE: This resolution replaces Resolution 4 (Cg-XI), which is no longer in force.

RESOLUTION 5 (Cg-XII)
TROPICAL CYCLONE PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 6 (Cg-XI) — Tropical Cyclone Programme,

(2) Resolution 4 (EC-XXIV) — Measures for the protection of lives and property from the effects of tropical cyclones,

(3) The eighteenth, nineteenth and twentieth Status Reports on the Implementation of the WMO Tropical Cyclone Programme issued in 1992, 1993 and 1994, respectively,

(4) The United Nations General Assembly resolutions on the International Decade for Natural Disaster Reduction,

EXPRESSES its appreciation for the contributions of Members to the activities conducted under the general and regional components of the TCP and for the invaluable assistance provided to developing countries to support implementation of the regional component through UNDP, the WMO VCP, the European Development Fund (EDF), the Finnish International Development Agency (FINNIDA), and bilateral arrangements;

FURTHER EXPRESSES its satisfaction with the progress so far achieved in implementing the TCP, particularly with regard to the improvements to the operational system resulting from the programmes of the regional tropical cyclone bodies and to the valuable guidance material published under the general component of the programme;

REAFFIRMS its grave concern at the heavy loss of life and severe damage still being caused by tropical cyclones and associated storm surges, floods, and landslips in many areas of the world and the human suffering and economic losses resulting from them;

CONSIDERS that, whilst the measures already taken under the TCP have helped many Members to improve their protective systems, continuing, and more vigorous, action to combat the adverse effects of tropical cyclones is a high priority requirement;

CONSIDERS FURTHER that the TCP falls completely within the scope and purposes of the IDNDR and has much to contribute to the success of the Decade;

DECIDES:

(1) That the WMO TCP shall be further intensified within available resources and accelerated in association with the IDNDR and in accordance with the WMO Plan of Action for the IDNDR (see Annex III to this report);

(2) That the substance of the TCP be as indicated in Programme 1.8, Volume 1, Part II of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

URGES Members to ensure that their Meteorological/Hydrological Services, which are responsible for the preparation of tropical cyclone forecasts and warnings:

(1) Collaborate fully and effectively with national bodies set up for the framework of the IDNDR;

(2) Take whatever steps are within their competence and coordinate with the appropriate authorities and other non-governmental organizations to see that the measures necessary to save human lives and reduce damage are carried out as a consequence of its forecasts and warnings;

CALLS for the continuation of the fruitful and developing cooperation with other international and regional organizations, especially ESCAP, the IDNDR Secretariat of the United Nations Department of Humanitarian Affairs (UN/DHA), the International Federation of Red Cross and Red Crescent Societies (IFRC), the South Pacific Regional Environment Programme (SPREP), and regional disaster preparedness agencies, such as the Asian Disaster Preparedness Centre (ADPC) and the Caribbean Disaster Emergency Response Agency (CDERA), to promote a multi-disciplinary approach towards the attainment of the humanitarian goals of the programme;

APPEALS to VCP donor Members, UNDP, and other international organizations and funding agencies concerned with the goals of the WMO TCP to give the maximum possible support to those activities, contributing the resources essential for their expeditious implementation;

REQUESTS the Secretary-General:

(1) To bring this resolution to the attention of all concerned;

(2) To keep Members concerned fully informed of progress and developments in the planning and implementation of the programme;

(3) To assist cyclone-prone Members in their efforts to safeguard people and property from tropical cyclones by supporting, to the maximum extent possible within the available budgetary resources, activities related to the programme and especially those directly linked with the provision of accurate and timely warnings, and the organization of proper community response.

NOTE: This resolution replaces Resolution 6 (Cg-XI), which is no longer in force.

RESOLUTION 6 (Cg-XII)
WMO ANTARCTIC ACTIVITIES

THE CONGRESS,

NOTING:

(1) Resolution 19 (Cg-X) — Antarctic meteorology,
(2) Resolution 9 (EC-XLVI) — Executive Council Working Group on Antarctic Meteorology,
(3) The Fourth WMO Long-term Plan,

CONSIDERING:

(1) That there is a continuing need for meteorological and other environmental data from the Antarctic for the implementation of the WWW and for monitoring climate change and the ozone layer over the Antarctic,
(2) That there is a continuing need to coordinate meteorological programmes in the Antarctic,

INVITES Members, particularly those which are Parties to the Antarctic Treaty:

(1) To continue and expand their meteorological programmes in the Antarctic;
(2) To participate in the deployment of new observing and telecommunication systems in the Antarctic;
(3) To provide additional observations in the Antarctic by using automatic weather stations and geophysical observatories on land, by recruiting additional voluntary observing ships and by deploying drifting buoys at sea;
(4) To consider the possibility of cooperating with other Members in sharing the costs of re-opening and operating previously functioning stations;

REQUESTS the Executive Council to promote the coordination of meteorological activities in the Antarctic:

(1) By maintaining a Working Group on Antarctic Meteorology;
(2) By arranging that recommendations of the Working Group be transmitted to Members which are Parties to the Antarctic Treaty for information and comments;
(3) By maintaining close collaboration with other international organizations concerned, such as ATCM, SCAR, the Council of Managers of National Antarctic Programmes, and IOC.

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NOTE: This resolution replaces Resolution 19 (Cg-X), which is no longer in force.

RESOLUTION 7 (Cg-XII)
WORLD CLIMATE PROGRAMME AND ITS COORDINATION

THE CONGRESS,

NOTING:

(1) Resolution 12 (Cg-XI) — The World Climate Programme and its coordination,
(2) The relevant resolutions and decisions of the WMO Executive Council,
(3) The *Third WMO Long-term Plan*, Part II, Volume 2 — The World Climate Programme (WMO-No. 762),
(4) The Statement and Report of the Intergovernmental Meeting on the World Climate Programme (Geneva, 14–16 April 1993),
(5) The relevant chapters of Agenda 21: the United Nations programme of action for sustainable development,
(6) The United Nations Framework Convention on Climate Change (UN/FCCC),
(7) The International Convention to Combat Desertification (ICCD),
(8) The outcome of the first session of the Conference of the Parties to the UN/FCCC,
(9) *Climate Change: The IPCC 1990 and 1992 Assessments*,
(10) The reports to Twelfth Congress on the implementation of the World Climate Programme,
(11) The outcome of the Global Conference on the Sustainable Development of Small Island Developing States (Barbados, April–May 1994),
(12) *Commission for Climatology: Abridged final report of the Eleventh session* (Havana, February 1993) (WMO-No. 791),
(13) The draft *Fourth WMO Long-term Plan*, Part II, Volume 2 — The World Climate Programme,

NOTING FURTHER that:

(1) The IGM-WCP emphasized the importance of the WCP and its associated activities continuing to make an effective contribution to the implementation of Agenda 21, the UN/FCCC and the work of the United Nations Commission on Sustainable Development, the INC/FCCC, and IPCC, as well as to the socio-economic development of nations,
(2) The Intergovernmental Meeting reiterated the need for strengthening national climate activities, in particular through the establishment of national climate programmes as the fundamental building blocks for the WCP and that for a number of years, WMO has been promoting the establishment of national climate programmes and respective national climate coordination bodies,
(3) The WMO Executive Council approved the four main thrusts of the WCP and its associated activities as recommended by the IGM-WCP, namely:
    (*a*) Climate services for sustainable development;
    (*b*) New frontiers in climate science and prediction;
    (*c*) Dedicated observations of the climate system;
    (*d*) Studies of climate impact assessments and response strategies to reduce vulnerability,

RECOGNIZING WITH APPRECIATION that:

(1) The Executive Council had taken appropriate decisions with respect to the recommendation made by IGM-WCP on the preparation of an integrated proposal to be presented to Governments of the climate related parts of the programmes of international organizations, along the lines of the four identified thrusts,

(2) The Secretary-General responded efficiently and effectively to the requests of Eleventh Congress and subsequent sessions of the Executive Council regarding WMO's leading role in the coordination of the WCP, including the organization of the IGM-WCP,

(3) The international organizations (UNEP, ICSU, UNESCO and its IOC, and FAO) which had been invited by Eleventh Congress to join WMO as full partners in the future development of the WCP made outstanding contributions to the coordinated implementation of the Programme,

(4) The Coordinating Committee for the WCP (CCWCP), with the assistance of the specially-established Advisory Panel, prepared the integrated proposal mentioned above as an inter-agency document called *The Climate Agenda — International Climate Related Programmes. A Proposal for an Integrating Framework*, including Policy Makers' and Executive Summaries,

CONSIDERING that:

(1) The WCP has a fundamental role to play in the provision of authoritative assessments of climate science and climate impacts, in the further development of climate applications and services, in improving systematic observations of climate and climate monitoring, as well as in the development of strategies to respond to climate variability and change,

(2) The WCP also provides the scientific and technical input to national and international actions called for in the UN/FCCC, in Agenda 21, and in ICCD, as well as within IDNDR,

(3) The inter-agency *The Climate Agenda* document has a great potential value for both planning the WMO climate related activities in an inter-agency context and interaction with Governments on the issue of provision of resources for implementation of these activities,

(4) *The Climate Agenda* suggests that it can be fully implemented within the existing structure of international climate programmes if:

(*a*) International organizations:

(i) Strengthen and extend existing international programmes according to the priorities of this *Agenda*;

(ii) Introduce management practices which monitor outputs against agreed performance standards;

(iii) Ensure better coordination by establishing an inter-agency coordination mechanism;

(*b*) Governments:

(i) Increase support to national activities, as part of international programmes which they have helped to design;

(ii) Strengthen, or establish, as appropriate, national climate programmes;

(iii) Build scientific and technical capacity in developing nations and nations with economies in transition;

(iv) Fund international coordination mechanisms;

(v) Take decisions in response to *The Climate Agenda* at meetings of the governing bodies of the involved agencies,

(5) As established by the Inter-agency Committee on Sustainable Development (IACSD), WMO should act as the task manager on the programme area WCP and drought monitoring and should prepare, in collaboration with organizations concerned, coordinated input for the consolidated analytical report of the United Nations Secretary-General,

ENDORSES, in general, the scope and contents of the draft inter-agency document *The Climate Agenda*;

RECOGNIZES that:

(1) *The Climate Agenda* is the first step in a process to integrate and manage the international climate related programmes more effectively and efficiently in order to meet Government requirements;

(2) Further work is needed to:

(*a*) Refine the description of benefits expected from the implementation of *The Climate Agenda* and the identification of priorities, deliverables, and resource requirements;

(*b*) Identify areas of unnecessary overlap among programmes;

DECIDES that:

(1) The substance of the WCP be as indicated in Volume 2, Part II of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

(2) The WMO activities under the WCP for the twelfth financial period be as indicated in the consolidated programme and budget 1996–1999 as approved by Twelfth Congress;

(3) A coordinating mechanism for the WCP should form an essential part of an enhanced overall coordination of climate related programmes of international organizations;

(4) Steps should be taken to establish an inter-agency committee, based on a re-formulated CCWCP and reporting to governing bodies of organizations involved in *The Climate Agenda*, to review and coordinate activities within *The Climate Agenda* and to prepare plans for its implementation, including the identification of priorities, resource requirements, monitoring of progress towards achievement of the aims of *The Climate Agenda*, and to interact with Governments through, *inter alia*, involvement of representatives of governing bodies of international organizations concerned in the sessions of the coordinating body;

INVITES:

(1) International organizations carrying out the climate related programmes or activities, especially UNEP, UNESCO and its IOC, FAO and ICSU, to continue and

enhance their partnership with WMO in the future development of coordinated international climate related programmes, including the WCP, within *The Climate Agenda*;

(2) UNEP to continue assuming responsibility for WCIRP as an essential component of the WCP;

(3) FAO to participate, to the maximum extent possible, in promoting activities within *The Climate Agenda* thrust "Climate services for sustainable development";

(4) WHO to join WMO, UNEP, UNESCO and its IOC, FAO and ICSU as a major sponsor of *The Climate Agenda*;

URGES Members to spare no effort to improve coordination of national climate related activities, in particular, by establishing, where appropriate, national climate programmes and/or national coordinating bodies, and to support, to the fullest extent possible, the WCP and other international climate related programmes;

REQUESTS the Executive Council:

(1) To promote, with the assistance of CCl and of other technical commissions concerned, in particular CBS, CAS, and CHy, the Joint Scientific Committee for WCRP and the Joint Scientific and Technical Committee for GCOS, the implementation of the WCP, and the GCOS;

(2) To conduct an annual review of the planning and implementation of the WCP taking into account its major role within an overall framework of international climate related programmes;

(3) To review the development of *The Climate Agenda* including relevant actions plans and to decide upon the WMO representation in the coordinating body;

REQUESTS the technical commissions to accord high priority to the implementation of WCP activities which fall within the area of their competence and responsibility;

REQUESTS the regional associations to promote regional activities related to the WCP;

REQUESTS the Secretary-General:

(1) To take, within available budgetary resources, necessary actions to assist WMO bodies, including CCl involved in the WCP and other climate related activities;

(2) To continue cooperation and collaboration with the Executive Heads of other international organizations concerned to ensure further enhancement of coordination of international climate related programmes;

(3) To consider, in consultation with the Executive Heads of UNEP, UNESCO and its IOC, FAO and ICSU, joint actions towards presentation to Governments through, *inter alia*, the United Nations Commission on Sustainable Development, of the integrated proposal on the climate related programmes of international organizations, recommended by the IGM-WCP, as contained in the inter-agency document *The Climate Agenda — International Climate Related Programmes. A Proposal for an Integrating Framework*;

(4) To undertake, together with Executive Heads of other international organizations concerned, the establishment of an inter-agency climate coordinating body, on the basis of the re-formulated Coordinating Committee for the WCP and steps towards the development of mechanisms to interact collectively with Governments;

(5) To arrange, together with the Executive Heads of other participating organizations concerned, around the middle of the WMO twelfth financial period, for the presentation to Governments of the resource requirements to obtain commitments, both financial and in kind, for the implementation of *The Climate Agenda*;

(6) To report annually to the Executive Council on the progress and future activities of the WCP;

(7) To report to Thirteenth Congress on progress achieved and to submit proposals for the future.

RESOLUTION 8 (Cg-XII)

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

THE CONGRESS,

NOTING:

(1) Resolution 11 (Cg-XI) — Intergovernmental Panel on Climate Change,

(2) Resolutions 1 (EC-XLIV) and 3 (EC-XLV) — Intergovernmental Panel on Climate Change,

(3) Decision GC-18/L3 of the UNEP Governing Council,

(4) Paragraph 2 of Article 21 on Interim Arrangements of the United Nations Framework Convention on Climate Change (UN/FCCC),

(5) The request of the Conference of the Parties to the UN/FCCC at its first session (Berlin, 28 March–7 April 1995) to the officers of its Subsidiary Body on Scientific and Technological Advice (SBSTA) and its Subsidiary Body on Implementation (SBI) "to submit, after due consultation with their respective bodies, proposals for future cooperation between the SBSTA and the SBI and the Intergovernmental Panel on Climate Change, to the second session of the Conference of the Parties",

RECOGNIZING that the relationship between SBSTA, SBI and IPCC will be evolving over the next several years,

EXPRESSES:

(1) Its deep gratitude to Governments, regional economic integration units and other organizations for their firm, unfaltering support to the Panel's activities in cash and in kind, and urges them to continue and, where necessary, increase such support;

(2) Its deep appreciation to UNEP for its continued co-sponsorship of the Panel;
(3) Its sincere thanks to the many scientists and other experts worldwide, who in their capacity as lead authors, contributing authors and reviewers, gave generously of their time and effort to the preparation of the IPCC assessments, and without whom the IPCC process would not be possible;

ENDORSES the action of the Executive Council with regard to the plan of the Panel to complete its Second Assessment Report in 1995;

CONGRATULATES the Panel on its successful and timely completion of its 1992 Supplement and 1994 Special Report to the first session of the Conference of the Parties to the UN/FCCC;

COMMENDS the Panel on its procedures whereby:
(1) At least one expert from the developing world is included in each of its writing teams;
(2) Differing, but scientifically and technically valid viewpoints, are identified and assessed in its reports;
(3) Its reports are subjected to rigorous reviews by peers and by Governments;

FURTHER COMMENDS the Panel for its efforts to ensure the effective participation of developing countries, small island States, and countries with economies in transition in its activities;

AFFIRMS that an independent IPCC is indispensable for providing objective scientific-technical assessments of various issues related to climate change;

REQUESTS the Secretary-General, jointly with the Executive Director of UNEP, to arrange for the continuation of the Panel, to maintain financial and organizational support for the IPCC Secretariat, and for the publication and dissemination of the IPCC reports, and to ensure the participation of specialists with appropriate expertise in the activities of the Panel;

REQUESTS the Panel to continue to update the assessments of available information on the science, impacts, response options, and the technical aspects of the socio-economics of climate change and related methodologies for use and application by nations, Parties to the UN/FCCC, and other interested entities, taking into account in its assessments the needs arising from the special circumstances of the developing countries and countries with economies in transition;

FURTHER REQUESTS the Panel to report, through its Chairman, to the Executive Council and to Thirteenth Congress on the progress of its activities and the evolving relationship between SBSTA, SBI and the IPCC.

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NOTE: This resolution replaces Resolution 11 (Cg-XI), which is no longer in force.

RESOLUTION 9 (Cg-XII)

CLIMATE INFORMATION AND PREDICTION SERVICES (CLIPS)

THE CONGRESS,

NOTING:
(1) The request of the forty-sixth session of the Executive Council to develop within WCASP a project dealing with climate prediction services, and the need to expand the scope of climate applications and services to include the provision of predictions on seasonal and interannual time-scales,
(2) The development, within CCl, of recommendations concerning the objectives, tasks, and implementation of the project,
(3) The inter-agency *The Climate Agenda*, which identifies climate services for sustainable development as one of the major thrusts within international climate related programmes,
(4) The proposals to include the Climate Information and Prediction Services (CLIPS) project into WCASP,

CONSIDERING:
(1) That important advances in climate science and services have occurred including the important scientific outcomes of WCRP, which resulted in:
   (*a*) Monitoring of the global climate system in near-real-time;
   (*b*) New opportunities for climate forecasting for selected periods and regions;
   (*c*) Availability of communications technologies for the distribution of climate information,
(2) That the provision of information on, and prediction of, climate will improve economic and social decision-making, and will support the goal of sustainable development,
(3) That international cooperation is essential for each country to gain and share the full benefits of knowledge of climate information and prediction,

DECIDES that CLIPS should be included in the WMO Long-term Plan and programme and budget as one of the projects in WCASP, within available budgetary resources;

REQUESTS the Secretary-General:
(1) To assist Members in developing as a matter of priority CLIPS implementation plans for NMHSs and RSMCs, as appropriate;
(2) To make use of extrabudgetary resources such as the Sectorial Support Funds and the Climate and Atmospheric Environment Activities (CAEA) Trust Fund to support initial national implementation projects for CLIPS;

REQUESTS CCl to ensure, through appropriate working bodies and in coordination with the Joint Scientific Committee for WCRP, further development of the concept and action plans for the CLIPS project.

RESOLUTION 10 (Cg-XII)
WORLD CLIMATE RESEARCH PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 7 (Cg-XI) — World Climate Research Programme,

(2) The Agreement between WMO, ICSU and IOC on the World Climate Research Programme (*Report of the fourteenth session of the Joint Scientific Committee*, Appendix B, WMO/TD-No. 564),

RECOGNIZING:

(1) The importance of further developing the scientific understanding of the physical processes which control climate, in view of human activities having reached a scale which could influence regional and global climate,

(2) The value of developing the scientific basis for predicting climate variability and change on all time-scales to reduce the vulnerability of social and economic conditions to climatic impacts,

(3) The need to reduce uncertainties associated with predictions of regional climate change and extreme events, and subsequent consequences for sea level and ecosystems,

CONSIDERING:

(1) That the coosponsorship of the WCRP jointly by WMO, ICSU and IOC has strengthened interdisciplinary links in climate science and has resulted in unified scientific leadership for the conduct of all aspects of the WCRP,

(2) That the WMO/ICSU/IOC Agreement on the World Climate Research Programme provides an effective institutional arrangement for the international planning and coordination of research on climate,

(3) That the Joint Scientific Committee, established by WMO, ICSU and IOC has been successful in formulating far-reaching scientific plans for the programme and effective guidance for its implementation,

(4) That NMHSs should strongly benefit from an improved understanding of climate research issues and from the development of climate prediction,

DECIDES to approve the continuation of the agreement between WMO, ICSU and IOC for the conduct of the WCRP;

INVITES Members:

(1) To conduct their climate research activities within the framework of the WCRP, in particular by formulating and exploiting numerical models of the climate system, and by the development of observing and data management systems as required for determining key climate parameters and investigating climate processes and regional climate variations;

(2) To exchange freely meteorological and related data for climate research;

(3) To support the participation of representatives of NMHSs in conference and training sessions on results of climate research and their application;

REQUESTS the Executive Council and the Secretary-General, as appropriate and within available budgetary resources, to continue cooperation with ICSU and IOC and other governmental and non-governmental organizations in the framework of the WCRP, in order to promote the development of climate research and the study of global change;

REQUESTS the Secretary-General, on the basis of the given financial arrangements for the JCRF, to undertake the necessary steps to encourage the coosponsoring agencies to adjust their support to the WCRP.

NOTE: This resolution replaces Resolution 7 (Cg-XI), which is no longer in force.

RESOLUTION 11 (Cg-XII)
GLOBAL CLIMATE OBSERVING SYSTEM

THE CONGRESS,

NOTING:

(1) Resolution 9 (Cg-XI) — Global Climate Observing System,

(2) The Memorandum of Understanding by WMO, IOC, UNEP, and ICSU establishing the Global Climate Observing System,

(3) Agenda 21: Programme of Action for Sustainable Development,

(4) The United Nations Framework Convention on Climate Change,

CONSIDERING:

(1) The continuing importance and urgency of acquiring comprehensive information on the properties and evolution of the Earth's climate system, for detecting climate change, supporting climatological applications for economic development, and developing climate science and predictions,

(2) The specific observational needs expressed by the IPCC, the global observations for sustainable development noted in Agenda 21, and the requirements for comprehensive observations in support of the UN/FCCC,

(3) The close cooperation needed among the climate research activities of WCRP, the data management, application and impacts components of the WCP, and the various operational activities of the WMO scientific and technical programmes to develop a comprehensive climate observing system,

RECOGNIZING:

(1) The establishment of the Joint Scientific and Technical Committee and the Joint Planning Office,

(2) The active and supportive roles taken by the sponsoring organizations,

(3) The interdisciplinary planning activities undertaken to develop a comprehensive approach to climate system observations,

RECOGNIZING WITH APPRECIATION:

(1) The support and guidance of the Executive Council in the early phases of GCOS,

(2) The efforts of the Secretary-General to provide WMO leadership and to encourage support for GCOS,

(3) The support and active participation by the constituent bodies of the WMO in GCOS planning activities,

(4) The inter-agency cooperation in the process of planning and developing GCOS, and in particular the close partnership developing between GCOS, GOOS, and GTOS,

REAFFIRMS that WMO should continue its leadership role in the planning and development of GCOS;

DECIDES that:

(1) GCOS should be continued as an essential activity in support of the WCP and other climate related intergovernmental activities;

(2) The inter-agency arrangements for coordination should be strengthened in view of the increasing interest and involvement of Governments;

URGES Members:

(1) To take steps to support the planning activities of GCOS;

(2) To give all possible support to national climate programmes, particularly in regard to observational components, and data and information management activities;

(3) To evaluate carefully existing observational components in regard to climate requirements and, where appropriate, to maintain their operation;

(4) To consider appropriate mechanisms to implement programme requirements including enhancements to existing systems and new elements, as feasible;

REQUESTS the Executive Council:

(1) To continue its review and constructive guidance in the establishment of GCOS;

(2) To take steps to develop further support among Members, sponsoring bodies, and international organizations;

REQUESTS that GCOS and the technical commissions continue their interaction and cooperation in the development and implementation of GCOS;

REQUESTS the Secretary-General, within budgetary resources available:

(1) To take action in support of the planning and development of GCOS;

(2) To continue to urge participation by sponsoring organizations in GCOS;

(3) To seek broad support of the observational resource requirements for GCOS.

NOTE: This resolution replaces Resolution 9 (Cg-XI), which is no longer in force.

RESOLUTION 12 (Cg-XII)

PUBLIC WEATHER SERVICES

THE CONGRESS,

NOTING:

(1) The *Abridged Final Report with Resolutions of the Forty-sixth Session of the Executive Council* (WMO-No. 810),

(2) The *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session of the Commission for Basic Systems* (1994) (WMO-No. 815),

CONSIDERING:

(1) That the PWS are the most important channel through which the work of the NMSs can reach the public,

(2) The need for public understanding of the role played by NMSs and the benefits of the public gained from government support for basic NMS infrastructure and activities,

(3) The need to reduce the potential for confusion in regard to public forecasts and warnings relating to the safety of life and property,

DECIDES:

(1) That the substance of the PWS Programme be as indicated in Programme 4.1 of Part II, Volume 4 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

(2) That the activities under the PWS Programme for the twelfth financial period be as indicated in the consolidated programme and budget, 1996–1999, as approved by Twelfth Congress;

URGES Members:

(1) To continue to develop their forecast and warning services to meet the requirements of the public and other user groups;

(2) To continue to develop and improve the presentation and dissemination of services to the public through television, radio, press, and other information networks;

(3) To continue to improve the outreach to the public both in understanding of the services in general, and public weather forecasts in particular, and in the awareness of the public to react effectively to the forecasts and warnings provided;

REQUESTS the president of CBS to ensure that CBS takes the lead in the preparation of appropriate material for the Fifth WMO Long-term Plan for the PWS Programme under the guidance of the Executive Council;

REQUESTS the Secretary-General:
(1) To ensure the effective implementation of the Programme;
(2) To coordinate the different elements of other WMO Programmes that can contribute to the objectives of the PWS Programme;
(3) To promote and collaborate in the implementation of the Programme with other interested international organizations, as appropriate.

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NOTE: This resolution replaces Resolution 15 (Cg-XI), which is no longer in force.

RESOLUTION 13 (Cg-XII)
AGRICULTURAL METEOROLOGY PROGRAMME

THE CONGRESS,
NOTING:
(1) Resolution 16 (Cg-XI) — Agricultural Meteorology Programme,
(2) The progress made in the implementation of the programme (including that on drought and desertification),
(3) The International Convention to Combat Desertification,
(4) The *Abridged Final Report of the Tenth Session* (WMO-No. 775) and the *Abridged Final Report with Resolutions and Recommendations of the Eleventh Session of the Commission for Agricultural Meteorology* (WMO-No. 825),

COMMENDS the Secretary-General for his efforts to ensure active participation of WMO and its Members in the negotiating process on the ICCD;
EXPRESSES its appreciation for steps taken to assist Members in combating desertification, in alleviating the effects of drought, and in applying agrometeorology in the development of sustainable farming systems;
RECOGNIZING:
(1) That food production and food self-sufficiency continue to be of high priority in many countries,
(2) That there is the need for operational agrometeorological services for sustainable, environmentally-friendly and economically-viable agricultural production,
(3) That there still remains the urgent need to improve agricultural production and protect its resource base, reduce losses and risks, decrease costs, increase efficiency in the use of water, energy and labour in agriculture, conserve natural resources, increase product quality, and decrease pollution by agricultural chemicals and other agents that contribute to the degradation of the environment,
(4) That desertification, drought and decrease of agricultural production continue to affect many countries, in particular in Africa, and that the world community has decided to take steps to combat desertification, to alleviate the effects of drought, and to develop sustainable farming systems,
(5) The need to enhance cooperation between WMO and FAO,

DECIDES that the substance of the Agricultural Meteorology Programme be as indicated in Programme 4.2 of Part II, Volume 4, of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);
URGES all Members:
(1) To continue to promote the applications of meteorological, climatological and hydrological data and information in the implementation of agricultural activities and programmes — taking into account the Agricultural Meteorology Programme — including desertification and drought, and meteorological and agricultural developments in both the scientific and practical fields;
(2) To develop their national agricultural meteorological services among others, by transfer of knowledge and proven methodologies through education and training programmes;
(3) To promote the use of long-range and seasonal forecasts and warnings as well as climatic analyses and forecasts in agricultural operations and planning;
(4) To seek advice on the most practical use of agrometorological knowledge, in particular for such purposes as conservation of natural resources and the resource base for agricultural production, land management, forest fire control, development of (multiple) cropping systems adapted to their changing environment, integrated pest management, locust control, and the protection of agricultural products in storage and transport;
(5) To develop methods, procedures, and techniques for the provision of agrometeorological services to agriculture, including small-scale farmers, and for the exploitation and conservation of forests and rangelands;
(6) To formulate data requirements for agricultural purposes;
(7) To introduce effective methods for the exchange of agrometeorological data and products and for the dissemination of information and warnings to farmers;
(8) To promote the use of agrometeorology in the development of sustainable farming systems;
(9) To facilitate and strengthen links between agrometeorologists and agriculturalists;

REQUESTS the Executive Council to conduct an annual review of the progress in the implementation of the Agricultural Meteorology Programme and to take appropriate action as may be required;

REQUESTS the Secretary-General, within available budgetary resources:

(1) To continue to support Members in their efforts to implement the priority activities of the Fourth WMO Long-term Plan, at the national level, including support to their efforts in combating desertification, alleviating the effects of drought, and applying agrometeorology in the development of sustainable farming systems;
(2) To assist regional associations and their subsidiary bodies to implement the subregional and regional aspects of their priority activities;
(3) To continue to cooperate and collaborate with other relevant international organizations in the implementation of the Fourth WMO Long-term Plan, especially in the areas of education and training, and in the preparation of guidelines on the improvement of management practices in agriculture and forestry;
(4) To continue to promote and strengthen collaboration and links between WMO and FAO as related to agricultural meteorology and to encourage dissemination of relevant FAO publications in various languages, as appropriate, to the Agrometeorological Services of WMO Members;
(5) To promote the updating, and/or translation into the working languages of the Organization of those publications in agricultural meteorology of interest to all Members and to disseminate them.

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NOTE: This resolution replaces Resolution 16 (Cg-XI), which is no longer in force.

RESOLUTION 14 (Cg-XII)
AERONAUTICAL METEOROLOGY PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 17 (Cg-XI) — Aeronautical Meteorology Programme,
(2) The *Abridged Final Report with Resolutions and Recommendations of the Tenth Session of the Commission for Aeronautical Meteorology* (WMO-No. 818),

CONSIDERING:

(1) That a need exists for continuing efforts in the scientific, technical, and procedural aspects of aeronautical meteorology to ensure the provision of timely and adequate meteorological services to meet fully the requirements for safety, economy, and efficiency of rapidly evolving aviation operations,
(2) That close cooperation between WMO and ICAO is essential to reach this objective,

DECIDES:

(1) That the substance of the Aeronautical Meteorology Programme be as indicated in Programme 4.3 of Part II, Volume 4 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);
(2) That the activities under the Aeronautical Meteorology Programme for the twelfth financial period be as indicated in the consolidated programme and budget, 1996–1999, as approved by Twelfth Congress;

URGES Members to collaborate actively in, and give all possible support to, the implementation of the Organization's Aeronautical Meteorology Programme;

REQUESTS the president of CAeM to ensure that CAeM takes the lead in the preparation of the appropriate material for the Fifth WMO Long-term Plan for the Aeronautical Meteorology Programme under guidance of the Executive Council;

REQUESTS the Executive Council:

(1) To examine the legal, policy, financial, strategy, and technical implications of the ICAO offer to use the excess capacity on the WAFS satellite broadcast systems for enhancing the telecommunications of the WWW;
(2) With the assistance of CAeM and of other technical commissions concerned (CAS, CBS and CIMO), to promote the implementation of the Aeronautical Meteorology Programme;

REQUESTS the Secretary-General:

(1) To assist in the implementation of the Programme and in particular to give high priority to training requirements;
(2) To collaborate in the implementation of the Programme with ICAO, ASCENA, aviation user groups, and other interested organizations.

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NOTE: This resolution replaces Resolution 17 (Cg-XI), which is no longer in force.

RESOLUTION 15 (Cg-XII)

MARINE METEOROLOGY AND ASSOCIATED OCEANOGRAPHIC ACTIVITIES

THE CONGRESS,

NOTING:

(1) Resolution 18 (Cg-XI) — Marine meteorology and associated oceanographic activities for the period 1992–1995,
(2) Resolution 19 (Cg-XI) — The collection and dissemination of marine meteorological and oceanographic information using INMARSAT,
(3) Resolution 20 (Cg-XI) — Integrated Global Ocean Services System (IGOSS),
(4) Resolution 21 (Cg-XI) — WMO's involvement in the development of a Global Ocean Observing System,
(5) Resolution 7 (EC-XLIV) — Report of the sixth session of the joint IOC/WMO Committee for IGOSS,
(6) Resolution 10 (EC-XLV) — Report of the eleventh session of the Commission for Marine Meteorology,
(7) Relevant resolutions of the IOC Assembly and Executive Council,
(8) The report of the president of the Commission for Marine Meteorology,

CONSIDERING:

(1) That a continuing concerted effort by Members is needed in order that marine meteorological and oceanographic services meet national, regional, and international requirements, including, in particular, services provided for the safety of life and property at sea and for the prevention and control of marine pollution,
(2) That all types of marine environmental services and research, including global climate monitoring, research and prediction, must be supported by efficient and coordinated programmes for the acquisition, exchange, processing, and dissemination of all marine meteorological, oceanographic, and other related marine environmental data, from both *in situ* and remotely-sensed sources,
(3) That an increasing number of developing countries are becoming involved in the implementation of requirements and responsibilities for monitoring marine environment and for the provision of meteorological and oceanographic services to marine users,

REAFFIRMS the principle that WMO, in further developing and implementing its marine meteorological and oceanographic activities, should continue to maintain direct contacts with international organizations representing users' interests and should work in close cooperation with IOC, IMO, and other international bodies dealing with marine environmental programmes and projects;

DECIDES that the substance of the Marine Meteorology and Associated Oceanographic Activities Programme be as given in Programme 4.4 of Part II, Volume 4 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

REQUESTS the Executive Council, with the assistance of CMM, other relevant technical commissions, the joint IOC/WMO Committee for IGOSS, the IOC/WMO/UNEP Committee for GOOS, and the regional associations to promote, guide, and assist in the implementation of the WMO Marine Meteorology and Associated Oceanographic Activities Programme;

URGES Members concerned to give all possible support to the implementation of the Marine Meteorology and Associated Oceanographic Activities Programme through:

(1) Strengthening their marine meteorological and oceanographic services, including both basic services in support of the safety of life and property at sea as required under SOLAS, and also specialized services for various marine user groups;
(2) Continuing and/or expanding their contributions to the MCSS, to the collection and archival of sea-ice data, and to the collection and archival of oceanographic data, to support the provision of marine meteorological and oceanographic services, and to meet the requirements of climate monitoring and research for such data;
(3) Continuing and/or expanding their contributions to marine observing and data collection systems, in support of marine meteorological and oceanographic services, the WWW GOS, IGOSS, GOOS, GCOS, WCRP, other activities related to global climate research, monitoring and prediction, and other WMO Programmes;
(4) Making full use of modern telecommunication facilities, including INMARSAT and Argos, for the collection of marine environmental data and the dissemination of information;
(5) Expanding the application of remotely-sensed ocean data to the provision of services and to global climate studies, and assisting developing countries to access and make best use of these data;
(6) Assisting developing countries to fulfil their responsibilities under the Marine Meteorology and Associated Oceanographic Activities Programme, by continuing and/or contributing to specialized training events and programmes in marine meteorology and physical oceanography, and also by facilitating their participation in marine observing programmes;

REQUESTS the president of CMM to ensure that CMM takes the lead in the preparation of the appropriate material for the Fifth WMO Long-term Plan for the Marine Meteorology and Associated Oceanographic Activities Programme, under the guidance of the Executive Council and in consultation with the chairman of IGOSS and the chairman of I-GOOS;

REQUESTS the Secretary-General, within the available budgetary resources:

(1) To arrange for the coordination of WMO activities under the Marine Meteorology and Associated Oceanographic Activities Programme with the IOC and other international organizations;
(2) To assist in the implementation of these activities;
(3) To bring this resolution to the attention of all concerned.

NOTE: This resolution replaces Resolution 18 (Cg-XI), which is no longer in force.

RESOLUTION 16 (Cg-XII)
WMO'S INVOLVEMENT IN OPERATIONAL OCEANOGRAPHY

THE CONGRESS,

NOTING:

(1) Resolution 20 (Cg-XI) — Integrated Global Ocean Services System,

(2) Resolution 21 (Cg-XI) — WMO's involvement in the development of a Global Ocean Observing System,

(3) *Abridged Report with Resolutions of Eleventh Congress* (WMO-No. 756), Annex III: The role of national Meteorological Services and of WMO in ocean monitoring,

(4) Resolution 7 (EC-XLIV) — Report of the sixth session of the joint IOC/WMO Committee for IGOSS,

(5) *Abridged Report with Resolutions of the Forty-fifth Session of the Executive Council* (WMO-No. 794), general summary, paragraph 6.4.7,

(6) Report of the first planning session for the IOC/WMO/UNEP Committee for GOOS, Melbourne, April 1994,

(7) Relevant resolutions of the IOC Assembly and Executive Council,

CONSIDERING that oceanographic observations not only make a significant contribution to operational meteorology and the provision of marine meteorological and oceanographic services, but are also essential to the WCRP and GCOS, and to global climate studies generally,

RECOGNIZING:

(1) That WMO already has considerable experience in coordinating, or assisting in the coordination of existing ocean observing system components, including the VOS, ocean data buoys and XBT/XCTD lines,

(2) That many Members are actively involved, and have been for many years, in the deployment and maintenance of a variety of ocean observation facilities, for both operational and research purposes,

(3) That many Members are also increasingly being required to provide coordinated meteorological and oceanographic services for a large variety of marine user groups,

(4) That the GTS will continue to be essential for the operational collection and exchange of many types of ocean data,

RECOGNIZING FURTHER that a substantial increase in the amount of ocean data available operationally is needed to satisfy the requirements of operational meteorology, oceanographic services, and research and global climate studies for such data,

AGREES that WMO should continue to support strongly, and to co-sponsor with IOC and other interested international organizations, the IGOSS and GOOS;

AGREES FURTHER that activities under IGOSS and GOOS should be closely coordinated with other relevant programme activities, including the WWW, the work of CMM and the work of the DBCP;

URGES Members:

(1) To continue and, where possible, to expand their existing operational ocean observing system facilities and activities, as contributions to the WWW, IGOSS and GOOS;

(2) To participate actively in the planning and implementation of these systems through participation in the work of the joint IOC/WMO Committee for IGOSS, the IOC/WMO/UNEP Committee for GOOS and the DBCP;

(3) To coordinate with appropriate national oceanographic agencies and institutions to ensure the long-term operational maintenance of relevant elements of oceanographic observing systems established under large-scale oceanographic research programmes, in support of the requirements of GOOS and GCOS;

(4) To strengthen their contributions to specific existing operational components of IGOSS and to operational components of GOOS as they are implemented;

(5) To coordinate with appropriate national oceanographic agencies and institutions in developing oceanographic data management capabilities and oceanographic services to support national user communities;

(6) To enhance two-way ship-shore telecommunication arrangements for oceanographic data and products, in particular through the greater use of satellite-based telecommunication facilities, such as INMARSAT;

REQUESTS the Secretary-General to take any action considered necessary, and within the available budgetary resources:

(1) To support the Secretary of IOC in the further planning and implementation of IGOSS and GOOS, and generally to enhance the coordination between WMO and IOC in these activities;

(2) To ensure that close coordination is maintained among CMM, CBS, the joint IOC/WMO Committee for IGOSS, I-GOOS, J-GOOS, the JSTC for GCOS and the DBCP in the development and implementation of IGOSS and GOOS;

(3) To take into account the resource requirements for GOOS and IGOSS planning, implementation and maintenance when seeking the resources required to implement generally WMO Programmes relating to climate monitoring and research;

(4) To assist Members to participate in the development and maintenance of IGOSS and GOOS.

NOTE: This resolution replaces Resolutions 20 (Cg-XI) and 21 (Cg-XI), which are no longer in force.

RESOLUTION 17 (Cg-XII)

WMO'S INVOLVEMENT IN THE INTERNATIONAL YEAR OF THE OCEAN 1998

THE CONGRESS,

NOTING United Nations General Assembly Resolution A/Res/49/131 — Question of declaring 1998 International Year of the Ocean,

NOTING FURTHER:

(1) That ECOSOC Resolution 1980/67 recognized the contribution that the celebration of international years can make to the furtherance of international cooperation and understanding,

(2) That the Rio Declaration and Agenda 21, Chapter 17, of the United Nations Conference on Environment and Development recognized that responsible integrated management of the coastal and ocean space and of the multiple uses and resources of the marine environment depend on access to information and a great effort of public education and scientific awareness,

(3) That the United Nations Convention on the Law of the Sea (1982) entered into force on 16 November 1994,

CONSIDERING:

(1) That the global atmosphere and the ocean represent two highly interactive components of the global environment and life-support system,

(2) That the ocean plays a significant role in global weather and climate systems on all time-scales,

RECOGNIZING that WMO and its Members have a history of active involvement with ocean and ocean affairs dating from the origins of the International Meteorological Organization,

AGREES that WMO should contribute to the celebration of the International Year of the Ocean 1998, in cooperation with other United Nations agencies and using, where appropriate, the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO) as an inter-agency planning mechanism;

URGES Members to contribute wherever possible to national planning for, and celebration of, the International Year of the Ocean 1998;

REQUESTS the Executive Council:

(1) To consider designating the theme for World Meteorological Day 1998 on the subject of the atmosphere and the ocean, as a contribution to the International Year of the Ocean;

(2) To authorize various other WMO contributions to the planning for, and celebration of, the International Year of the Ocean 1998, within the available budgetary resources;

REQUESTS the Secretary-General:

(1) To arrange for WMO to contribute to inter-agency planning for the International Year of the Ocean 1998 using the ICSPRO mechanism, as appropriate;

(2) To prepare proposals for WMO activities in celebration of the International Year of the Ocean 1998 for the consideration of the Executive Council.

RESOLUTION 18 (Cg-XII)

HYDROLOGY AND WATER RESOURCES PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 22 (Cg-XI) — Hydrology and Water Resources Programme,

(2) Resolution 11 (EC-XLV) — Report of the ninth session of the Commission for Hydrology,

(3) The report of the president of the Commission for Hydrology and the Statement of the ninth session of the Commission for Hydrology,

(4) WMO's Plan of Action for the International Decade for Natural Disaster Reduction (IDNDR),

(5) The review of national capacities presented in the WMO/UNESCO Report on Water Resource Assessment, prepared in 1990–1991,

(6) The issues of importance to hydrology and water resources, raised at the International Conference on Water and the Environment (Dublin, January 1992) and at the United Nations Conference on Environment and Development (Rio de Janeiro, June 1992),

(7) The Paris Statement of the UNESCO/WMO/ICSU International Conference on Hydrology (March 1993),

(8) The call by the second session of the United Nations Commission on Sustainable Development for an assessment of global water resources,

NOTING FURTHER:

(1) That there is a common recognition that scarcity and misuse of freshwater pose a serious and growing threat to sustainable development and the protection of the environment,

(2) That there is a deteriorating capability in many countries to determine accurately the status and trend of both the quantity and quality of their water resources,

(3) That improved operational techniques are required for the more effective assessment and prediction of future water conditions,

(4) That broader commitment and concerted action are required by international agencies, including WMO, to enable the effective and worldwide assessment, development and management of freshwaters,

CONSIDERING:

(1) That OHP provides the framework for all scientific and technical aspects of WMO's activities in the field of hydrology and water resources,

(2) That HOMS successfully continues to meet the differing needs of Members for technology transfer in the field of operational hydrology,

(3) The importance to Members of the adequate assessment and the rational management of their water resources,

(4) That Hydrological Services are essential to the management of water resources for human consumption, agriculture, energy production, and industrial purposes, while avoiding irreversible degradation of water quality and of the environment,

(5) That such services are also essential to activities aimed at mitigating the effects of droughts, floods, desertification, and tropical cyclones, while, at the same time, these phenomena pose special problems for the collection, analysis, and use of hydrological data,

(6) The need for an increase in activities on the interfaces between operational hydrology and meteorology, in climate studies and, in particular, in environmental management,

(7) The need for maintaining the coordination of international activities and programmes in hydrology and water resources, so as to enhance their impact at the national level and provide for more economic and rational management of available resources,

DECIDES:

(1) That the substance of the HWRP, and hence the Operational Hydrology Programme — Basic Systems, the Operational Hydrology Programme — Applications and Environment, and the Programme on Water-related Issues be as indicated in Part II, Volume 5 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);

(2) To endorse the Implementation Plan for HOMS adopted by the ninth session of CHy;

(3) That WMO should continue to take the lead, jointly with UNESCO, in the follow-up to UNCED to promote and implement water-resource assessment;

(4) That WMO should continue its efforts, with the support of other agencies, to develop WHYCOS as a component of the HWRP;

(5) That WMO should continue to contribute towards the comprehensive assessment of water resources requested by the United Nations Commission on Sustainable Development, and take an active part in the 1997 session of that Commission when freshwater is considered;

(6) That WMO should contribute actively to the follow-up to UNCED in respect to other areas of freshwater dealt with in Agenda 21;

(7) That WMO should seek to improve further coordination of the OHP with UNESCO's IHP at the national and international levels;

INVITES Members:

(1) To take all possible measures to continue full support to the implementation of the three component programmes of the HWRP;

(2) To arrange for their Hydrological, Hydrometeorological and Meteorological Services to continue to cooperate in the implementation of national and international plans for the assessment and management of their water resources and to participate in the implementation of WHYCOS;

(3) To continue their close coordination in the planning and implementation of national inputs to international programmes in the field of hydrology and water resources;

(4) To institute or continue the cooperation between Hydrological, Hydrometeorological and Meteorological Services within shared river basins;

(5) To participate in the VCP component directed towards hydrology and water resources;

(6) To support the process leading to the assessment of global water resources requested by the United Nations Commission on Sustainable Development;

REQUESTS the Secretary-General to invite the United Nations and its subsidiary bodies, all specialized agencies concerned, and IAEA to take account of the activities of WMO, and in particular those of the HWRP, in the planning and execution of their programmes in water resources and to note the contributions that WMO can make to these programmes;

REQUESTS the president of CHy:

(1) To arrange for the implementation by CHy of relevant parts of the HWRP;

(2) To continue the coordination of CHy activities with the regional inputs to the HWRP including the possible implementation of joint projects;

(3) To arrange for appropriate contributions from CHy to WMO's efforts in support of the IDNDR;

REQUESTS the Executive Council and the Secretary-General, as appropriate and within the available budgetary resources:

(1) To strengthen support to the HWRP in view of the increasing need for its enhanced participation in the resolution of the world water issues;

(2) To take all the necessary action to assist CHy and all bodies concerned in implementing the HWRP, in accordance with **DECIDES** (1);

(3) To continue to provide assistance in support of training events for Members in the fields of hydrology and water resources, particularly those in developing countries and other countries-in-need;

(4) To continue to cooperate with other governmental and non-governmental organizations in the field of hydrology and water resources and with existing international river basin commissions;

(5) To continue to take account of the contribution that hydrological science can make through the HWRP to current and future programmes of WMO, including future arrangements that will follow from the adoption of *The Climate Agenda*.

NOTE: This resolution replaces Resolution 22 (Cg-XI), which is no longer in force.

RESOLUTION 19 (Cg-XII)

STRATEGY AND ACTION PLAN FOR MONITORING AND ASSESSING WATER RESOURCES OF AFRICA

THE CONGRESS,

NOTING:

(1) The findings and recommendations of the World Bank/UNDP Sub-Saharan Africa Hydrological Assessment Project and the WMO/UNESCO Evaluation of Water Resources Assessment Activities,

(2) The principles of UNCED Agenda 21, in particular those in Chapter 18,

(3) The report and recommendations of the Conference on Water Resources: Policy and Assessment (Addis Ababa, March 1995) convened by WMO and the United Nations Economic Commission for Africa (UN/ECA),

(4) That the strategy and action plan for the monitoring and assessment of the water resources of Africa, adopted by the Conference on Water Resources, had been subsequently adopted by the Conference of Ministers of UN/ECA by its Resolution 800 (xxx) in May 1995,

CONSIDERING:

(1) The rapidly increasing demand for hydrological and water resources data and information for the development and management of water projects of Members,

(2) That Regional Association I (Africa), at its eleventh session (1994), had restructured its Working Group on Hydrology so that it would function in close collaboration with the subregional economic and political groupings and international river basin authorities in developing plans for water resources assessment,

DECIDES that WMO should take the leadership role, in collaboration with other United Nations organizations and external agencies as well as national, subregional, and regional organizations involved in the water sector, to:

(*a*) Actively promote the "African Water Resources Assessment Programme — Policy, Strategy and Action Plan" adopted by the African Conference on Water Resources: Policy and Assessment in the context of a comprehensive approach to sustainable development;

(*b*) Mobilize the political and financial support for the implementation of the Strategy and Action Plan;

URGES national Governments and regional and subregional agencies to incorporate the Strategy and Action Plan developed by the Conference into their water resources assessment, development, and management programmes and to ensure their implementation;

REQUESTS the president of the Regional Association for Africa:

(1) To arrange for the incorporation of the Strategy and Action Plan developed by the Conference into the RA I hydrology and water resources programme for the African region;

(2) To arrange, through the RA I Working Group on Hydrology, the development of detailed action proposals for the implementation of the Strategy and Action Plan for assessing the water resources in Africa, in collaboration with the constituent bodies of the subregional political and economic groupings, such as the Economic Community of Central African States (ECCAS), the Economic Community of West African States (ECOWAS), the Inter-governmental Authority on Drought and Development (IGADD), the Southern African Development Community (SADC), and the Arab Maghreb Union (AMU);

REQUESTS the Secretary-General:

(1) To invite UN/ECA to join with WMO in the leadership role mentioned under **DECIDES**;

(2) To invite other agencies involved in the field of water resources and external support agencies (donors), particularly the World Bank, UNDP, the African Development Bank, the European Union, and other multilateral and bilateral funding agencies, to incorporate the Strategy and Action Plan into their programmes of assistance for water resources assessment and integrated water resources development and management to countries in the Region;

REQUESTS the Executive Council and the Secretary-General, as appropriate and within the available budgetary resources, to take all necessary actions to assist the Regional Association for Africa and all bodies concerned in implementing the Strategy and Action Plan for monitoring and assessing the water resources of Africa as a regional component of the HWRP.

RESOLUTION 20 (Cg-XII)

WORLD HYDROLOGICAL CYCLE OBSERVING SYSTEM (WHYCOS)

THE CONGRESS,

NOTING:

(1) That WHYCOS has already been endorsed by the Commission for Hydrology at its ninth session (1993),

(2) That the Executive Council, at its forty-sixth session (1994), expressed the view that WHYCOS was potentially of great importance to water resources assessment on the global, regional, and national scales,

(3) That the eleventh session (1995) of the Intergovernmental Council of the International Hydrological Programme of UNESCO adopted a resolution which called upon the Director General of UNESCO to arrange, in cooperation with WMO, for the planning and implementation of WHYCOS,

(4) That the World Bank, as part of its water resources strategies, has specifically recommended the

establishment of a Hydrological Cycle Observing System (HYCOS),

(5) The financial support already given by the World Bank for the implementation of the Mediterranean Hydrological Cycle Observing System (MED-HYCOS), a subregional component of WHYCOS, and the interest shown by other donors for similar subregional components,

CONSIDERING:

(1) That WHYCOS is one of the basic WMO responses to the recommendation of the United Nations Commission on Sustainable Development to strengthen efforts towards a comprehensive assessment of freshwater resources, notably by providing timely, reliable, and consistent data to regional data centres. Certain of these data could, then, be made available at the international level through centres, such as GRDC for runoff data,

(2) That WHYCOS has a vital role to play in several new programmes, such as GCOS, GTOS and GOOS,

(3) That the WHYCOS concept is in line with the spirit of international cooperation in which WWW was established and has since operated,

ENCOURAGES Members:

(1) To participate in the development of a global conceptual basis for providing a framework and general guidance for the establishment of WHYCOS;

(2) To facilitate the establishment of WHYCOS through the implementation of national, subregional and regional components of the system;

REQUESTS the president of the Commission for Hydrology to ensure that the Commission provides WHYCOS with the technical advice that it requires;

REQUESTS the Secretary-General:

(1) To invite other international organizations to cooperate with WMO to establish WHYCOS, contribute to its implementation, and make use of it;

(2) To provide all possible support to WHYCOS from available resources and to seek additional resources for this purpose from external sources.

RESOLUTION 21 (Cg-XII)

GLOBAL RUNOFF DATA CENTRE (GRDC)

THE CONGRESS,

NOTING:

(1) That the GRDC has its origins in support to the WCRP and to studies of large-scale hydrological processes,

(2) The generous support that has been provided by Germany over many years for the establishment and maintenance of the Centre,

(3) That the GRDC is now widely-recognized as the principal source of global data on river flows, providing an effective service to an increasing range of users,

(4) That the Centre already cooperates in a number of major international projects,

(5) That through its Resolution 11 (EC-XLV) — Report of the ninth session of the Commission for Hydrology, the Executive Council had approved Recommendation 2 (CHy-IX) — Support to global data centres,

CONSIDERING:

(1) That new and increased demands are now being put on the Centre, in particular in relation to the global assessment of the world's water resources requested by the second session of the United Nations Commission on Sustainable Development (1994), the need for a global data centre in relation to WHYCOS, and for various climate studies,

(2) That the Centre will need considerably more resources if it is to meet these new demands effectively,

RECOGNIZING that the GRDC is a major component of WMO's HWRP, serving also the WCRP and other programmes of the Organization,

ENCOURAGES Members:

(1) To support the GRDC through the provision of the hydrological data and related information that it needs, including through the regional components of WHYCOS;

(2) To consider also providing support to the Centre in the form of staff, funding, and other resources;

REQUESTS the president of the Commission for Hydrology to ensure that the Commission provides the GRDC with the scientific and technical advice that it requires;

REQUESTS the Secretary-General:

(1) To invite other international organizations to cooperate with the GRDC, to make use of the services that it offers and to contribute both data and other resources in support of its operations;

(2) To provide all possible support to the GRDC from available resources and to seek additional resources for this purpose from external sources.

RESOLUTION 22 (Cg-XII)
EDUCATION AND TRAINING PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 23 (Cg-XI) — Education and Training Programme,
(2) Resolution 16 (EC-XLV) — Follow-up to UNCED,
(3) That some of both the new priorities and new priority areas of emphasis within the main WMO Programmes require support from the Education and Training Programme,

CONSIDERING:

(1) That the Organization's education and training activities are vital to the success of all WMO Programmes, as well as to the ability of NMHSs to participate actively in, and make effective use of, many of the results of these programmes,
(2) That the ETR Programme is needed as a vehicle to promote capacity building by assisting NMHSs in developing their human resources,
(3) That the need for trained specialists in the application of meteorology and hydrology to problems of sustainability remains acute in many developing countries,

DECIDES:

(1) That the substance of the ETR Programme should be as indicated in Part II, Volume 6 of the *Fourth WMO Long-term Plan* adopted under Resolution 29 (Cg-XII);
(2) That the major thrusts of the Programme should be directed towards capacity building for sustainable development and towards increasing capability in using the results of applications of technology;
(3) That special emphasis should be placed on maintaining a high standard in the technical and scientific training of personnel in all fields of activities of the Organization;

URGES Members:

(1) To collaborate actively in, and to give all possible support to, the implementation of the Organization's education and training activities;
(2) To provide the Secretariat with technical and scientific training materials available in their own Services;
(3) To make maximum use of the WMO RMTCs for the training of their personnel and, along with donor agencies, to expand their efforts to assist those centres;

INVITES:

(1) The presidents of regional associations and technical commissions to undertake the roles identified in Part II, Volume 6 of the *Fourth WMO Long-term Plan*;
(2) The presidents of technical commissions to keep under continuous study and review the education and training problems related to their fields of specialization;

REQUESTS the Executive Council:

(1) To take all necessary actions to enable the ETR Programme to meet its objectives under the Fourth WMO Long-term Plan;
(2) To continue its overall coordination of the Organization's ETR Programme;

REQUESTS the Secretary-General:

(1) To ensure the effective implementation of the Organization's education and training activities;
(2) To continue, within the available budgetary resources, to provide assistance and advice in the field of education and training to all Members;
(3) To provide education and training support that may be obtained from regular or extrabudgetary resources to relevant activities in the new priorities and new areas of emphasis within major WMO Programmes;
(4) To support strongly any requests of Members for assistance for education and training in the fields of meteorology and operational hydrology from UNDP, other international bodies, and national bodies including bilateral arrangements.

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NOTE: This resolution replaces Resolution 23 (Cg-XI), which is no longer in force.

RESOLUTION 23 (Cg-XII)
THE WMO VOLUNTARY COOPERATION PROGRAMME

THE CONGRESS,

NOTING:

(1) That, in accordance with the directives contained in Resolution 25 (Cg-XI) — The WMO Voluntary Cooperation Programme, the WMO VCP has functioned in the eleventh financial period in a highly satisfactory manner,
(2) That this Programme is a major element in the implementation of the WWW Programme as well as of other technical programmes of WMO and the provision of fellowships,
(3) That this Programme is an appropriate mechanism for the promotion and support of TCDC,
(4) That during recent years, on average, annual contributions received for the VCP(F) Fund amounted to US$470 000 and contributions received in the equipment and services component (VCP(ES)) amounted to US$6.6 million,

COMMENDS the Members concerned for their contribution to the success of this Programme;

CONSIDERING the continued and increasing needs for support during the twelfth financial period for the implementation of the various technical programmes of WMO,

DECIDES:

(1) That the WMO VCP shall be continued in the twelfth financial period;

(2) That similar to the eleventh financial period, the fields of cooperation covered by the VCP during the twelfth financial period shall include:
   (*a*) The implementation of the WWW as first priority;
   (*b*) The granting of short-term and long-term fellowships;
   (*c*) The support to short-term training seminars for personnel engaged in WWW and other activities covered under the VCP Programme;
   (*d*) The support to meteorological applications activities;
   (*e*) The support to the activities of the HWRP;
   (*f*) The establishment of observing and data-processing facilities necessary for the WCP;
   (*g*) The support to activities within the WCASP;
   (*h*) The establishment and maintenance of the GAW stations;
   (*i*) The support to meteorological and hydrological activities related to environment protection;

(3) That the VCP in the twelfth financial period shall follow the same general procedures as during the eleventh financial period;

(4) That the detailed rules and procedures for the operation of the Programme previously established should be reviewed by the Executive Council, bearing in mind the decisions of Twelfth Congress;

(5) That special assistance should be provided to new WMO Members, including the Newly Independent States, within the framework of the VCP;

URGES Members of the Organization to contribute to the maximum extent possible to the Programme during the twelfth financial period both in financial form and in equipment and services, including fellowships, and to use the mechanism of TCDC, where possible;

AUTHORIZES the Executive Council to review the present rules and procedures for the operation of the WMO VCP bearing in mind the decisions of Twelfth Congress;

REQUESTS the Secretary-General:

(1) To continue to administer the VCP during the twelfth financial period;

(2) To report to Thirteenth Congress on the assistance rendered during the twelfth financial period, in addition to the annual report on the VCP distributed to Members.

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NOTE: This resolution replaces Resolution 25 (Cg-XI), which is no longer in force.

RESOLUTION 24 (Cg-XII)

ORGANIZATION AND FUNDING OF THE TECHNICAL COOPERATION PROGRAMME

THE CONGRESS,

NOTING with concern the decrease of funds available for technical cooperation activities, mainly from UNDP, in support of Meteorological and Hydrological Services at the national and regional levels,

CONSIDERING the serious economic difficulties being encountered by most Members and also the new world economic trends which affect development assistance contributions for strengthening the Meteorological and Hydrological Services,

CONSCIOUS of the adverse consequences of the above decline of available resources on the operations of NMHSs and related regional institutions, as well as the effectiveness of the vital WWW systems,

NOTING also the impacts of the reduction in funding of technical assistance projects on the resources available to WMO for Secretariat support to the technical cooperation activities,

NOTING FURTHER:

(1) The efforts made by the Secretary-General to respond to these developments especially to mobilize new and additional resources for technical cooperation activities,

(2) The measures taken at the request of the Executive Council to carry out an in-depth study on the TCO Programme and the views expressed by the Executive Council during its forty-sixth session,

RECOGNIZING:

(1) That the TCO Programme is vital to Members and is an integral element in the WMO mission,

(2) That national and regional institutions of the developing countries and countries in transition require, on a temporary basis, some external assistance in addition to their own resources to initiate and sustain adequately their activities so as to meet their international obligations and provide the necessary meteorological and hydrological products and services in support of various national socio-economic sectors,

(3) That the TCO Department has, among its functions, the following core activities: programme planning and coordination, collaboration with other relevant agencies and institutions, and resource mobilization,

AWARE of the one-time supplemental financial allocations made from the regular budget to complement the support cost revenues to the TCF to allow for a phased elimination of the TCF shortfall by the end of the twelfth financial period,

DECIDES:

(1) That the functions of the Regional Offices should be harmonized with those of the TCO Department to ensure cost-effective services to Members;

(2) That core staff from the TCO Department, consisting of its Director and two staff, should be funded from the regular budget within the overall ceiling of staff fixed for the twelfth financial period (1996–1999);

REQUESTS the Executive Council to establish an Advisory Group of Experts on Technical Cooperation, which would have in its functions those previously entrusted to the Executive Council Panel on VCP, taking into account the recommendations of the TCO Forum and of Congress thereon;

REQUESTS the Secretary-General to:

(1) Implement the Congress decisions on this matter, during the twelfth financial period, taking into account that the establishment of subregional offices on a trial basis may further enhance technical cooperation activities of the Members and bring the Organization closer to them;

(2) Address in an appropriate manner the question of organization and implementation of technical cooperation and regional activities in the European region;

(3) Ensure that adequate support is available for TCO Programme activities within the approved resources from regular budget and extrabudgetary resources;

(4) Continue his efforts to mobilize additional resources for the benefit of the Members including through the WMO VCP;

URGES Members to make additional efforts in seeking funding from their Governments and from traditional and non-traditional sources, such as UNDP, banks, the private sector, and special funds related to environmental activities, to strengthen NMHSs, and relevant regional and interregional institutions in support of sustainable development.

RESOLUTION 25 (Cg-XII)

USE OF OFFICIAL AND WORKING LANGUAGES WITH SPECIAL REGARD TO ARABIC, CHINESE AND SPANISH

THE CONGRESS,

NOTING:

(1) WMO General Regulations 117 to 122,

(2) Resolution 50 (Cg-VII) — Use of the Chinese language, whereby it was decided that Chinese shall be an official and working language of the World Meteorological Organization and that the implementation of the decision shall be effected on a step-by-step basis,

(3) Resolution 54 (Cg-VIII) — Use of the Arabic language, whereby it was decided that Arabic shall be an official and working language of the World Meteorological Organization and that the implementation of the decision shall be effected on a step-by-step basis,

(4) That Eleventh Congress agreed to "the extension of the use of the Arabic language for documentation of constituent bodies", but decided, due to financial constraints, to limit implementation of the decision to sessions of Congress, the Executive Council (except the short session held immediately after Congress) and Regional Associations I (Africa) and II (Asia) during the eleventh financial period,

(5) That the forty-sixth session of the Executive Council recommended that Twelfth Congress approve, "within a zero real growth budget, the provision of documentation in Chinese for sessions of Congress, the Executive Council, and RAs II and V",

CONSIDERING:

(1) The need to treat all WMO official and working languages in an equitable manner in accordance with the General Regulations,

(2) The severe difficulty of increasing the allocation for language services in the regular budget in view of the financial constraints prevailing in WMO and in many Member countries,

(3) The need to manage language services in such a way as to achieve the lowest cost whilst preserving the quality of the services and the impartiality of the Secretariat,

DECIDES:

(1) That documentation for the short session of the Executive Council, sessions of technical commissions and of Regional Association VI shall also be provided in Arabic in addition to those sessions mentioned in paragraph (4) under **NOTING**;

(2) That documentation for sessions of Congress, the Executive Council and Regional Association II shall also be provided in Chinese and that General Regulations 118 and 121 shall be amended accordingly as given in Resolution 38 (Cg-XII);

(3) That interpretation for sessions of Regional Association VI and its working groups shall also be provided in Spanish in addition to the present working languages of Regional Association VI;

REQUESTS the Secretary-General to implement the above decisions within the regular budget allocation for language services on an equitable basis for all official and working languages, subject to the availability of funds, and to set up an internal mechanism to reduce the volume of documentation for all constituent body meetings during the twelfth financial period to the maximum extent possible, bearing in mind a target reduction of one third, to monitor the implementation of this and other economy measures taken with a view to offsetting the cost of the additional languages services requested under **DECIDES** (1), (2) and (3), and to report on their implementation as well as on the projected progress to the Executive Council and to Thirteenth Congress.

RESOLUTION 26 (Cg-XII)
USE OF PORTUGUESE

THE CONGRESS,

NOTING:

(1) That Portuguese is a historical language of science and culture spoken by 200 million people in Angola, Brazil, Cape Verde, Guinea Bissau, Mozambique, Portugal, and Sao Tome and Principe, Members of WMO and of five of its regional associations, and used in some international organizations,

(2) The views of Eleventh Congress and of Regional Association I concerning the use of Portuguese to assist some Members to participate more efficiently in the work of the Organization,

CONSIDERING that the work of WMO would be facilitated by the use of Portuguese,

DECIDES:

(1) That Portuguese shall be used for interpretation at sessions of Regional Associations I and III and of Congress subject to the availability of extrabudgetary resources;

(2) To establish a separate trust fund account, to which WMO Members are strongly encouraged to contribute, to provide such extrabudgetary resources;

REQUESTS the Secretary-General to explore the most cost-effective means of providing Portuguese interpretation, including the use of locally-contracted interpreters, where appropriate.

RESOLUTION 27 (Cg-XII)
PUBLICATIONS PROGRAMME FOR THE TWELFTH FINANCIAL PERIOD

THE CONGRESS,

NOTING:

(1) Resolution 26 (Cg-XI) — Publications Programme for the eleventh financial period,

(2) That the accurate and timely production and distribution of publications in the agreed languages is essential to almost all functions of the Organization, and that as a matter of general policy high priority shall be given to the Publications Programme,

(3) That the publications of the Organization generally fall into two broad categories:

(*a*) Mandatory publications, defined by the Convention, the General Regulations, or by specific decisions of Congress, for which funds are provided directly under the Publications Programme;

(*b*) Programme-supporting publications, such as WMO Technical Notes, WWW Planning Reports, Operational Hydrology Reports, Marine Science Affairs Reports, Special Environmental Reports, the WMO Blue Training Series, etc., for which funds are provided under the relevant scientific and technical programmes,

DECIDES:

(1) That the mandatory publications of WMO and the languages in which these publications shall be issued are as shown in the annex to this resolution;

(2) That the management of the Publications Programme, notably the presentation and method of reproduction of the publications and the most economic use of the available publication funds including the revenue from sales of publications, shall be the responsibility of the Secretary-General within the framework established by Congress and taking into account the guidance given by the Executive Council;

REQUESTS the Executive Council to continue to review regularly the status of the Publications Programme taking into account the funds and facilities available and to review the continuing needs resulting from the introduction of new technology and the widening availability of alternatives to printed material;

REQUESTS the Secretary-General to assist in those reviews by providing the Executive Council, and any mechanism it may establish to oversee the introduction of electronic publishing, with information on available funds, facilities, sales potentials, and any possible limitations.

NOTE: This resolution replaces Resolution 26 (Cg-XI), which remains in force only until 31 December 1995.

ANNEX TO RESOLUTION 27 (Cg-XII)

WMO MANDATORY PUBLICATIONS AND THE LANGUAGES IN WHICH THEY SHALL BE ISSUED IN THE TWELFTH FINANCIAL PERIOD

Publication	*Number*	*Languages*
1. Basic documents		
(*a*) *Basic Documents*	WMO-No. 15	E, F, R, S
Convention and General Regulations		A, C
(*b*) *Agreements and Working Arrangements with Other International Organizations*	WMO-No. 60	E, F, R, S
(*c*) *Technical Regulations*	WMO-No. 49	E, F, R, S
(*d*) Annexes to the *Technical Regulations*:		
(i) *International Cloud Atlas*, Volume 1	WMO-No. 407	All in E, F, R, S
(ii) *Manual on Codes*	WMO-No. 306	
(iii) *Manual on the Global Telecommunication System*	WMO-No. 386	
(iv) *Manual on the Global Data-processing System*	WMO-No. 485	
(v) *Manual on the Global Observing System*	WMO-No. 544	
(vi) *Manual on Marine Meteorological Services*	WMO-No. 588	
2. Operational publications		
(*a*) *Meteorological Services of the World*	WMO-No. 2	Bilingual: E-F
(*b*) *Composition of the WMO*	WMO-No. 5	Bilingual: E-F
(*c*) *Weather Reporting*	WMO-No. 9	
(i) Volume A — Observing stations		Bilingual: E-F*
(ii) Volume B — Data processing		E*
(iii) Volume C — Transmissions		Bilingual: E-F*
(iv) Volume D — Information for shipping		Bilingual: E-F*
(*d*) *International List of Selected, Supplementary and Auxiliary Ships*	WMO-No. 47	Bilingual: E-F
(*e*) *Compendium of Training Facilities for Meteorology and Operational Hydrology*	WMO-No. 240	M
(*f*) *Climatological Normals (CLINO) for CLIMAT and CLIMAT SHIP for the period 1961–1990***	WMO-No. . . .	M
3. Official records		
(*a*) Abridged reports of Congress		A, C, E, F, R, S
(*b*) Proceedings of Congress		E, F
(*c*) Abridged reports with resolutions of sessions of the Executive Council		A, C, E, F, R, S
(*d*) Abridged reports with resolutions and recommendations of sessions of the regional associations		Same as for session documentation
(*e*) Abridged reports with resolutions and recommendations of sessions of the technical commissions		A, E, F, R, S
4. WMO Guides		
(*a*) *Guide to Meteorological Instruments and Methods of Observation*	WMO-No. 8	All in E, F, R, S
(*b*) *Guide to Climatological Practices*	WMO-No. 100	
(*c*) *Guide to Agricultural Meteorological Practices*	WMO-No. 134	
(*d*) *Guide to Hydrological Practices*	WMO-No. 168	
(*e*) *Guide on the Global Data-processing System*	WMO-No. 305	
(*f*) *Guide to Marine Meteorological Services*	WMO-No. 471	
(*g*) *Guide on the Global Observing System*	WMO-No. 488	
(*h*) *Guide on the Automation of Data-processing Centres*	WMO-No. 636	
(*i*) *Guide to Wave Analysis and Forecasting*	WMO-No. 702	
(*j*) *Guide on Meteorological Observation and Information Distribution Systems at Aerodromes*	WMO-No. 731	
(*k*) *Guide to Practices for Meteorological Offices Serving Aviation*	WMO-No. 732	
(*l*) *Guide to Applications of Marine Climatology*	WMO-No. 781	
(*m*) *Guide to the Preservation and Management of Climatological Data***	WMO-No. . . .	
(*n*) *Guide on World Weather Watch Data Management***	WMO-No. 788	
(*o*) *Guide on Public Weather Services***	WMO-No. . . .	
5. Terminologies		
(*a*) *International Meteorological Vocabulary*	WMO-No. 182	M
(*b*) *International Glossary of Hydrology* (jointly with UNESCO)	WMO-No. 385	M
6. Annual reports of WMO		E, F, R, S
7. WMO *Bulletin*		E, F, R, S

NOTES:
* Expanded introductory and explanatory text in four official languages.
** Introduced by decision of Twelfth Congress.
A - Arabic; C - Chinese; E - English; F - French; R - Russian; S - Spanish; M - Multilingual.

RESOLUTION 28 (Cg-XII)
INFORMATION AND PUBLIC AFFAIRS

THE CONGRESS,

NOTING:

(1) Resolution 27 (Cg-XI) — Public Information,

(2) *Abridged Final Report with Resolutions of the Forty-sixth Session of the Executive Council* (WMO-No. 810), general summary, paragraphs 14.2.2 and 14.2.3,

(3) UNCED Agenda 21 which calls for increased efforts to inform the public about climate change and other sustainable development issues, to provide relevant information required for the management of sustainable development to people who need it, when they need it, and in forms that are understandable,

CONSIDERING that there is a continuing and increasing need for improved public awareness and appreciation of:

(1) The contribution of meteorology and operational hydrology to the social and economic development of nations including safety and security of life, and property,

(2) The implications of global issues, such as climate change, ozone layer depletion, natural disasters and other extreme weather events, water scarcity, and air pollution,

DECIDES to maintain a WMO Information and Public Affairs Programme, the objectives of which should be to inform the public and decision makers by providing timely, relevant and science-based information in the appropriate format and style on:

(1) Advances in the sciences of meteorology, hydrology, and related disciplines;

(2) The significance of weather, climate and water resources to the sustainable development of nations, particularly in the context of global environmental issues;

(3) Ways in which NMHSs could contribute to sustainable development, as well as to the safety of life and property in relation to natural disasters and other extreme weather events;

(4) The role and activities of WMO as an active agent in international cooperation in the fields of meteorology, operational hydrology and related disciplines;

URGES Members to take appropriate measures to support the WMO Information and Public Affairs Programme;

REQUESTS the Secretary-General:

(1) To cooperate, as appropriate, with national institutions through the Permanent Representatives, and with international organizations, both governmental and non-governmental, in the field of public information and communication;

(2) To collaborate closely with Members to ensure mutual assistance and support in matters related to public information and communication, especially as regards contacts with the national media representatives;

(3) To make the best possible use of available resources in order to carry out a well-coordinated Information and Public Affairs Programme which is supportive to, and integrated with, the major WMO Programmes, including regional activities.

NOTE: This resolution replaces Resolution 27 (Cg-XI), which is no longer in force.

RESOLUTION 29 (Cg-XII)
FOURTH WMO LONG-TERM PLAN

THE CONGRESS,

NOTING the decision of Eleventh Congress in Resolution 29 (Cg-XI) concerning the preparation of the Fourth WMO Long-term Plan,

ADOPTS, under the provisions of Article 8(*a*), (*b*) and (*c*) of the WMO Convention, the *Fourth WMO Long-term Plan* (hereinafter called "the Plan") for the period 1996–2005 consisting of:

Part I — *Overall policy and strategy*;

Part II — *Programme plans*:

Volume 1 — *The World Weather Watch Programme*;

Volume 2 — *The World Climate Programme*;

Volume 3 — *The WMO Atmospheric Research and Environment Programme*;

Volume 4 — *The WMO Applications of Meteorology Programme*;

Volume 5 — *The WMO Hydrology and Water Resources Programme*;

Volume 6 — *The WMO Education and Training Programme*;

Volume 7 — *The WMO Technical Cooperation Programme*;

REQUESTS the Secretary General to arrange for the publication and distribution of Part I of the *Plan* and its Executive Summary to all Members and constituent bodies of WMO and to other international organizations, as appropriate, and to arrange for the distribution of the detailed Part II volumes to the interested Members, upon request, in a suitable form, such as hard copy or electronic format;

URGES Members to take the Plan into account in developing and carrying out their national programmes in meteorology and operational hydrology, as well as in their participation in the programmes of the Organization;

REQUESTS the Executive Council, the regional associations, the technical commissions and the Secretary-General to

adhere to the policies and strategies set forth in the Plan and to organize their activities to achieve the main long-term objectives as defined in the Plan;

FURTHER REQUESTS the Executive Council to use the Plan as a benchmark to monitor progress and performance in the implementation of the scientific and technical programmes of the Organization and to submit a report to Thirteenth Congress.

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NOTE: This resolution replaces Resolution 28 (Cg-XI), which remains in force only until 31 December 1995.

RESOLUTION 30 (Cg-XII)

PREPARATION OF THE FIFTH WMO LONG-TERM PLAN FOR 2000–2009

THE CONGRESS,

NOTING Resolution 29 (Cg-XII) — Fourth WMO Long-term Plan,

CONSIDERING:

(1) That WMO Long-term Plans are a useful guide to NMHSs, particularly in developing countries, in consolidating their own planning policies, programmes, and activities,

(2) That there is a continuing need for a longer lead time in planning the main directions of the scientific and technical work of the Organization both as an aid to Members in their planning activities and for WMO itself in providing a long-term framework within which to develop programme plans,

(3) That the WMO planning system has added to the reputation and effectiveness of WMO within the United Nations system,

(4) That the WMO Long-term Plans should:

(*a*) Be forward looking and strategically-oriented, setting realistic targets reflecting the goals, objectives, and priorities of the Organization; and

(*b*) Include an implementation component which clearly follows and is an integral part of the established strategy,

REAFFIRMING that the overall purpose of the planning process in WMO is to set broad objectives and strategy for the Organization and to provide sufficient guidance for formulation of the four-year budget of WMO,

NOTING FURTHER that the method of preparation of WMO Long-term Plans under the guidance of the Executive Council provided a suitable model for evolution of subsequent Plans,

DECIDES that the Fifth WMO Long-term Plan covering the period 2000–2009 should be prepared in a more appropriately streamlined and integrated manner;

REQUESTS the Executive Council:

(1) To review comprehensively, at an early stage in the twelfth financial period, the purpose, role, and organization of the WMO planning process, including those needed for the monitoring and evaluation of performance of both the activities of Members and the Secretariat in implementing long-term plans and, taking into account the critical financial situation of the Organization and the need to streamline the process, determine the necessary level of detail in, and structure of, the Fifth WMO Long-term Plan;

(2) To establish the necessary coordination mechanism for the preparation of the Fifth WMO Long-term Plan;

REQUESTS the regional associations:

(1) To provide a forum for consideration of the Plan and, in particular, to provide an integrated view of their respective activities and priorities within the context of the Fifth WMO Long-term Plan;

(2) To coordinate, as necessary, national contributions to regional projects of the Plan;

REQUESTS the technical commissions to lead the formulation of all technical aspects of WMO Programmes falling within their respective responsibilities;

REQUESTS the Secretary-General:

(1) To provide Secretariat support for implementing those decisions;

(2) To ensure that the programme and budget proposals for the thirteenth financial period are fully coordinated with the draft Fifth WMO Long-term Plan;

(3) To submit the draft Fifth WMO Long-term Plan to Thirteenth Congress on behalf of the Executive Council.

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NOTE: This resolution replaces Resolution 29 (Cg-XI), which is no longer in force.

RESOLUTION 31 (Cg-XII)

MAXIMUM EXPENDITURES FOR THE TWELFTH FINANCIAL PERIOD

THE CONGRESS,

NOTING:

(1) Article 23 of the WMO Convention,

(2) Regulation 4 of the Financial Regulations of the Organization,

RECOGNIZING the continuing desirability of aligning the budgeting of programmes of the Organization with those of most other Organizations of the United Nations system,

NOTING that the estimate of cost increases for inflation and currency exchange rates for various areas of expenditure agreed in inter-agency coordination in Geneva and endorsed by the CCAQ, a subsidiary body of the ACC of the United Nations amounts to 3 per cent per annum,

DECIDES to continue with the implementation of the principle of full budgeting;

AUTHORIZES the Executive Council during the twelfth financial period from 1 January 1996 to 31 December 1999:

(1) To incur expenditures of two hundred and fifty five million Swiss francs, (SFR 255 000 000), the division of such expenditures into parts being shown in the annex to this resolution;

(2) To approve biennial appropriations within these limits;

FURTHER AUTHORIZES the Executive Council at its forty-ninth session to incur any necessary expenditures additional to the sum stated above, resulting from:

(1) Any unanticipated increases in Secretariat staff salaries and allowances over and above 3 per cent per annum as from 1 May 1995, consequent to changes in the United Nations salaries and allowances, if the Executive Council is satisfied that they cannot reasonably be met without affecting adversely the programmes approved by Congress;

(2) Any substantial increase in inflation estimates for the second biennium compared to the 3 per cent per annum estimate of CCAQ, to the extent that the Executive Council is satisfied that they cannot reasonably be met by economies within the approved budget;

REQUESTS the Executive Council to take such action as may be necessary to ensure that, if there is any beneficial change in any of the cost factors mentioned in **FURTHER AUTHORIZES** (1) and (2), there will be an appropriate reduction in the maximum expenditure of the Organization unless the Executive Council finds that there is an exceptional need to re-allocate these resources to address high priority programme requirements which would otherwise not be met due to the reduction of the budget to a level below zero real growth.

ANNEX TO RESOLUTION 31 (Cg-XII)

MAXIMUM EXPENDITURE FOR THE TWELFTH FINANCIAL PERIOD

(SFR'000)

Revenue		*Expenditures*		
Contributions	255 000.0	1.	Policy-making organs	6 609.3
		2.	Executive management	12 324.5
		3.	Scientific and technical programmes:	
		3.0	Overall coordination of the scientific and technical programmes	3 688.6
		3.1	World Weather Watch Programme	27 578.6
		3.2	World Climate Programme	24 572.0
		3.3	Atmospheric Research and Environment Programme	14 577.9
		3.4	Applications of Meteorology Programme	13 472.9
		3.5	Hydrology and Water Resources Programme	11 011.8
		3.6	Education and Training Programme	15 015.3
		3.7	Regional Programme	13 259.7
			Sub-total Part 3	123 176.8
		4.	Technical Cooperation Programme	9 104.7(1)
		5.	Programme support services and publications	50 563.7
		6.	Administration	48 011.7(2)
		7.	Other budgetary provisions	3 525.2
		8.	Acquisition of capital assets — Headquarters building	1 684.1
	255 000.0			255 000.0

(1) The provision in Part 4 includes SFR 4.5 million, which was approved as a transitional measure for the twelfth financial period. See also general summary paragraph 8.13 in this connection.

(2) This amount represents a signifcant increase over the eleventh financial period because of the allocation of substantial staff formerly funded by the TCO budget.

RESOLUTION 32 (Cg-XII)

ESTABLISHMENT OF THE FINANCIAL REGULATIONS OF THE WORLD METEOROLOGICAL ORGANIZATION

THE CONGRESS,

NOTING:

(1) That Article 8(*d*) of the WMO Convention authorizes Congress to determine regulations prescribing the procedures of the various bodies of the Organization, and in particular, the Financial Regulations,

(2) The decisions taken by previous Congresses, in establishing Financial Regulations,

CONSIDERING that Financial Regulations 7.3, 9.3, 9.6, and 10.1 require amendment,

DECIDES that the Financial Regulations as set out in the annex to this resolution shall apply to the twelfth financial period, commencing on 1 January 1996.

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NOTE: This resolution replaces Resolution 32 (Cg-XI), which remains in force only until 31 December 1995.

ANNEX TO RESOLUTION 32 (Cg-XII)

FINANCIAL REGULATIONS OF THE WORLD METEOROLOGICAL ORGANIZATION

ARTICLE 1
Applicability

1.1 These Regulations shall govern the financial administration of the World Meteorological Organization (hereinafter called the Organization). They may be amended only by Congress. In the event of any conflict between any provisions of these Regulations and any provisions of the Convention, the Convention shall prevail.

ARTICLE 2
The financial period

2.1 The financial period shall be four years beginning on 1 January of the calendar year immediately following a session of Congress and ending on 31 December of the fourth year.

2.2 Nevertheless, in the event that a session of Congress is completed before the beginning of the last full year of a financial period, a new financial period shall begin on 1 January following that session of Congress.

ARTICLE 3
Maximum expenditures for the financial period

3.1 Estimates of maximum expenditures which may be incurred by the Organization in the financial period shall be prepared by the Secretary-General.

3.2 The estimates shall cover the income and expenditures for the financial period to which they relate and shall be presented in Swiss francs.

3.3 The estimates shall be divided into parts, sections, chapters and articles and shall be accompanied by such informational annexes and explanatory statements as may be requested by, or on behalf of, Congress, and such further annexes or statements as the Secretary-General may deem necessary and useful.

3.4 The estimates shall be submitted to the Executive Council at least five weeks prior to the meeting at which they will be considered. The Executive Council shall examine them and prepare a report on them to Congress.

3.5 The estimates prepared by the Secretary-General shall be transmitted to all Members at least six months prior to the opening of Congress. The report of the Executive Council on the estimates shall be transmitted with the estimates or as soon as possible thereafter, but not later than three months before the beginning of the session of Congress.

3.6 The maximum expenditures for the following financial period shall be voted by Congress after consideration of the estimates and of any supplementary estimates prepared by the Secretary-General and of the reports of the Executive Council on them.

3.7 Supplementary estimates for the financial period may be submitted to the Executive Council by the Secretary-General during the interval between the submission of the estimates to the Executive Council and the opening of Congress.

3.8 The Secretary-General shall prepare each supplementary estimate in a form consistent with the applicable portion of the estimates for the financial period.

3.9 When time permits, the Executive Council shall examine the supplementary estimates and prepare a report thereon to Congress; otherwise they shall be left for consideration by Congress.

ARTICLE 4
Authorization of appropriations for the financial period

4.1 The maximum expenditures voted by Congress shall constitute an authority to the Executive Council to approve appropriations for each of the two bienniums comprising the financial period. The total appropriations shall not exceed the amount voted by Congress.

4.2 Transfers between appropriation parts may be authorized by the Executive Council, subject to the total amount of such transfers not exceeding 3 (three) per cent of the total maximum expenditure authorized for the financial period.

ARTICLE 5
The biennium

5.1 The first biennium will begin with the commencement of the financial period, followed by the second biennium beginning on 1 January of the third year of the financial period.

ARTICLE 6
The biennial budget

6.1 The biennial budget estimates shall be prepared by the Secretary-General.

6.2 The estimates shall cover income and expenditure for the biennium to which they relate and shall be presented in Swiss francs.

6.3 The biennial budget estimates shall be divided into parts, sections, chapters and articles and shall be accompanied by such informational annexes and explanatory statements as may be requested by, or on behalf of, the Executive Council, and such further annexes or statements as the Secretary-General may deem necessary and useful.

6.4 The Secretary-General shall submit to the regular meeting of the Executive Council estimates for the following biennium. The estimates shall be transmitted to all members of the Executive Council at least five weeks prior to the opening of the regular session of the Executive Council.

6.5 The budget for the following biennium shall be approved by the Executive Council.

6.6 Supplementary estimates may be submitted by the Secretary-General whenever necessary.

6.7 The Secretary-General shall prepare these supplementary estimates in the same form as that of the applicable portions of the estimates for the biennium and shall submit the estimates to the Executive Council for approval.

ARTICLE 7
Appropriations

7.1 The appropriations approved by the Executive Council shall constitute an authorization to the Secretary-General to incur obligations and make payments for the purposes for which the appropriations were approved and up to the amounts so approved.

7.2 Appropriations shall be available for obligation during the biennium to which they relate.

7.3 Appropriations shall remain available for twelve months following the end of the biennium to which they relate to the extent that they are required to discharge contractual obligations in respect of orders placed, contracts awarded, services received, and any other legal obligation entered into during the biennium. The balance of the appropriations shall be surrendered.

7.4 At the end of the period provided in Regulation 7.3 above, the then remaining balance of any appropriations retained shall be surrendered.

7.5 Notwithstanding the provisions of Regulations 7.3 and 7.4 in the case of outstanding legal obligations in respect of fellowships, the portion of the appropriation required shall remain available until the fellowships are completed or otherwise terminated. At the time of the termination of the fellowship, any remaining balance shall be retained in the General Fund for the sole purpose of financing further long-term and short-term fellowships.

7.6 Amounts surrendered in accordance with Regulations 7.3 and 7.4 shall be retained for the purposes approved by Congress for the financial period subject to the provisions of Regulation 9.1.

7.7 A transfer between appropriation sections may be made by the Secretary-General subject to confirmation by the Executive Council.

ARTICLE 8
Provision of funds

Assessments

8.1 Appropriations shall be financed by contributions from Members of the Organization according to the scale of assessments determined by Congress, such contributions to be adjusted in accordance with the provisions of Regulation 8.2. Pending the receipt of such contributions the appropriations may be financed from the Working Capital Fund.

8.2 For each of the two years of a biennium the contributions of Member States shall be assessed on the basis of one half of the appropriations approved by the Executive Council for the biennium, except that adjustments shall be made to the assessment in respect of supplementary appropriations for which contributions have not previously been assessed on Member States.

8.3 After the Executive Council has approved the biennial budget and determined the amount needed for the Working Capital Fund, the Secretary-General shall:

(*a*) Transmit the relevant documents to the Members of the Organization;

(*b*) Inform the Members of their commitments in respect of annual contributions and advances to the Working Capital Fund;

(*c*) Request them to remit their contributions and advances.

8.4 Contributions and advances shall be considered as due and payable in full within thirty days of the receipt of the communication of the Secretary-General referred to in Regulation 8.3 above, or as of the first day of the year to which they relate, whichever is the later. As of 1 January of the following year, the unpaid balance of such contributions and advances shall be considered to be one year in arrears.

8.5 Annual contributions and advances to the Working Capital Fund of the Organization shall be assessed and paid in Swiss francs.

8.6 Notwithstanding the provisions of Regulation 8.5, the Executive Council is empowered to fix a percentage each year, up to which Members who so desire may make payment in other specified currencies. In deciding this percentage, and specifying the currencies, the Executive Council shall be guided by the estimate of the Secretary-General of the probable needs of the Organization for these other currencies. The exchange rate applicable to these payments in establishing their equivalent in the currency of the State in which the Organization has its

headquarters shall be the official United Nations rate of exchange in force on the date of credit to the WMO bank account.

8.7 Payments made by a Member of the Organization shall be credited first to the Working Capital Fund, then applied in chronological order to the reduction of the contributions which are due in accordance with the scale of assessments.

8.8 Notwithstanding the provisions of Regulation 8.7, amounts received in respect of the current year's contribution will be credited to that year providing that the full yearly instalment due under the terms of special arrangements as established by Congress concerning the repayment of long-outstanding contributions has been paid to the Organization. These special arrangements may be concluded with any Member being in arrears for more than four years on the date of entry into force of such arrangements.

8.9 The Secretary-General shall submit to the regular sessions of the Executive Council a report on the collection of contributions and advances to the Working Capital Fund.

Contributions from new Members

8.10 New Members of the Organization shall be required to make a contribution for the unexpired portion of the biennium in which they become Members and to provide their proportion of the total advances to the Working Capital Fund at rates to be determined provisionally by the Executive Council, subject to subsequent approval by Congress.

Contributions from Members withdrawing from the Organization

8.11 A Member withdrawing from the Organization shall make its contribution for the period from the beginning of the biennium in which it withdraws up to and including the date of its withdrawal and shall be entitled only to the amount standing to its credit in the Working Capital Fund, less any sum due from that Member of the Organization.

Article 9
Funds

9.1 There shall be established a General Fund for the purpose of accounting for expenditures authorized under Regulations 7.1, 7.2 and 7.3. The General Fund will be credited with contributions paid by Member States under Regulations 8.1, 8.10, 8.11 and miscellaneous income as defined under Regulation 10.1. Cash surpluses on the General Fund except that part of such surplus which represents income from interest received on funds other than the Working Capital Fund shall be credited on the basis of the scale of assessments to the Members of the Organization as follows:

(*a*) For Members who have paid in full their previous contributions, by deduction from the next assessment;

(*b*) For Members who have paid in full their contribution in respect of all previous financial periods, but who have not paid in full their contributions in respect of the period which relates to the surplus to be distributed, by reduction of their arrears, and thereafter by deduction from the next assessment;

(*c*) For Members who are in arrears for more than the financial period concerning the one which relates to the surplus to be distributed, their share of the surplus will be retained by the World Meteorological Organization in a special account and will be paid when the provisions of Article 9.1 (*a*) or (*b*) are met.

9.2 Income from interest on funds other than the Working Capital Fund which forms part of the cash surplus for any financial period shall be disposed of in accordance with decisions of Congress, and in the manner determined by Congress due consideration being given to the date of receipt of assessed contributions of Members of the Organization.

Working Capital Fund

9.3 There shall be established a Working Capital Fund to an amount fixed by Congress and for purposes to be determined from time to time by the Executive Council. The moneys of the Working Capital Fund shall be advanced by the Members of the Organization, or at the discretion of Congress provided from interest to the extent that it is earned on the investment of the cash resources of the Fund. Interest retained in the Fund shall be credited to Members' advance accounts in accordance with current balances. Advances by Members shall be calculated by the Executive Council in accordance with the scale of assessments for the apportionment of the expenses of the Organization, and shall be carried to the credit of those Members which have made such advances.

9.4 Advances made from the Working Capital Fund to finance appropriations during a biennium shall be reimbursed to the Fund as soon as and to the extent that income is available for that purpose.

9.5 Except when such advances are recoverable from some other source, advances made from the Working Capital Fund for unforeseen and extraordinary expenses or other authorized purposes shall be reimbursed through the submission of supplementary estimates.

9.6 Income derived from investment of the Working Capital Fund, not retained in the Fund to meet an increase in the level of the capital of the Fund, shall be credited to miscellaneous income.

9.7 Trust funds, reserve and special accounts may be established by the Secretary-General and shall be reported to the Executive Council.

9.8 The purpose and limits of each trust fund, reserve and special account shall be clearly defined by the Executive Council. Unless otherwise provided by the Congress, such funds and accounts shall be administered in accordance with the present Financial Regulations.

9.9 Income derived from investments of trust funds, reserve and special accounts shall be credited as provided in the provisions applicable to such funds or accounts. In the absence of any such provision, Regulation 10.1 shall apply.

ARTICLE 10
Other income

10.1 All other income, except:
(*a*) Contributions to the budget;
(*b*) Direct refunds of expenditures made during the biennium;
(*c*) Advances or deposits to funds and accounts;
(*d*) Interest earned on the Working Capital Fund to the extent that it is required to augment the level of the Working Capital Fund;
shall be classed as miscellaneous income, for credit to the General Fund, unless otherwise specified in accordance with Regulation 9.9.

Voluntary contributions, gifts or donations

10.2 Voluntary contributions, whether or not in cash, may be accepted by the Secretary-General, provided that the purposes for which the contributions are made are consistent with the policies, aims and activities of the Organization and provided that the acceptance of such contributions which directly or indirectly involve additional financial liability for the Organization shall require the consent of Congress or, in case of urgency, of the Executive Council.

10.3 Moneys accepted for purposes specified by the donor shall be treated as trust funds or special accounts under Regulations 9.7 and 9.8.

10.4 Moneys accepted in respect of which no purpose is specified shall be treated as miscellaneous income and shall be reported as "gifts" in the annual accounts.

ARTICLE 11
Custody of funds

11.1 The Secretary-General shall designate the bank or banks in which the funds of the Organization shall be kept.

ARTICLE 12
Investment of funds

12.1 The Secretary-General may make short-term investments of moneys not needed for immediate requirements and shall inform the Executive Council periodically of the investments thus made.

12.2 The Secretary-General may make long-term investments of moneys standing to the credit of trust funds, reserve and special accounts, except as may be otherwise provided by the appropriate authority in respect of each such fund or account and having regard to the particular requirements as to the liquidity of funds in each case.

ARTICLE 13
Internal control

13.1 The Secretary-General shall:
(*a*) Establish detailed financial procedures in order to ensure effective financial administration and the exercise of economy;
(*b*) Cause all payments to be made on the basis of supporting vouchers and other documents which ensure that the services or goods have been received, and that payments have not previously been made;
(*c*) Designate the officers who may receive moneys, incur obligations and make payments on behalf of the Organization;
(*d*) Maintain an internal financial control which shall provide for an effective current examination and/or review of financial transactions in order to ensure:
(i) The regularity of the receipt, custody and disposal of all funds and other financial resources of the Organization;
(ii) The conformity of obligations and expenditures with the appropriations or other financial provisions voted by Congress or approved by the Executive Council, or with the purposes and rules relating to trust funds and special accounts;
(iii) The economic use of the resources of the Organization.

13.2 (*a*) In addition to payments authorized under clause (*b*) below, and notwithstanding Regulation 13.1 (*b*) above, the Secretary-General may, when he deems it in the interest of the Organization to do so, authorize progress payments;
(*b*) Except where normal commercial practice in the interest of the Organization so requires, no contract or purchase order shall be made on behalf of the Organization which requires a payment in advance of the delivery of goods or performance of contractual services.

13.3 No obligations shall be incurred until allotments or other appropriate authorizations have been made in writing under the authority of the Secretary-General.

Ex gratia payments

13.4 The Secretary-General may with the approval of the President make such ex gratia payments as he deems to be necessary in the interest of the Organization, provided that a statement of such payments shall be submitted to the Executive Council with the biennial accounts.

Writing-off of losses or deficiencies

13.5 The Secretary-General may, after full investigation, authorize the writing-off of losses of cash, stores and other assets, except unpaid contributions, provided that a statement of all such amounts written off shall be submitted to the External Auditor with the biennial accounts.

Contracts and purchases

13.6 Tenders for equipment, supplies, and other requirements shall be invited by advertisement, except where the Secretary-General deems that, in the interests of the Organization, a departure from the rule is desirable.

ARTICLE 14
The accounts

14.1 The Secretary-General shall submit accounts for each biennium. In addition he shall maintain, for management purposes, such accounting records as are necessary and shall submit biennial accounts showing for the biennium to which they relate:
(*a*) The income and expenditures of all funds;
(*b*) The status of appropriations, including:
(i) The original budget appropriations;
(ii) The appropriations as modified by any transfers;
(iii) Credits, if any, other than the appropriations approved by the Executive Council;
(iv) The amounts charged against those appropriations and/or other credits;
(*c*) The assets and liabilities of the Organization.
He shall also give such information as may be appropriate to indicate the current financial position of the Organization.

14.2 The biennial accounts of the Organization shall be presented in Swiss francs. Accounting records may, however, be kept in such currency or currencies as the Secretary-General may deem necessary.

14.3 Appropriate separate accounts shall be maintained for all trust funds, reserve and special accounts.

14.4 The biennial accounts shall be submitted by the Secretary-General to the External Auditor not later than 31 March following the end of the biennium.

14.5 Not later than thirteen months after the ending of a financial period, the Secretary-General shall submit to the External Auditor an account of the total expenditures made in respect of that financial period.

14.6 The Secretary-General will submit to each regular session of the Executive Council an unaudited account on the status of implementation of the current biennial budget and a report on the financial situation of the Organization.

ARTICLE 15
External audit

Appointment

15.1 An External Auditor, who shall be the Auditor-General (or officer holding the equivalent title) of a Member State, shall be appointed in the manner and for the period decided by the Executive Council.

Tenure of office

15.2 If the External Auditor ceases to hold that office in his own country, his tenure of office as External Auditor shall thereupon be terminated and he shall be succeeded as External Auditor by his successor as Auditor-General. The External Auditor may not otherwise be removed during his tenure of office except by the Executive Council.

Scope of audit

15.3 The audit shall be conducted in conformity with generally accepted common auditing standards, and, subject to any special directions of the Executive Council, in accordance with the additional terms of reference set out in the annex to these Regulations.

15.4 The External Auditor may make observations with respect to the efficiency of the financial procedures, the accounting system, the internal financial controls and, in general, the administration and management of the Organization.

15.5 The External Auditor shall be completely independent and solely responsible for the conduct of the audit.

15.6 The Executive Council may request the External Auditor to perform certain specific examinations and issue separate reports on the results.

Facilities

15.7 The Secretary-General shall provide the External Auditor with the facilities he may require in the performance of the audit.

15.8 For the purpose of making a local or special examination or of effecting economies of audit cost, the External Auditor may engage the services of any national Auditor-General (or equivalent title) or commercial public auditors of known repute or any other person or firm who, in the opinion of the External Auditor, is technically qualified.

Reporting

15.9 The External Auditor shall issue reports on the audit of the financial statements and relevant schedules reflecting the position of the final accounts for each biennium and for the financial period, which shall include such information as he deems necessary in regard to matters referred to in Regulation 15.4 and in the Additional Terms of Reference.

15.10 The External Auditor's reports shall be transmitted, together with the relevant audited financial statements, to the Executive Council, which shall examine them in accordance with any directions given by Congress.

15.11 The financial statement for the biennium and the accounts for the financial period, together with the External Auditor's certificates, shall be transmitted to the Members of the Organization by the Secretary-General.

ARTICLE 16
Decisions involving expenditures

16.1 No regional association, technical commission or other competent body shall take a decision involving either an administrative change in a programme approved by Congress or the Executive Council, or the possible requirement of expenditure, unless it has received and taken account of a report from the Secretary-General on the administrative and financial implications of the proposal. Where, in the opinion of the Secretary-General, the proposed expenditure cannot be made from the existing appropriations, it shall not be incurred until the Executive Council has made the necessary appropriations, unless the Secretary-General certifies that provision can be made

under the conditions of the resolution of the Executive Council relating to unforeseen expenditure.

ARTICLE 17
General provisions

17.1 In case of urgency and with the approval of the President of the Organization, the Secretary-General shall refer to Members, for decision by correspondence, financial matters which are beyond the competence of the Executive Council.

17.2 The applications of any of the present Regulations may be suspended for a period which shall not extend beyond the next session of Congress if the Executive Council has decided that the matter under consideration is of such a character that a decision should be taken before the next Congress. In such circumstances, the proposal of the Executive Council for such a suspension shall be communicated by the Secretary-General to all Members for consultation and subsequently for a postal ballot according to the procedures for voting by correspondence in the General Regulations.

17.3 In the application of Regulation 17.1 the proposal shall be adopted, and in the application of Regulation 17.2 the suspension of regulations shall be put into force, if two-thirds of the votes cast for and against which have reached the Secretariat within ninety days of the date of dispatch of the request to vote to Members are in the affirmative. The decisions shall be communicated to all Members.

17.4 In case of doubt as to the interpretation or application of any of these Financial Regulations, the Secretary-General is authorized to rule thereon, subject to confirmation by the President in important cases.

17.5 The present Financial Regulations do not apply to the field projects of the technical cooperation activities of the Organization financed by the United Nations Development Programme; the Secretary-General is authorized to administer those activities under Financial Regulations and Rules established by the governing body and the Administrator of the United Nations Development Programme.

ANNEX

ADDITIONAL TERMS OF REFERENCE GOVERNING EXTERNAL AUDIT

(1) The External Auditor shall perform such audit of the accounts of the Organization, including all trust funds and special accounts, as he deems necessary in order to satisfy himself:

(*a*) That the financial statements are in accord with the books and records of the Organization;

(*b*) That the financial transactions reflected in the statements have been in accordance with the rules and regulations, the budgetary provisions and other applicable directives;

(*c*) That the securities and moneys on deposit and on hand have been verified by certificate received direct from the Organization's depositaries or by actual count;

(*d*) That the internal controls are adequate in the light of the extent of reliance placed thereupon;

(*e*) That procedures satisfactory to the External Auditor have been applied to the recording of all assets, liabilities, surpluses and deficits.

(2) The External Auditor shall be the sole judge as to the acceptance in whole or in part of certifications and representations by the Secretary-General and may proceed to such detailed examination and verification as he chooses of all financial records, including those relating to supplies and equipment.

(3) The External Auditor and his staff have free access at all convenient times to all books, records and other documentation which are, in the opinion of the External Auditor, necessary for the performance of the audit. Information which is classified as privileged and which the Secretary-General (or his designated senior official) agrees is required by the External Auditor for the purposes of the audit and information classified as confidential shall be made available on application. The External Auditor and his staff shall respect the privileged and confidential nature of any information so classified which has been made available and shall not make use of it except in direct connection with the performance of the audit. The External Auditor may draw the attention of the Executive Council to any denial of information classified as privileged which in his opinion was required for the purpose of the audit.

(4) The External Auditor shall have no power to disallow items in the accounts but shall draw to the attention of the Secretary-General for appropriate action any transaction concerning which he entertains doubt as to legality or propriety. Audit objections to these, or any other transactions, arising during the examination of the accounts shall be communicated immediately to the Secretary-General.

(5) The External Auditor shall certify the financial statements in the following terms:

"I have examined the following appended financial statements numbered ... to ... properly identified, and the relevant schedules of WMO for the biennium/ financial period ended ... My examination included a general review of the accounting procedures and such tests of the accounting records and other supporting evidence as I considered necessary in the circumstances."

stating, as appropriate, whether:

(*a*) The financial statements present fairly the financial position as at the end of the period and the results of its operations for the period then ended;

(*b*) The financial statements were prepared in accordance with the stated accounting principles;

(*c*) The accounting principles were applied on a basis consistent with that of the preceding financial period;

(*d*) Transactions were in accordance with the Financial Regulations and legislative authority.

(6) The report of the External Auditor to the Executive Council on financial operations of the period should mention:

(*a*) The type and scope of his examination;

(*b*) Matters affecting the completeness or accuracy of the accounts, including where appropriate:

(i) Information necessary to the correct interpretation of the accounts;

(ii) Any amounts which ought to have been received but which have not been brought to account;

(iii) Any amounts for which a legal or contingent obligation exists and which have not been recorded or reflected in the financial statements;

(iv) Expenditures not properly substantiated;

(v) Whether proper books of accounts have been kept. Where in the presentation of statements there are deviations of a material nature from the generally accepted accounting principles applied on a consistent basis, these should be disclosed;

(*c*) Other matters which should be brought to the notice of the Executive Council, such as:

(i) Cases of fraud or presumptive fraud;

(ii) Wasteful or improper expenditure of the Organization's money or other assets (notwithstanding that the accounting for the transaction may be correct);

(iii) Expenditure likely to commit the Organization to further outlay on a large scale;

(iv) Any defect in the general system or detailed regulations governing the control of receipts and disbursements or of supplies and equipment;

(v) Expenditure not in accordance with the intention of Congress and/or the Executive Council after making allowance for duly authorized transfers within the budget;

(vi) Expenditure in excess of appropriations as amended by duly authorized transfers within the budget;

(vii) Expenditure not in conformity with the authority which governs it;

(*d*) The accuracy or otherwise of the supplies and equipment records as determined by stock-taking and examination of the records;

(*e*) If appropriate, transactions accounted for in a previous biennium concerning which further information has been obtained or transactions in a later biennium concerning which it seems desirable that the Executive Council should have early knowledge.

(7) The External Auditor may make such observations with respect to his findings resulting from the audit and such comments on the Secretary-General's financial report as he deems appropriate to the Executive Council or to the Secretary-General.

(8) Whenever the scope of audit of the External Auditor is restricted, or whenever he is unable to obtain sufficient evidence, the External Auditor shall refer to the matter in his report, making clear in his report the reasons for his comments and the effect on the financial position and the financial transactions as recorded.

(9) In no case shall the External Auditor include criticism in his report without first affording the Secretary-General an adequate opportunity of explanation on the matter under observation.

(10) The External Auditor is not required to mention any matter referred to in the foregoing that, in his opinion, is insignificant in all respects.

RESOLUTION 33 (Cg-XII)

ASSESSMENT OF PROPORTIONAL CONTRIBUTIONS OF MEMBERS FOR THE TWELFTH FINANCIAL PERIOD

THE CONGRESS,

NOTING:

(1) Article 24 of the WMO Convention,

(2) Resolution 36 (Cg-XI) — Assessment of proportional contributions of Members for the eleventh financial period,

DECIDES:

(1) That the scale of assessment of proportional contributions of Members for the twelfth financial period (1996–1999) shall be as presented in Table 1 of the annex to this resolution;

(2) That the proportional contributions of countries specified in Table 2 of the annex to this resolution which are not Members but which may become Members shall be assessed as shown in Table 2;

AUTHORIZES the Secretary-General to accept and implement any proposal for the adjustment of individual percentage assessments submitted jointly by two or more Members, provided that the aggregate percentage assessments of any Members submitting such a proposal shall remain, after adjustment, equal to their aggregate assessments as set out in the annex to this resolution;

AUTHORIZES the Executive Council to make a provisional assessment in respect of non-Members in the event of any such non-Members becoming Members, the method of assessment being based on principles similar to those governing the assessments laid down in the annex to this resolution.

ANNEX TO RESOLUTION 33 (Cg-XII)

Table 1

TABLE OF PROPORTIONAL CONTRIBUTIONS TO THE WORLD METEOROLOGICAL ORGANIZATION FOR THE TWELFTH FINANCIAL PERIOD (1996–1999)

Member	*1996*	*1997*	*1998*	*1999*
Afghanistan, Islamic State of	0.02	0.02	0.02	0.02
Albania	0.02	0.02	0.02	0.02
Algeria	0.15	0.15	0.16	0.16
Angola	0.02	0.02	0.02	0.02
Antigua and Barbuda	0.02	0.02	0.02	0.02
Argentina	0.67	0.61	0.54	0.47
Armenia	0.13	0.10	0.08	0.05
Australia	1.56	1.53	1.49	1.46
Austria	0.76	0.78	0.82	0.85
Azerbaijan	0.22	0.19	0.15	0.11
Bahamas	0.02	0.02	0.02	0.02
Bahrain	0.03	0.03	0.02	0.02
Bangladesh	0.02	0.02	0.02	0.02
Barbados	0.02	0.02	0.02	0.02
Belarus	0.33	0.32	0.30	0.28
Belgium	1.14	1.09	1.05	1.00
Belize	0.02	0.02	0.02	0.02
Benin	0.02	0.02	0.02	0.02
Bolivia	0.02	0.02	0.02	0.02
Bosnia and Herzegovina	0.03	0.03	0.02	0.02
Botswana	0.02	0.02	0.02	0.02
Brazil	1.43	1.49	1.54	1.59
British Caribbean Territories	0.02	0.02	0.02	0.02
Brunei Darussalam	0.04	0.03	0.03	0.02
Bulgaria	0.16	0.14	0.11	0.08
Burkina Faso	0.02	0.02	0.02	0.02
Burundi	0.02	0.02	0.02	0.02
Cambodia	0.02	0.02	0.02	0.02
Cameroon	0.02	0.02	0.02	0.02
Canada	3.00	3.02	3.05	3.07
Cape Verde	0.02	0.02	0.02	0.02
Central African Republic	0.02	0.02	0.02	0.02
Chad	0.02	0.02	0.02	0.02
Chile	0.10	0.10	0.09	0.08
China	1.05	0.95	0.84	0.73
Colombia	0.15	0.13	0.12	0.10
Comoros	0.02	0.02	0.02	0.02
Congo	0.02	0.02	0.02	0.02
Costa Rica	0.03	0.02	0.02	0.02
Côte d'Ivoire	0.03	0.02	0.02	0.02
Croatia	0.13	0.12	0.10	0.09
Cuba	0.10	0.09	0.07	0.05
Cyprus	0.03	0.03	0.03	0.03
Czech Republic	0.47	0.40	0.32	0.25
Democratic People's Republic of Korea	0.06	0.06	0.05	0.05
Denmark	0.70	0.71	0.71	0.71
Djibouti	0.02	0.02	0.02	0.02
Dominica	0.02	0.02	0.02	0.02
Dominican Republic	0.03	0.03	0.02	0.02
Ecuador	0.04	0.03	0.03	0.02
Egypt	0.10	0.10	0.09	0.08
El Salvador	0.02	0.02	0.02	0.02
Eritrea	0.02	0.02	0.02	0.02
Estonia	0.07	0.06	0.05	0.04
Ethiopia	0.02	0.02	0.02	0.02
Fiji	0.02	0.02	0.02	0.02
Finland	0.53	0.55	0.58	0.60
France	6.08	6.16	6.24	6.33
French Polynesia	0.02	0.02	0.02	0.02
Gabon	0.03	0.02	0.02	0.02

Member	*1996*	*1997*	*1998*	*1999*
Gambia	0.02	0.02	0.02	0.02
Georgia	0.22	0.18	0.15	0.11
Germany	8.95	8.95	8.96	8.96
Ghana	0.02	0.02	0.02	0.02
Greece	0.39	0.38	0.38	0.37
Guatemala	0.03	0.03	0.02	0.02
Guinea	0.02	0.02	0.02	0.02
Guinea-Bissau	0.02	0.02	0.02	0.02
Guyana	0.02	0.02	0.02	0.02
Haiti	0.02	0.02	0.02	0.02
Honduras	0.02	0.02	0.02	0.02
Hong Kong	0.02	0.02	0.02	0.02
Hungary	0.23	0.20	0.17	0.14
Iceland	0.04	0.04	0.03	0.03
India	0.47	0.42	0.36	0.31
Indonesia	0.19	0.18	0.16	0.14
Iran, Islamic Republic of	0.58	0.53	0.49	0.44
Iraq	0.13	0.13	0.14	0.14
Ireland	0.20	0.20	0.21	0.21
Israel	0.24	0.25	0.26	0.27
Italy	3.97	4.34	4.72	5.11
Jamaica	0.02	0.02	0.02	0.02
Japan	11.05	12.41	13.77	15.17
Jordan	0.02	0.02	0.02	0.02
Kenya	0.02	0.02	0.02	0.02
Kuwait	0.24	0.23	0.21	0.19
Kyrgyzstan	0.06	0.05	0.04	0.03
Lao People's Democratic Republic	0.02	0.02	0.02	0.02
Latvia	0.13	0.12	0.10	0.08
Lebanon	0.02	0.02	0.02	0.02
Lesotho	0.02	0.02	0.02	0.02
Liberia	0.02	0.02	0.02	0.02
Libyan Arab Jamahiriya	0.24	0.23	0.21	0.20
Lithuania	0.16	0.13	0.11	0.08
Luxembourg	0.07	0.07	0.07	0.07
Madagascar	0.02	0.02	0.02	0.02
Malawi	0.02	0.02	0.02	0.02
Malaysia	0.14	0.14	0.14	0.14
Maldives	0.02	0.02	0.02	0.02
Mali	0.02	0.02	0.02	0.02
Malta	0.02	0.02	0.02	0.02
Mauritania	0.02	0.02	0.02	0.02
Mauritius	0.02	0.02	0.02	0.02
Mexico	0.87	0.84	0.81	0.78
Mongolia	0.02	0.02	0.02	0.02
Morocco	0.05	0.05	0.04	0.03
Mozambique	0.02	0.02	0.02	0.02
Myanmar	0.02	0.02	0.02	0.02
Namibia	0.02	0.02	0.02	0.02
Nepal	0.02	0.02	0.02	0.02
Netherlands	1.59	1.58	1.58	1.57
Netherlands Antilles and Aruba	0.02	0.02	0.02	0.02
New Caledonia	0.02	0.02	0.02	0.02
New Zealand	0.27	0.26	0.25	0.24
Nicaragua	0.02	0.02	0.02	0.02
Niger	0.02	0.02	0.02	0.02
Nigeria	0.19	0.16	0.14	0.11
Norway	0.55	0.55	0.55	0.55
Oman	0.03	0.04	0.04	0.04
Pakistan	0.08	0.07	0.07	0.06

Member	*1996*	*1997*	*1998*	*1999*
Panama	0.03	0.02	0.02	0.02
Papua New Guinea	0.02	0.02	0.02	0.02
Paraguay	0.03	0.02	0.02	0.02
Peru	0.09	0.08	0.07	0.06
Philippines	0.12	0.10	0.08	0.06
Poland	0.60	0.51	0.41	0.32
Portugal	0.21	0.23	0.26	0.28
Qatar	0.05	0.05	0.04	0.04
Republic of Kazakhstan	0.36	0.30	0.25	0.19
Republic of Korea	0.26	0.31	0.36	0.42
Republic of Moldova	0.16	0.13	0.11	0.08
Republic of Yemen	0.02	0.02	0.02	0.02
Romania	0.20	0.19	0.17	0.15
Russian Federation	6.92	6.02	5.12	4.22
Rwanda	0.02	0.02	0.02	0.02
Saint Lucia	0.02	0.02	0.02	0.02
Sao Tome and Principe	0.02	0.02	0.02	0.02
Saudi Arabia	0.83	0.79	0.74	0.70
Senegal	0.02	0.02	0.02	0.02
Seychelles	0.02	0.02	0.02	0.02
Sierra Leone	0.02	0.02	0.02	0.02
Singapore	0.12	0.13	0.13	0.14
Slovakia	0.15	0.13	0.10	0.08
Slovenia	0.09	0.09	0.08	0.07
Solomon Islands	0.02	0.02	0.02	0.02
Somalia	0.02	0.02	0.02	0.02
South Africa	0.44	0.40	0.35	0.31
Spain	1.97	2.08	2.20	2.33
Sri Lanka	0.02	0.02	0.02	0.02
Sudan	0.02	0.02	0.02	0.02
Suriname	0.02	0.02	0.02	0.02
Swaziland	0.02	0.02	0.02	0.02
Sweden	1.23	1.22	1.22	1.21
Switzerland	1.11	1.13	1.16	1.18
Syrian Arab Republic	0.06	0.06	0.05	0.05
Tajikistan	0.05	0.04	0.03	0.02
Thailand	0.13	0.13	0.13	0.13
The former Yugoslav Republic of Macedonia*	0.02	0.02	0.02	0.02
Togo	0.02	0.02	0.02	0.02
Trinidad and Tobago	0.05	0.04	0.04	0.03
Tunisia	0.04	0.04	0.03	0.03
Turkey	0.36	0.36	0.37	0.37
Turkmenistan	0.06	0.05	0.04	0.03
Uganda	0.02	0.02	0.02	0.02
United Kingdom of Great Britain and Northern Ireland	4.94	5.03	5.14	5.24
Ukraine	1.24	1.19	1.13	1.08
United Arab Emirates	0.18	0.19	0.19	0.19
United Republic of Tanzania	0.02	0.02	0.02	0.02
United States of America	24.55	24.60	24.66	24.71
Uruguay	0.06	0.05	0.05	0.04
Uzbekistan	0.26	0.22	0.17	0.13
Vanuatu	0.02	0.02	0.02	0.02
Venezuela	0.51	0.45	0.38	0.32
Viet Nam, Socialist Republic of	0.02	0.02	0.02	0.02
Yugoslavia	0.15	0.13	0.12	0.10
Zaire	0.02	0.02	0.02	0.02
Zambia	0.02	0.02	0.02	0.02
Zimbabwe	0.03	0.02	0.02	0.02
Total	**100.00**	**100.00**	**100.00**	**100.00**

* Following the decision of the United Nations General Assembly on 8 April 1993, the State is being provisionally referred to for all purposes within the Organization as "the former Yugoslav Republic of Macedonia" pending settlement of differences that have arisen over its name.

Table 2

COUNTRIES WHICH MAY BECOME MEMBERS

Country	*Percentage assessment (to be confirmed)**
Andorra	0.02
Bhutan	0.02
Cook Islands	0.02
Equatorial Guinea	0.02
Grenada	0.02
Liechtenstein	0.02
Macao	0.02
Marshall Islands	0.02
Micronesia, Federated States of	0.02
Monaco	0.02
Niue	0.02
Saint Kitts and Nevis	0.02
Saint Vincent and the Grenadines	0.02
San Marino	0.02
Tonga	0.02
Western Samoa	0.02

* Based on the decision regarding minimum percentage to be applied.

RESOLUTION 34 (Cg-XII)

REVIEW OF THE WORKING CAPITAL FUND

THE CONGRESS,

NOTING:

(1) Resolution 33 (Cg-XI) — Review of the Working Capital Fund, and Regulations 8 and 9 of the Financial Regulations,

(2) That the Financial Regulations provide for the establishment of a Working Capital Fund,

DECIDES:

(1) That the Working Capital Fund shall continue to be maintained for the following purposes:

(*a*) To finance budgetary appropriations pending receipt of contributions;

(*b*) To advance such sums as may be necessary to cover unforeseen and extraordinary expenses which cannot be met from current budgetary provisions;

(2) That the principal of the Working Capital Fund during the twelfth financial period shall be 2 per cent of the maximum expenditure figure approved by Congress for 1996–1999;

(3) That the additional principal shall be provided by crediting interest earned on the investment of cash resources of the Working Capital Fund. The interest earned will be credited to the individual Members advance accounts in the Working Capital Fund. The existing advances of each Member shall, notwithstanding the provisions of Articles 8 and 9 of the Financial Regulations, be frozen at the level fixed for the eleventh financial period, and that advances for new Members joining the Organization after 1 January 1996 would be assessed at the rates established for 1999.

RESOLUTION 35 (Cg-XII)

SETTLEMENT OF LONG-OUTSTANDING CONTRIBUTIONS

THE CONGRESS,

NOTING:

(1) Article 31 of the Convention,

(2) Regulation 8.4 of the Financial Regulations,

CONSIDERING that some Members have failed over several years to pay their contributions and have thus been subject to the application of the provisions of Resolution 37 (Cg-XI) — Suspension of Members for failure to meet financial obligations,

IMPRESSES upon all Members the necessity to pay their contributions by the due date or as soon as possible thereafter but within the year in which they fall due in order to avoid the need for the Organization to draw on the Working Capital Fund and to depend on internal or external borrowing;
INVITES all defaulting Members to conclude an agreement with the Organization for the settlement of their arrears over a period not exceeding 10 years in addition to the payment of the current contribution in full in the year for which they are due; the conclusion of such agreement is, however, subject to the prior settlement in full of any advance due to the Working Capital Fund;
AUTHORIZES the Executive Council, or the President of WMO acting on its behalf, to suspend the application of the provisions of Resolution 37 (Cg-XI) when it is satisfied that such agreements have been formally concluded and its provisions are adhered to by the defaulting Member;
REQUESTS the Secretary-General to report annually on this matter to the Executive Council.

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NOTE: This resolution replaces Resolution 39 (Cg-IX), which is no longer in force.

RESOLUTION 36 (Cg-XII)
SHORT-TERM BORROWING AUTHORITY

THE CONGRESS,
NOTING that the bulk of the cash resources required for the implementation of the regular programme of the Organization, as approved by Congress and the Executive Council, derives from the contributions paid by its Members and from the advances made to the Working Capital Fund,
NOTING also that substantial delays may occur in the receipt of the contribution assessed on some of its Members,
STRESSES the need to ensure the financing of the approved biennial budget and, to this end;
URGES all Members to pay, as early as possible their assessed contributions including arrears, if any;
AUTHORIZES the Secretary-General, if the cash balance of the Working Capital Fund proves to be temporarily inadequate for financing the approved budget, to borrow funds on a short-term basis:

(*a*) From the Voluntary Cooperation Fund and from the Publications Fund to the extent that such borrowing does not affect the activities financed under these two funds;
(*b*) From Governments, banks or other external sources, as a last resort, if the acquisition of funds under the authority given in (*a*) above proves to be insufficient or not possible provided that the maximum amount of such borrowing shall not exceed two months expenditure from the approved biennial budget, and that the loan shall be limited in time to six months;

DECIDES that the repayment of such short-term loans shall be made as soon as contributions received make this possible, it being understood that repayment of loans made under the external borrowing authority will have priority over the repayment of funds borrowed internally and that repayment to funds other than the Working Capital Fund will be made before the repayment to the Working Capital Fund;
DECIDES FURTHER that interest due on such short-term loans shall be charged under Part 7.40 — Insurance, Staff Compensation Fund, audit costs, contingencies and unforeseen expenditures, of the biennial budget if it cannot be met from miscellaneous income;
EMPOWERS the Executive Council to give similar authorization to the Secretary-General, if the need arises, during the twelfth financial period;
REQUESTS the Secretary-General to report to the Executive Council on the action taken within the framework of the present resolution.

RESOLUTION 37 (Cg-XII)
SECRETARY-GENERAL'S CONTRACT

THE CONGRESS,
NOTING Article 21(*a*) of the WMO Convention,
DECIDES that the terms of appointment of the Secretary-General should be as set forth in the draft contract contained in the annex to this resolution.

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NOTE: This resolution replaces Resolution 39 (Cg-XI), which remains in force only until 31 December 1995.

ANNEX TO RESOLUTION 37 (Cg-XII)

SECRETARY-GENERAL'S CONTRACT

In application of Article 21, paragraph (*a*) of the Convention of the World Meteorological Organization, prescribing that the Secretary-General shall be appointed by Congress on such terms as Congress may approve; and

Having regard to the resolution adopted by the Twelfth Congress of the World Meteorological Organization approving the terms of appointment included in the present agreement;

It is hereby agreed as follows:

Between the World Meteorological Organization, hereinafter called the Organization, represented by its President, on the one part, and Professor G. O. P. Obasi, appointed Secretary-General by the Twelfth World Meteorological Congress during its meeting of 9 June 1995, on the other part,

1. The Secretary-General's term of appointment shall take effect from 1 January 1996.

2. The Secretary-General, at the time of taking up his appointment, shall subscribe to the following oath or declaration:

> "I solemnly swear (undertake, affirm, promise) to exercise in loyalty, discretion and conscience the functions entrusted to me as an international civil servant of the World Meteorological Organization, to discharge these functions and regulate my conduct with the interests of the Organization only in view, and not to seek or accept instructions in regard to the performance of my duties from any Government or other authority external to the Organization".

This oath or declaration shall be made orally by the Secretary-General in the presence of the President and either a Vice-President or another member of the Executive Council.

3. During the term of his appointment, the Secretary-General shall enjoy the privileges and immunities in keeping with his office which are granted him by appropriate agreements entered into by the Organization; he shall not engage in any activity that is incompatible with the proper discharge of his duties as Secretary-General of the Organization; he shall renounce any employment or remunerated activities other than those of Secretary-General of the Organization, except those activities authorized by the Executive Council; he shall not accept any honour, decoration, favour, gift, or remuneration from any source external to the Organization without first obtaining the approval of the Executive Council.

4. The term of appointment of the Secretary-General shall end:

(*a*) By expiration of this agreement on 31 December 1999; or

(*b*) By this official's resignation submitted in writing to the President of the Organization, in which case the Secretary-General shall cease his functions two months after the date of acceptance of his resignation by the Executive Council; or

(*c*) By termination for serious failure to carry out his duties and obligations, and in particular those set out in paragraphs (2) and (3) of this agreement. In such case, the Secretary-General shall be heard as of right by the Executive Council; if the Executive Council decides to terminate the appointment, the decision shall take effect two months after the date of pronouncement and on conditions to be determined by the Executive Council. After consultation with the Executive Council, the President of the Organization may suspend the Secretary-General from the exercise of his functions pending investigation by the Executive Council and until this Council has taken a decision.

5. The Secretary-General shall receive from the Organization:

(*a*) An annual salary of US$105 808 net (after deduction for staff assessment), with the application of the appropriate post adjustment at a rate equivalent to that applied to Executive Heads of other comparable specialized agencies, salary and post adjustment to be paid in monthly installments; and

(*b*) An annual representation allowance of SFR 24 000, to be paid in equal monthly installments; and

(*c*) Other allowances including dependency benefits, education, installation and repatriation grants, payment of removal, if pertinent, and travel and subsistence allowances appropriate and under the conditions applicable to Under-Secretaries of the United Nations.

All the above-mentioned sums will be paid in the currency of the country where the Secretariat is located, unless some other arrangement is agreed to by the Executive Council and the Secretary-General.

The salary and emoluments received from the Organization will be free of tax.

6. The Secretary-General shall be allowed thirty working days' leave each year. In order that the Secretary-General may take his annual leave every two years in his home country, the Organization shall pay the expenses in connection with the travel of the Secretary-General, his spouse, and his dependent children, under the conditions applicable to Under-Secretaries of the United Nations.

7. The Secretary-General shall participate in any social security scheme established by the Organization, the benefits he would receive being not less favourable than those which would accrue in similar circumstances to an official of the next highest rank of the staff covered by the scheme.

8. Any divergence of views concerning the application or interpretation of the present agreement, which it shall not have been possible to settle by direct discussion between the parties, can be submitted by one or the other of the parties to the judgement of the Administrative Tribunal, the competence of which is recognized by the Organization, whose decisions will be final. For any appeals by the Secretary-General against the non-observation of the statutes of the United Nations Joint Staff Pension Fund, of which the Secretary-General shall be a participant in accordance with the regulations and rules of that Fund, the Administrative Tribunal whose jurisdiction has been accepted by the Organization for pension cases is recognized hereby as the competent arbitrator.

Done and signed in duplicate at ..... on the ..... 1995.

.....	.....
(John W. Zillman) President of the World Meteorological Organization	(G. O. P. Obasi) Secretary-General appointed by the Twelfth World Meteorological Congress

RESOLUTION 38 (Cg-XII)

REVISION OF THE GENERAL REGULATIONS

THE CONGRESS,

NOTING:

(1) Article 8(*d*) of the WMO Convention,

(2) The General Regulations of the Organization as approved by Eleventh Congress and published in the 1991 edition of *Basic Documents*, No. 1 (WMO-No. 15),

CONSIDERING that in the light of experience gained since Eleventh Congress in the application of these regulations and in the interest of clarification, some amendments to the General Regulations are required,

ADOPTS the new or amended regulations as listed in the annex to this resolution;

RETAINS in force the present regulations not included in the annex to this resolution or in other resolutions of Twelfth Congress;

DECIDES that the General Regulations so amended shall become effective immediately after the closure of Twelfth Congress except as may be otherwise provided for in other resolutions of Twelfth Congress;

REQUESTS the Secretary-General to arrange for the publication of a new edition of *Basic Documents*, No. 1 (WMO-No. 15) containing the full text of the General Regulations as so amended, which should be distributed before April 1996.

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NOTE: This resolution replaces Resolution 40 (Cg-XI), which is no longer in force.

ANNEX TO RESOLUTION 38 (Cg-XII)

AMENDMENTS TO THE WMO GENERAL REGULATIONS

DEFINITIONS

Delegate	A *member of a delegation*
Delegation	*All the persons accredited by a Member of the Organization to represent it in a session of Congress, an association, or a commission*
Principal delegate	*Head of the delegation*

REGULATION 6

(*a*) Each Member shall designate by written notification to the Secretary-General a Permanent Representative who should be the Director of the Meteorological or Hydrometerological Service to act on technical matters for the Member between sessions of Congress. Subject to the approval of their respective Governments, Permanent Representatives should be the normal channel of communications between the Organization and their respective countries and shall maintain contact with the competent authorities, governmental or non-governmental, of their own countries on matters concerning the work of the Organization;

(*b*) *Each Permanent Representative may appoint a hydrological adviser who should be the representative of the respective national Hydrological Service, or equivalent national agency, and should advise the Permanent Representative with respect to WMO activities in operational hydrology and water resources. Permanent Representatives shall notify the Secretary-General of such appointment.*

REGULATION 15

If the Third Vice-President of the Organization (or a vice-president of an association or a commission) resigns or is not able or eligible to carry out the functions of his office, for any cause, and if the vacancy is notified to the Secretary-General at least *225* days before the next ordinary session of the body concerned the President of

the body concerned shall arrange for the election of a Third Vice-President (or vice-president, in the case of an association or a commission) to serve for a period not exceeding the term of office of the officer whom he replaces. In the election of a Third Vice-President, due consideration shall be given to the relevant provisions of Article 13(*c*) (ii) of the Convention and of Regulation 83.

REGULATION 16(*a*)

(*a*) If the office of the president of an association or commission becomes vacant and cannot be filled by application of Regulation 12, the President of the Organization shall arrange for an election by correspondence of the president of the association or the commission, provided that the vacancy is notified to the Secretary-General at least *225* days before the next session of the body concerned;

REGULATION 90

(*a*) Elections between ordinary sessions of a constituent body shall take place to fill an office or a place in the body as prescribed in Regulations 15, 16(*a*) and 144;

(*b*) *Notwithstanding Regulation 74(b), the eligibility of candidates for election by correspondence other than those prescribed by Article 6(a) of the Convention as well as Regulations 167(a) and 183 shall be that prevailing on the date of dispatch of request to nominate candidates as provided for in Regulation 91;*

(*c*) Notwithstanding the application of Regulation 15, the president of an association or commission may also, in exceptional cases, arrange to hold elections by correspondence for any other office or place in the body in question.

REGULATION 108

An observer may participate in a debate on a subject of common interest to the Organization and *the country or* the organization which he represents. No motion or amendment to a motion by an observer shall be considered unless it is endorsed by a delegation or a member.

REGULATION 118

The six official and working languages of the Organization shall be used at the Congress and in the Executive Council and in their committees and working groups.

REGULATION 121

At sessions of associations and their committees and working groups and at sessions of working groups of commissions, the languages designated in accordance with Regulations 119 and 120 shall be used for interpretation.

All documents for the above-mentioned bodies shall be issued in the languages determined for the session in accordance with Regulations 119 and 120.

REGULATION 172

(*a*) Any Member may propose additional items to the provisional agenda for an ordinary session, but preferably not later than *thirty days* before the opening of the session; explanatory memoranda in respect of the additional items should accompany such proposals and be distributed by the Secretariat to the addressees of the notification referred to in Regulation 171;

(*b*) Working papers *submitted by Members* on items on the provisional agenda should be made available to the Secretariat as early as possible but preferably not later than *sixty days* before the opening of the session; they should similarly be distributed by the Secretariat.

REGULATION 188

(*a*) Any Member may propose additional items to the provisional agenda for an ordinary session, but preferably not later than *thirty days* before the opening of the session; explanatory memoranda in respect of the additional items should accompany such proposals and be distributed by the Secretariat to the addressees of the notification referred to in Regulation 187;

(*b*) Working papers *submitted by Members* on items on the provisional agenda should be made available to the Secretariat as early as possible but preferably not later than *sixty days* before the opening of the session; they should similarly be distributed by the Secretariat.

RESOLUTION 39 (Cg-XII)

TERMS OF REFERENCE OF THE TECHNICAL COMMISSIONS

THE CONGRESS,

NOTING:

(1) General Regulation 179 and its annex,

(2) Resolution 14 (EC-XLIV) — The Rio Declaration and Agenda 21,

(3) Resolution 15 (EC-XLIV) — Framework Convention on Climate Change,

(4) Recommendations 1 (CBS-X), 2 (CIMO-XI), 5 (CAeM-X) and proposals submitted by CAS and CCl, as agreed by the forty-sixth session of the Executive Council, all concerning the terms of reference of the respective commissions,

CONSIDERING:

(1) The importance of WMO's scientific and technical activities in the follow-up to UNCED,

(2) The need to clarify and strengthen the role of the technical commissions in matters concerning the environment, climate change, and sustainable development,

DECIDES:

(1) To retain the general terms of reference applicable to all technical commissions (reference General Regulation 179);

(2) To adopt the revised terms of reference of CBS, CIMO, CAS, CAeM, CMM, and CCl as given in the annex to this resolution;

(3) To retain unchanged the terms of reference of CAgM and CHy;

REQUESTS:

(1) The Commissions for Hydrology and for Agricultural Meteorology to complete the review of their respective terms of reference and to submit proposals for their revision, if necessary, to Thirteenth Congress;

(2) The Secretary-General to inform all concerned of this decision and to continue to support the work of the technical commissions as provided for in the General Regulations.

ANNEX TO RESOLUTION 39 (Cg-XII)

ANNEX III TO THE GENERAL REGULATIONS

(Individual terms of reference of CBS, CIMO CAS, CAeM, CMM and CCl — amended text)

COMMISSION FOR BASIC SYSTEMS (CBS)

The Commission shall be responsible for matters relating to:

(*a*) Cooperation with Members, other technical commissions and relevant bodies in the development and operation of integrated systems for observing, data processing, telecommunications, and data management in response to requirements of all WMO Programmes and opportunities provided by technological developments;

(*b*) The assessment of opportunities for, and the provision of, a common infrastructure to meet the requirements defined by technical commissions and regional associations, as well as by organizations with whom WMO has relations, taking into account new applications of meteorology, hydrology, oceanography, and related environmental sciences;

(*c*) Development and implementation of the Public Weather Services Programme;

(*d*) The processing, storage and retrieval of basic data for meteorological and related purposes including, in particular, the organization of the Global Data-processing System (GDPS) of the World Weather Watch;

(*e*) The development and application of systems and techniques to meet user requirements including those of operational weather analysis and forecasting and of services for environmental emergency authorities;

(*f*) Observational systems, facilities and networks (land, sea, air, and space) as decided by Members including, in particular, all technical aspects of the Global Observing System (GOS) of the World Weather Watch;

(*g*) Telecommunication networks, radio-frequency allocation and facilities for operational, research and applications purposes including, in particular, the organization of the Global Telecommunication System (GTS) of the World Weather Watch;

(*h*) The development and application of operational procedures, schedules, and arrangements for the international exchange of observational data and processed information, in particular, through the GTS;

(*i*) The development and application of data management principles and procedures including monitoring and evaluation of the common infrastructure, in particular, of the World Weather Watch.

COMMISSION FOR INSTRUMENTS AND METHODS OF OBSERVATION (CIMO)

(1) The Commission shall be responsible for matters relating to international standardization and compatibility of instruments and methods of observation of meteorological, and related geophysical and environmental variables, which shall include in particular:

(*a*) The provision of advice concerning types, characteristics, accuracies, performance, effective and economical use of instruments and methods of observation;

(*b*) Global and regional field comparisons and evaluations of instruments and methods of observation to achieve data quality consistent with users' requirements and global data compatibility;

(*c*) Studies and recommendations on methods of observation, including test and calibration methods and the correction to be applied;

(*d*) Promoting the development of reference instruments.

(2) In addition, the Commission shall:

(*a*) Support other WMO Programmes and bodies through the provision of specifications for instruments and observing systems in order to meet requirements for the measurement of meteorological, and related geophysical and environmental variables, taking into account both experience and new developments;

(*b*) Encourage research and development of new approaches in the field of instruments and methods of observation of meteorological, and related geophysical and environmental variables;

(*c*) Promote the appropriate and economical production and use of instruments and methods of observation with particular attention to the needs of developing countries.

COMMISSION FOR ATMOSPHERIC SCIENCES (CAS)

The Commission shall be responsible for matters relating to:

(*a*) Research in atmospheric and related sciences to advance understanding of atmospheric processes and support the following:
  (i) Weather prediction: concerning time scales from very short range to long range and space scales from local to global;
  (ii) Atmospheric composition and air pollution: including studies of transport, transformation and deposition of air pollutants and related monitoring;
  (iii) Physics and chemistry of clouds: particularly in support of weather prediction and atmospheric chemistry and for weather modification with emphasis on the underlying processes and the development of rigorous evaluation procedures;
  (iv) Tropical meteorology: studies of processes and phenomena of particular relevance to low latitudes and their influence beyond;
  (v) Climate studies: noting the central role of the World Climate Research Programme for improved understanding of climate, the Commission will contribute expertise, especially in the above research areas, including the application of relevant research advances;

(*b*) Coordination of the operation and further development of the Global Atmosphere Watch, including the setting of relevant network standards and procedures, the monitoring of performance and maintaining liaison with other international programmes engaged in environmental monitoring, especially the Global Climate Observing System (GCOS);

(*c*) The formulation of requirements for observations and for the storage, retrieval and exchange of raw and/or processed data for research purposes;

(*d*) Scientific assessment of technical meteorological procedures including verification techniques;

(*e*) The coordination of the international aspects of the Commission's activities with relevant scientific bodies and those concerned with disaster mitigation;

(*f*) Standardization of functions, constants, terminology and bibliographic practices applicable to atmospheric sciences.

COMMISSION FOR AERONAUTICAL METEOROLOGY (CAeM)

The Commission shall be responsible* for matters relating to:

(*a*) Applications of meteorology to aviation, taking into account the relevant meteorological developments in both the scientific and practical fields;

(*b*) The study of aeronautical requirements for meteorological services and arranging so far as possible for these requirements to be met either by its own action or, when coordination is necessary, by referring the requirements to the relevant constituent bodies;

(*c*) International standardization of methods, procedures and techniques employed or appropriate for employment in:
  (i) The application of meteorology to aeronautics and the provision of meteorological services to international air navigation;
  (ii) The making, reporting and dissemination of meteorological observations from aircraft;

(*d*) Consideration of requirements for basic meteorological data needed for aeronautical meteorological purposes;

(*e*) Consideration of requirements for climatological data needed for aeronautical meteorological purposes;

(*f*) Consideration of aeronautical requirements for meteorological observations and specialized instruments;

(*g*) Consideration of the meteorological aspects of the impact of aviation on the environment;

(*h*) The training of meteorological and non-meteorological personnel in aeronautical meteorology.

COMMISSION FOR MARINE METEOROLOGY (CMM)

The Commission shall be responsible for matters relating to:

(*a*) The international coordination of safety-related marine meteorological and associated oceanographic services as an integral part of the Global Maritime Distress and Safety System of the International Convention for the Safety of Life at Sea (SOLAS);

(*b*) The continuing development of marine meteorological and related oceanographic services to meet the needs of a comprehensive range of ocean-based economic, commercial and industrial activities, as well as global climate studies, the protection of the marine environment, and to support marine pollution emergency response operations in cooperation with the oceanographic community and with other WMO bodies as appropriate;

(*c*) In cooperation with IOC and other international organizations, the maintenance and expansion of a composite, operational, global marine meteorological and physical oceanographic observing system, containing both *in situ* and remote sensing components and including data communication facilities, as a part of the Global Ocean Observing System and the World Weather Watch, and in support of ocean services, the World Climate Programme and other major WMO and IOC Programmes;

(*d*) The application of state-of-the-art data management techniques for integrated processing, archiving, exchange and presentation of marine meteorological and physical oceanographic data, together with related metadata;

(*e*) The enhancement of marine meteorological and related oceanographic observing systems and services world-wide, by ensuring that national and regional needs for education and training, technology transfer and implementation support are identified and met

* In cooperation with ICAO whenever appropriate.

so that all countries have the capacity to benefit from and contribute to the implementation of WMO Programmes, by continuing a comprehensive programme of technical publications, and by assisting in the incorporation of advances in marine science into marine observing systems and the provision of services.

These responsibilities exclude those aspects specifically handled by other WMO constituent bodies.

COMMISSION FOR CLIMATOLOGY (CCl)

The Commission shall be responsible for matters relating to climate and its relationship with human well-being, human activities and sustainable development, including:

(*a*) The coordination and consolidation of general data requirements, including those for observations, data collection, supply and exchange, for all components of the WCP and its associated activities such as GCOS (in cooperation with other relevant bodies) as the Commission having the lead role in the World Climate Data and Monitoring Programme (WCDMP);

(*b*) The identification and promotion of best practices in the collection, quality control, archiving, access and further management of climate data, proxy data, remote sensing data and metadata, taking into consideration that some of these aspects are also the responsibility of other commissions;

(*c*) The development and promotion of objective statistical methods for describing and interpreting climate data, including assessment of representativeness and reliability, spatial and temporal interpolation, extreme value analysis, homogeneity analysis and trend detection in climatological series, taking into consideration that some of these aspects are also the responsibility of other commissions;

(*d*) The analysis and monitoring of climate, its spatial and temporal variations and the issue of climate data and products in support of research, applications and impact assessments;

(*e*) The evaluation and review of operational climate predictions;

(*f*) The preparation of authoritative statements on climate;

(*g*) As lead Commission in the World Climate Applications and Services Programme (WCASP), the development and improvement of services and applications methodologies in cooperation with other relevant commissions, particularly for the use of climate information in the fields of:

(i) Energy;
(ii) Land use, urban planning and building design;
(iii) Transportation (especially on land) and communication;
(iv) Tourism and recreation;
(v) Drought management and combat of desertification;
(vi) Environmental management, including air quality;
(vii) Retail trade, commerce and law;

(*h*) Identification of priority areas for investigation of human effects on local and regional climate and for promotion of existing knowledge and methods for alleviating problems;

(*i*) The promotion of capacity building and technology transfer in respect to climatological practices and activities in support of WMO Programmes;

(*j*) The development of methods, in particular for the purposes of the WCASP, for effective presentation to users of climatological information, and for the promotion of climatological services and their value, including cost-benefit information;

(*k*) The development of methods for application of climate predictions to socio-economic activities;

(*l*) Advising the appropriate WMO bodies of issues and scope of commercialization of climatological data and services.

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NOTE: The terms of reference of CHy and CAgM remain unchanged.

RESOLUTION 40 (Cg-XII)

WMO POLICY AND PRACTICE FOR THE EXCHANGE OF METEOROLOGICAL AND RELATED DATA AND PRODUCTS INCLUDING GUIDELINES ON RELATIONSHIPS IN COMMERCIAL METEOROLOGICAL ACTIVITIES

THE CONGRESS,

NOTING:

(1) Resolution 23 (EC-XLII) — Guidelines on international aspects of provision of basic and special meteorological services,

(2) Resolution 20 (EC-XLVI) — WMO policy on the exchange of meteorological and related data and products,

(3) Resolution 21 (EC-XLVI) — Proposed new practice for the exchange of meteorological and related data and products,

(4) Resolution 22 (EC-XLVI) — WMO guidelines on commercial activities,

(5) The report to Twelfth Congress of the chairman of the Executive Council Working Group on the Commercialization of Meteorological and Hydrological Services,

established at the request of Eleventh Congress by the Executive Council in Resolution 2 (EC-XLIII) — Working Group on the Commercialization of Meteorological and Hydrological Services,

RECALLING:

(1) The general policies of the Organization, as set down in the Third WMO Long-term Plan (1992–2001) adopted by Eleventh Congress, which include, *inter alia*, that Members should reaffirm their commitment to the free and unrestricted international exchange of basic meteorological data and products, as defined in WMO Programmes (*Third WMO Long-term Plan*, Part I, Chapter 4, paragraph 127),

(2) The concern expressed by Eleventh Congress that commercial meteorological activities had the potential to undermine the free exchange of meteorological data and products between national Meteorological Services,

CONSIDERING:

(1) The continuing fundamental importance, for the provision of meteorological services in all countries, of the exchange of meteorological data and products between WMO Members' national Meteorological or Hydrometeorological Services (NMSs), WMCs, and RSMCs of the WWW Programme,

(2) Other programmes of world importance such as GCOS, GOOS, WCRP, and IGOSS, which are sponsored and implemented in cooperation with other international organizations,

(3) The basic role of WMO Members' NMSs in furthering applications of meteorology to all human activities,

(4) The call by the world leaders at UNCED (Brazil, 1992) for increasing global commitment to exchange scientific data and analysis and for promoting access to strengthened systematic observations,

(5) The provision in the UN/FCCC committing all Parties to the Convention to promote and cooperate in the full, open, and prompt exchange of information related to the climate system and climate change,

RECOGNIZING:

(1) The increasing requirement for the global exchange of all types of environmental data in addition to the established ongoing exchange of meteorological data and products under the auspices of the WWW,

(2) The basic responsibility of Members and their NMSs to provide universal services in support of safety, security and economic benefits for the peoples of their countries,

(3) The dependence of Members and their NMSs on the stable, cooperative international exchange of meteorological and related data and products for discharging their responsibilities,

(4) The continuing requirement for Governments to provide for the meteorological infrastructure of their countries,

(5) The continuing need for, and benefits from, strengthening the capabilities of NMSs, in particular in developing countries, to improve the provision of services,

(6) The dependence of the research and education communities on access to meteorological and related data and products,

(7) The right of Governments to choose the manner by, and the extent to, which they make data and products available domestically or for international exchange,

RECOGNIZING FURTHER:

(1) The existence of a trend towards the commercialization of many meteorological and hydrological activities,

(2) The requirement by some Members that their NMSs initiate or increase their commercial activities,

(3) The risk arising from commercialization to the established system of free and unrestricted exchange of data and products, which forms the basis for the WWW, and to global cooperation in meteorology,

(4) Both positive and negative impacts on the capacities, expertise and development of NMSs, and particularly those of developing countries, from commercial operations within their territories by the commercial sector including the commercial activities of other NMSs,

REMINDS Members of their obligations under Article 2 of the WMO Convention to facilitate worldwide cooperation in the establishment of observing networks and to promote the exchange of meteorological and related information; and of the need to ensure stable ongoing commitment of resources to meet this obligation in the common interest of all nations;

ADOPTS the following policy on the international exchange of meteorological and related data and products:

As a fundamental principle of the World Meteorological Organization (WMO), and in consonance with the expanding requirements for its scientific and technical expertise, WMO commits itself to broadening and enhancing the free and unrestricted[1] *international exchange of meteorological and related data and products;*

ADOPTS the following practice on the international exchange of meteorological and related data and products[2]:

(1) Members shall provide on a free and unrestricted basis essential data and products which are necessary for the provision of services in support of the protection of life and property and the well-being of all nations, particularly those basic data and products, as, at a minimum, described in Annex 1 to this resolution, required to describe and forecast accurately weather and climate, and support WMO Programmes;

(2) Members should also provide the additional data and products which are required to sustain WMO Programmes at the global, regional, and national levels and, further, as agreed, to assist other Members in the provision of meteorological services in their countries. While increasing the volume of data and products available to all Members by providing these additional data and products, it is understood that WMO Members may be justified in placing conditions on

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1 "Free and unrestricted" means non-discriminatory and without charge [Resolution 23 (EC-XLII) — Guidelines on international aspects of provision of basic and special meteorological services]. "Without charge", in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.

2 See Annex 4 to this resolution for definitions.

their re-export for commercial purposes outside of the receiving country or group of countries forming a single economic group, for reasons such as national laws or costs of production;

(3) Members should provide to the research and education communities, for their non-commercial activities, free and unrestricted access to all data and products exchanged under the auspices of WMO with the understanding that their commercial activities are subject to the same conditions identified in **ADOPTS** (2) above;

STRESSES that all meteorological and related data and products required to fulfil Members' obligations under WMO Programmes will be encompassed by the combination of essential and additional data and products exchanged by Members;

URGES Members to:

(1) Strengthen their commitment to the free and unrestricted exchange of meteorological and related data and products;

(2) Increase the volume of data and products exchanged to meet the needs of WMO Programmes;

(3) Assist other Members, to the extent possible, and as agreed, by providing additional data and products in support of time-sensitive operations regarding severe weather warnings;

(4) Strengthen their commitments to the WMO and ICSU WDCs in their collection and supply of meteorological and related data and products on a free and unrestricted basis;

(5) Implement the practice on the international exchange of meteorological and related data and products, as described in **ADOPTS** (1) to (3) above;

(6) Make known to all Members, through the WMO Secretariat, those meteorological and related data and products which have conditions related to their re-export for commercial purposes outside of the receiving country or group of countries forming a single economic group;

(7) Make their best efforts to ensure that the conditions which have been applied by the originator of additional data and products are made known to initial and subsequent recipients;

FURTHER URGES Members to comply with:

(1) The Guidelines for Relations among National Meteorological or Hydrometeorological Services Regarding Commercial Activities as given in Annex 2 to this resolution;

(2) The Guidelines for Relations between National Meteorological or Hydrometeorological Services and the Commercial Sector as given in Annex 3 to this resolution;

INVITES Members to provide explanation of the WMO policy, practice, and guidelines to the commercial sector and other appropriate agencies and organizations;

REQUESTS the Executive Council to:

(1) Invite the president of CBS, in collaboration with the other technical commissions as appropriate, to provide advice and assistance on the technical aspects of implementation of the practice;

(2) Invite the president of CHy to continue his work on the issue of commercialization and the international exchange of hydrological data and products;

(3) Keep the implementation of this resolution under review and report to Thirteenth Congress;

REQUESTS the Secretary-General to:

(1) Keep Members informed on the impacts of commercialization on WMO Programmes and to facilitate the exchange of relevant information on commercialization among NMSs;

(2) Report on a timely basis to all Members on those meteorological and related data and products on which Members have placed conditions related to their re-export for commercial purposes;

(3) Maintain effective coordination with IOC and other involved international organizations in respect of joint programmes during WMO's implementation of the practice;

DECIDES to review the implementation of this resolution at Thirteenth Congress.

ANNEX 1 TO RESOLUTION 40 (Cg-XII)

DATA AND PRODUCTS TO BE EXCHANGED WITHOUT CHARGE AND WITH NO CONDITIONS ON USE

Purpose

The purpose of this listing of meteorological and related data and products is to identify a minimum set of data and products which are essential to support WMO Programmes and which Members shall exchange without charge and with no conditions on use. The meteorological and related data and products which are essential to support WMO Programmes include, in general, the data from the RBSNs and as many data as possible that will assist in defining the state of the atmosphere at least on a scale of the order of 200 km in the horizontal and six to 12 hours in time.

Contents

(1) Six-hourly surface synoptic data from RBSNs, e.g. data in SYNOP, BUFR or other general purpose WMO Code;

(2) All available *in situ* observations from the marine environment, e.g. data in SHIP, BUOY, BATHY, TESAC codes, etc.;

(3) All available aircraft reports, e.g. data in AMDAR, AIREP codes, etc.;

(4) All available data from upper air sounding networks, e.g. data in TEMP, PILOT, TEMP SHIP, PILOT SHIP codes etc.;

(5) All reports from the network of stations recommended by the regional associations as necessary to provide a good representation of climate, e.g. data in CLIMAT/CLIMAT TEMP and CLIMAT SHIP/CLIMAT TEMP SHIP codes, etc.;

(6) Products distributed by WMCs and RSMCs to meet their WMO obligations;

(7) Severe weather warnings and advisories for the protection of life and property targeted upon end-users;
(8) Those data and products from operational meteorological satellites that are agreed between WMO and satellite operators. (These should include data and products necessary for operations regarding severe weather warnings and tropical cyclone warnings).

ANNEX 2 TO RESOLUTION 40 (Cg-XII)

GUIDELINES FOR RELATIONS AMONG NATIONAL METEOROLOGICAL OR HYDROMETEOROLOGICAL SERVICES (NMSs) REGARDING COMMERCIAL ACTIVITIES

Purpose

The purpose of these guidelines is to maintain and strengthen in the public interest the cooperative and supportive relations among NMSs in the face of differing national approaches to the growth of commercial meteorological activities.

Guidelines

In order to ensure the maintenance of the international exchange of data and products among WMO Members, and to develop the applications of meteorology, while adapting to the new challenge from the growth of commercial meteorological activities:

1. NMSs should provide the first point of receipt within a country for WWW data and products, in order to have complete and timely access to all the information necessary for the production of weather forecasts and warnings and other meteorological/climatological services necessary for the protection of life and property and other public interest responsibilities entrusted to the NMSs and without prejudice to the national laws of their territory of location;
2. NMSs should make their best efforts to ensure that the conditions which have been applied by the originator of additional data and products[3] are made known to initial and subsequent recipients;
3. In the case where conditions accompanying the exchange of additional data and products are not honoured, the originating NMS may take appropriate actions including denial of access of these additional data and products to the receiving Member;
4. NMSs may export NWP regional model products employing additional data and products for commercial purposes outside the country of the Member running the model, unless objected to by an affected Member. Every effort should be made to coordinate the provision of such services prior to implementation to avoid possible harm to other Members;
5. NMSs may distribute and export products from global NWP models without regard to conditions which were attached to the original data used in the models;
6. Services or products whose construction would suffer significant degradation by removal of the additional data or products and from which the additional data and/or products can be retrieved easily, or their use can be identified unambiguously, should carry the same conditions on their re-export for commercial purposes as those additional data or products;
7. An NMS receiving a request from a local client for service that it cannot fulfil may seek assistance from another NMS with the capacity to provide it. Where appropriate to enhance the free and unrestricted exchange of data and products among WMO Members, the service should as far as possible be made available through the offices of the NMS of the country within which the client is located;
8. Similarly, unless other arrangements have been agreed to, an NMS receiving a request to provide service in another country should refer the request back to the NMS in that country, i.e. to the local NMS. In the event that the local NMS is unable to provide the service for lack of facilities or other legitimate reasons, the external NMS may seek to establish a collaborative arrangement with the local NMS to provide the service;
9. Where the service originated by one NMS is likely to affect other Members (e.g. in the provision of regional broadcasts of meteorological information or the wide distribution of seasonal or climate forecasts), the NMS originating the service should seek, well in advance, and take into account the response of the NMSs of the affected Members, to the extent possible;
10. NMSs should, to the extent possible, refrain from using basic WWW data and products received from other countries in ways which jeopardize the performance of the public interest responsibilities of the originating NMSs within their own countries. If an NMS finds that, in the undertaking of its public interest responsibilities it is affected adversely by a public or private organization in another country, it may warn the NMS in the country from which the organization is deriving the data and products. The latter NMS should consider measures to mitigate these adverse effects and take those actions appropriate under its national laws;
11. NMSs with experience in commercial activities should make their expertise available, on request, to other NMSs, especially NMSs of developing countries, through the WMO Secretariat and bilaterally, and provide relevant documentation, seminars and training programmes to developing countries, on request, on the same financial basis as other WMO education and training courses are provided.

In implementing these guidelines, NMSs should take into account and, as far as possible, respect the different legal,

[3] "Additional data and products" means data and products additional to those with no conditions on their use.

administrative, and funding frameworks which govern the practices of NMSs in other countries or group of countries forming a single economic group. NMSs should, in particular, note that other NMSs will be bound by their own national laws and regulations regarding any trade restrictive practices. Furthermore, where a group of countries form a single economic group, the internal laws and regulations appropriate to that group shall, for all internal group activities, take precedence over any conflicting guidelines.

ANNEX 3 TO RESOLUTION 40 (Cg-XII)

GUIDELINES FOR RELATIONS BETWEEN NATIONAL METEOROLOGICAL OR HYDROMETEOROLOGICAL SERVICES (NMSs) AND THE COMMERCIAL SECTOR

Purpose

The purpose of these guidelines is to further improve the relationship between NMSs and the commercial sector. The development of the exchange of meteorological and related information depends greatly upon sound, fair, transparent, and stable relations between these two sectors.

Guidelines

These guidelines apply to the commercial sector engaged in meteorological activities, which includes government organizations engaged in commercial meteorological activities.

In order to enhance the relationship between the two sectors:

1. In the common interest, the commercial sector is urged to respect the international data exchange principles of the WWW and other WMO Programmes;
2. The commercial sector is urged to recognize and acknowledge the essential contribution of NMSs and of WMO to the activities of the commercial sector. NMSs and the commercial sector are urged to recognize the interdependence and mutual benefit possible from cooperative interaction;
3. In the case where the NMS of a country, particularly of a developing country, were to consider itself affected by the commercial sector's commercial use of data originated in its own country, all parties involved shall undertake negotiations to achieve appropriate and satisfactory agreements;
4. Unless authorized to do so by the relevant Member, commercial sector providers of meteorological services should not publicly issue warnings and forecasts relevant to the safety of life and property in the country or maritime area where they operate. Warnings and forecasts relevant to the safety of life and property publicly issued by the commercial sector should be consistent with those originated by NMSs or by other official originators in the course of the performance of their public service responsibilities;
5. In providing services, the commercial sector should be encouraged to employ meteorological terminology consistent with established national and international practice;
6. Commercial sector providers of meteorological services should respect the sovereignty and rules and regulations of the countries in which they deliver services;
7. NMSs are encouraged to discuss with their countries' meteorological community and professional societies the issues associated with the international activities of the commercial sector;
8. NMSs are encouraged to collaborate with their countries' commercial sector and their professional societies to maximize the use of meteorological information within their country.

ANNEX 4 TO RESOLUTION 40 (Cg-XII)

DEFINITIONS OF TERMS IN THE PRACTICE AND GUIDELINES

Term	*Definition*
Practice	Specifications for the classification of, and the conditions attached to, the use of data and products exchanged among WMO Members.
Re-export	Redistribute, physically or electronically, outside the receiving country or group of countries forming a single economic group, directly or through a third party.
For commercial purposes	For recompense beyond the incremental cost of reproduction and delivery.
Commercial sector	Governmental or non-governmental organizations or individuals operating for commercial purposes.

Meteorological and related data and products	Geophysical (meteorological, oceanographic, etc.) observational data and products developed from these data acquired and/or produced by Members to support WMO Programme requirements. NOTES: 1. Meteorological and related data and products are considered to include climatological data and products. 2. Hydrological data and products, at this stage, are not included in the application of the practice. 3. Aeronautical information generated specifically to serve the needs of aviation and controlled under the Convention on International Civil Aviation (Chicago, 1944) is not included in the application of the practice.
Free and unrestricted	Non-discriminatory and without charge (Resolution 23 (EC-XLII)) — Guidelines on international aspects of provision of basic and special meteorological services. "Without charge", in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.
Research and education communities	Researchers, teachers and students in academic and research institutions, in other research institutions within governmental and non-governmental organizations, and these institutions themselves, as provided for in national laws and regulations.

RESOLUTION 41 (Cg-XII)

REVIEW OF PREVIOUS RESOLUTIONS OF CONGRESS

THE CONGRESS,

CONSIDERING that it is important not to let accumulate a collection of resolutions from various Congresses, some of which would have become redundant and others which have been replaced by new decisions,

NOTING:

(1) General Regulation 135 concerning the review of previous Congress resolutions,

(2) Resolution 41 (Cg-XI) — Review of previous Congress resolutions,

HAVING EXAMINED its previous resolutions still in force,

DECIDES:

(1) To keep in force the following resolutions:

Second Congress	18 (Cg-II);
Third Congress	3, 4, 29 (Cg-III);
Fifth Congress	6, 15, 30 (Cg-V);
Seventh Congress	9, 23, 32, 39 (except paragraph 1 under **DECIDES** and paragraph 1 of the Annex) (Cg-VII);
Eighth Congress	33, 36, 48 (Cg-VIII);
Ninth Congress	4, 9, 30 (Cg-IX);
Tenth Congress	9, 22, 29, 31 (Cg-X);
Eleventh Congress	8, 10, 13, 14, 19, 24, 30, 35, 37 (Cg-XI);

(2) To keep in force but only until 31 December 1995: Resolutions 26, 28, 31, 32, 33, 34, 36 and 39 (Cg-XI);

(3) Not to keep in force other resolutions adopted before the twelfth session of Congress;

(4) To publish the text of resolutions kept in force pursuant to resolutions adopted by Twelfth Congress*.

NOTE: This resolution replaces Resolution 41 (Cg-XI), which is no longer in force.

* The full text of resolutions of Congress and the Executive Council which are kept in force are published in *Resolutions of Congress and the Executive Council* (WMO-No. 508).

ANNEXES

ANNEX I

Annex to paragraph 2.3.1 of the general summary

RECOMMENDATIONS OF THE FINANCIAL ADVISORY COMMITTEE

Consideration of the Secretary-General's programme and budget for the twelfth financial period (1996–1999)

Recommendation 1

The Committee recommends that Congress conducts a thorough review of the Secretary-General's proposed programme and budget for the twelfth financial period with a view to identifying areas where programmes could be restructured to achieve reduction of the budget in order to move from a zero real growth proposal towards a budgetary objective amounting to zero nominal growth.

Contribution matters

Proportional contributions of Members during the eleventh financial period (agenda item 10.2)

Recommendation 2

The Committee recommends that Congress confirms assessments made by the Executive Council in respect of new Members and changes in membership during the eleventh financial period.

Scale of contributions for the twelfth financial period

Recommendation 3

That Twelfth Congress adopts a scale of assessed proportional contributions for the twelfth financial period based on the principle to move gradually towards an adjusted United Nations scale; the minimum contribution for the WMO scale remaining at 0.02 per cent.

Working Capital Fund

Recommendation 4

That Twelfth Congress maintains the present level of the Working Capital Fund at 2 per cent of the approved maximum expenditure for the twelfth financial period (1996–1999).

Recommendation 5

That any resulting increase in the principal of the Working Capital Fund be provided by retaining in the Fund interest earned on investments of cash reserves of the Fund until such time as the principal reached the approved level of 2 per cent of the maximum expenditures.

Measures to overcome persistent cash flow problems

Recommendation 6

That Twelfth Congress:

(*a*) Adopts draft Resolution 10.2/3 (Cg-XII) — Suspension of Members for failure to meet their financial obligations, which strengthens the provision of Resolution 37 (Cg-XI);

(*b*) Adopts Resolution 35 (Cg-XII) — Settlement of long-outstanding contributions, which would bring the text of Resolution 39 (Cg-IX) in line with other resolutions adopted in respect of related contributions matters;

(*c*) Keeps in force Resolution 31 (Cg-X) — Incentive scheme for early payment of contributions;

(*d*) Adopts Resolution 36 (Cg-XII) — Short-term borrowing authority.

Review of other Congress documents having budgetary and financial implications

Other financial matters

Recommendation 7

(*a*) That Congress adopts the relevant revisions to the WMO Financial Regulations;

(*b*) That the principal of the Staff Compensation Plan Reserve Fund during the twelfth financial period be kept unchanged at SFR 306 000, the level fixed by Tenth Congress;

(*c*) That any balance left on the Publications Fund and the Joint Climate Research Fund at 31 December 1995 be carried over to the twelfth financial period (1996–1999).

Management and Organization Study of the WMO Secretariat

Recommendation 8

The Committee recommends that Congress suspends Financial Regulation 4.2 temporarily during the twelfth financial period, only to the extent required, so that funds approved in Part 5 of the budget for languages, publications and conferences can be allocated to the user programmes to enable the implementation of the recommendation of the management study regarding the "internal trading" scheme.

ANNEX II

Annex to paragraph 5.1.1 of the general summary

PROGRAMME OF SESSIONS OF CONSTITUENT BODIES DURING THE TWELFTH FINANCIAL PERIOD (1996–1999)

Session	*Place*	*Remarks*
1996		
Executive Council (forty-eighth session)	Geneva	
Regional Association II (Asia) (eleventh session)	Mongolia Thailand	
Commission for Basic Systems (eleventh session)	Egypt	
Commission for Hydrology (tenth session)	Nigeria	Intention of extending an invitation announced at the last session of the Commission
	Germany Paraguay	Under consideration
1997		
Executive Council (forty-ninth session)	Geneva	
Regional Association III (South America) (twelfth session)	Guyana Brazil	Under consideration
Regional Association IV (North and Central America) (twelfth session)	Bahamas El Salvador Netherlands Antilles and Aruba	Under consideration
Commission for Marine Meteorology (twelfth session)	Cuba	
Commission for Climatology (twelfth session)	Mauritius	Invitation extended at the last session of the Commission
1998		
Executive Council (fiftieth session)	Geneva	
Regional Association I (Africa) (twelfth session)	Egypt Kenya Morocco Tunisia United Republic of Tanzania Zimbabwe	Invitation extended at the last session of the Association
Regional Association V (South-West Pacific) (twelfth session)	Indonesia	Invitation extended at the last session of the Association
Regional Association VI (Europe) (twelfth session)	Israel	
Commission for Atmospheric Sciences (twelfth session)	The former Yugoslav Republic of Macedonia	
Commission for Basic Systems (extraordinary session)	Germany	Under consideration
Commission for Instruments and Methods of Observation (twelfth session)	Morocco Slovakia	
1999		
Thirteenth World Meteorological Congress	Geneva	
Executive Council (fifty-first session)	Geneva	
Commission for Agricultural Meteorology (twelfth session)		
Commission for Aeronautical Meteorology (eleventh session)		

ANNEX III

Annex to paragraph 9.1.13 of the general summary

WMO PLAN OF ACTION FOR THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION (IDNDR) (revised June 1995)

1. Introduction

The World Meteorological Organization (WMO) has the responsibility within the United Nations system for activities relating to meteorology, climatology and operational hydrology. Within the context of the IDNDR, the Organization takes a leading role concerning mitigation of disasters caused by:

(*a*) Tropical cyclones;
(*b*) Floods;
(*c*) Tornadoes and severe thunderstorms;
(*d*) Other severe weather phenomena such as extreme temperatures, high winds, major snowstorms, dust and sand storms;
(*e*) Storm surges;
(*f*) Landslides and avalanches;
(*g*) Droughts.

WMO contributes to the mitigation of other types of disaster. Its activities include, for example, the meteorological and hydrological aspects of insect plagues and the dissemination over its GTS of tsunami warnings. The WMO activities in respect of droughts are covered in the WMO Strategy on Drought and Desertification. In addition, WMO promotes the mitigation of disasters which are not of natural origin but in which meteorology or hydrology may be used to alleviate major degradation of the natural environment. Activities in this regard are implemented under the relevant programmes of the Organization.

2. Proposed activities

2.1 The activities to be implemented under the WMO Plan of Action for the IDNDR relate to the types of disaster listed above and take full account of the activities of the Organization in those subjects which are within the scope and purpose of the Decade. This point should be emphasized because a large part of the activities of WMO, in particular under its WWW and HWR Programmes, is geared to aims which are indistinguishable from those of the IDNDR. Furthermore, these activities started before the Decade and will continue throughout and beyond it. Therefore, several of these activities are being intensified and accelerated during the IDNDR.

2.2 There are now available an adequate scientific base and a variety of tried and tested methodologies, technologies, and equipment to fulfil most of the needs for the mitigation of disasters of meteorological and hydrological origin. Further scientific advances and new or improved techniques would be extremely valuable, and further studies, particularly research in meteorology and hydrology, should be promoted. Improving international meteorological and hydrological data exchange is also essential for improving forecasts and warnings. However, the real, immediate and most important problem to be addressed by WMO, as far as the IDNDR is concerned — with its 10-year span and emphasis on developing countries — lies in applying the existing technologies and procedures. Consequently, the main thrusts are:

(*a*) Assessing risks, particularly as needed for planning disaster-prevention measures;
(*b*) Filling the gaps in the implementation of the meteorological and hydrological observing networks, telecommunications, and data-processing facilities required for establishing or upgrading warning systems;
(*c*) Encouraging, initiating, or accelerating action on national and international forecasts and warnings to ensure their greater effectiveness, to improve the procedures for the exchange of warnings, and to improve response to warnings, in order to ensure that they are used effectively;
(*d*) Promoting the development of public information, education, and awareness programmes as essential components of national strategies.

2.3 In many developing countries the great impediments to such improvements at the national level in the near future are:

(*a*) The lack of knowledge and expertise of the technology concerned;
(*b*) The lack of funds to install, operate, and maintain systems using existing technology and procedures;
(*c*) The difficulties in distributing and disseminating forecasts, warnings, and design procedures to those who need them.

The basic requirements to overcome these impediments are technical cooperation activities with an emphasis on technology transfer and/or institution building — the provision of equipment and facilities and human resources development, including education and training in awareness, preparedness and mitigation.

2.4 The WMO Long-term Plan sets out the overall policy and strategy of the Organization as defined by its Members. It includes components designed to ensure that meteorology and operational hydrology make a substantial contribution to the mitigation of natural disasters. The Fourth WMO Long-term Plan covers the 10-year period 1996–2005. It contains projects to be implemented through the NMHSs of WMO Members. The projects fit within an internationally-coordinated framework and, while a great many of WMO's activities contribute substantially to the goals of the IDNDR, this plan for the IDNDR highlights only those WMO Programmes which fall completely, or in very large part, within the scope and purposes of the Decade.

2.5 In addition to its regular programme of activities, WMO is implementing the projects described in section 5 below as a special contribution to the aims of the Decade.

3. The WMO Tropical Cyclone Programme (TCP) and the Public Weather Services (PWS) Programme

3.1 The specific objectives of the TCP, as set out in the WMO Long-term Plan, are to promote and facilitate coordinated and cooperative action at the international, regional and national levels. The goal is to provide upgraded and more effective warnings of tropical cyclones and associated floods and storm surges, and to disseminate warnings, together with the strengthening of the related community preparedness for the mitigation of loss of life, human suffering, and destruction of property, in order to alleviate the setback to social and economic development, particularly in developing countries.

3.2 The provision of public weather services and, in particular, forecast and warning of adverse meteorological phenomena, in support of safety of life and property and for the general welfare and convenience of the people, is one of the primary roles of all NMSs. To assist Members in this regard, Eleventh Congress approved the Public Weather Services (PWS) Programme of WMO.

3.3 Special attention will be focused on:

(*a*) Acceleration of wide-ranging activities for transfer of technology and human resources development through training events such as courses, workshops, seminars, and attachments at advanced centres, and through fellowships, technical cooperation among developing countries (TCDC) arrangements, and publication of guidance material;

(*b*) The implementation of WWW systems and facilities which serve as the basis for effective cyclone and other adverse weather phenomena detection and warning systems;

(*c*) The promotion of regional and interregional cooperation and coordination mainly through sessions of TCP regional bodies, follow-up to those meetings, and support for the implementation of their programmes. New activities would include support for the application of radar, satellite and microcomputer technology;

(*d*) The promotion of human response to warnings and of public information, education, and awareness related to tropical cyclones and warning systems;

(*e*) Enhancement of collaboration with international organizations such as United Nations regional economic commissions, the United Nations Department of Humanitarian Affairs (UN/DHA) and the International Federation of Red Cross and Red Crescent Societies (IFRC), as well as national bodies such as the IDNDR national committees, and with non-governmental organizations, particularly in relation to the disaster prevention and preparedness component of the programme.

3.4 The relevant activities under these programmes include institutional support, which comprise:

(*a*) Effective management of the TCP, support to Members, and strengthening of regional TCP bodies;

(*b*) Assistance to Members to provide reliable and effective weather and related services for the benefit of the public through the PWS Programme;

(*c*) Coordination with activities of other organizations;

and a series of projects which are summarized below. Details are given in the *Fourth WMO Long-term Plan*, Part II, Volumes 1 and 4.

Project 18.3 — Tropical cyclone and storm surge simulation, forecasting and warning: To assist Members in upgrading tropical cyclone and storm surge forecasting and warning capabilities through technical aspects and coordination and cooperation.

Achievement of this project will lead to improvement in the operational forecasting of changes in intensity and movement of tropical cyclones including forecasting of landfall; in short-range forecasts and warnings, including precipitation forecasting, and in forecasting and warning systems for storm surges associated with tropical cyclones.

Project 18.5 — Development of tropical cyclone mitigation systems and promotion of public information: To assist Members in ensuring the wide dissemination and the effectiveness and appropriate response to tropical cyclone warnings in close cooperation with ESCAP, UN/DHA, IFRC and other bodies with special expertise in the respective fields.

Achievement of this project will encourage the establishment of a natural disaster mitigation system for tropical cyclones with increased understanding of the threat and impact of tropical cyclones. It will also lead to protective measures being taken.

Project 18.6 — International Decade for Natural Disaster Reduction (IDNDR), TCP component: To reduce, through concerted international action, especially in developing countries, loss of life, property damage, social and economic disruption caused by natural hazards such as tropical cyclones, floods, landslides and other calamities of natural origin.

Specific objectives for the TCP during the Decade are to promote and facilitate coordinated and cooperative action to provide upgraded and more effective warnings of tropical cyclones and associated floods and storm surges. This project is designed to foster WMO activities in the IDNDR.

Project 41.1 — Strengthening capacities of NMSs in providing weather services to the public: To assist NMSs to strengthen their capabilities to plan, organize and implement effective public weather services.

The capabilities of NMSs to deliver high quality public weather services for the safety of life and property depends on the NMSs having effective plans, organizations, infrastructure and trained staff. This project will be implemented in collaboration with other WMO Programmes, as appropriate.

Project 41.2 — Formulation and content of forecasts and warnings and the exchange and coordination of hazardous weather information among neighbouring countries: To evaluate present practices and develop guidance material for effective formulation of forecasts and warnings.

The effectiveness and value of forecasts and warnings depend in part on the methods of preparation, formulation and content of weather messages taking into account regional and climate factors. It is becoming more and more important to provide the public with coherent and unambiguous public weather information, minimizing the discrepancies in time, location and severity that arise from uncoordinated statements.

Project 41.3 — Presentation and dissemination techniques: To survey, evaluate, and propose guidance on the wide variety of possible ways to use communication media in the dissemination of public weather services.

The packaging and distribution of weather information, forecasts, and warnings to the public is critical to the provision of quality public weather services at the national level. This project can assist Members by providing information and guidance on practices and procedures, and on the most effective use of the technology and techniques.

Project 41.4 — Public understanding, public information, education and training: To survey, evaluate and propose guidance for public awareness activities of NMSs related to the provision of public weather and related services.

Public understanding of the role of the NMSs of the services they provide, and of how to use these services is essential to the optimum application of public weather services to public safety and welfare and to the attainment of other economic and social goals. This project assists Members to strengthen their capabilities in this regard.

4. The WMO Hydrology and Water Resources Programme (HWRP)

4.1 The overall objective of the HWRP is to promote hydrology, in support of sustainable development of water resources and of environmental management, by effectively matching the scientific and technological capabilities of Hydrological Services with the needs of the wider community for information about water and for protection from the threat of natural disasters.

4.2 The prominence given to natural disasters in this objective is indicative of the long-standing commitment of WMO to its responsibilities in the area of flood forecasting and flood risk assessment. These relate to the collection and analysis of hydrological data and to the operation of flood forecasting systems. They include the provision of guidance material, the intercomparison of hydrological models used in forecasting, and the direct assistance to Members in the implementation of the technology involved. Of particular importance is HOMS, which facilitates the international transfer of the technology required.

4.3 The major part of the HWRP serves the purposes of the IDNDR, but there are two projects under the programme whose objectives fit precisely within the aims of the Decade. These projects are listed below. Details are given in the *Fourth WMO Long-term Plan*, Part II, Volume 5.

Project 52.1 — Hydrological aspects of natural disasters: To promote hydrological and water-related aspects of disaster mitigation, through hazard assessment and forecasting.

This assists Members to improve their capability in hydrological forecasting and in the assessment of flood hazards. It includes the investigation and intercomparison of various methods used to model the processes involved in the hydrological cycle. It contributes to the aims of the TCP in relation to the forecasting of floods resulting from tropical cyclones and to the IDNDR as a component of Project 53.1.

Project 53.1 — Water-related activities within the United Nations system: To ensure appropriate cooperation between WMO and the other organizations of the United Nations which have water-related programmes, including work related to the effects of urbanization and to natural disaster reduction and involving, in particular, close links with UNESCO.

This involves the maintenance and implementation of a comprehensive series of agreements with other agencies of the United Nations system by which WMO contributes to a variety of international activities in water, particularly in relation to the collection and processing of hydrological data.

5. Special projects for the International Decade for Natural Disaster Reduction (IDNDR)

Tropical cyclone warning system for the South-West Indian Ocean region

5.1 The objective of this project is to upgrade substantially the tropical cyclone warning system in the South-West Indian Ocean region, by strengthening the capabilities of NMSs, and through the application of meteorological satellite and microcomputer technology and the transfer of scientific knowledge.

5.2 The aim is to:

(*a*) Enhance the meteorological observational network and communication system for the international exchange of meteorological data and processed products, making use of the METEOSAT geostationary meteorological satellite operated by European countries;

(*b*) Improve data handling, data processing, and tropical cyclone monitoring and forecasting by installing microcomputer-based systems and training of meteorologists in using scientific knowledge, modern techniques, and the available facilities and data.

5.3 The project will build on the progress already made through international coordination and cooperation promoted by WMO. It is closely interrelated and fully coordinated with the WMO WWW Programme and the regional cooperation programme of the RA I Tropical Cyclone Committee for the South-West Indian Ocean, which included the establishment of the RSMC in La Réunion. The modern facilities installed, or to be installed, have been field tested in the region. This includes microcomputer workstations adapted for use in the region.

5.4 The project is being funded by the European Community Development Fund (donor) and the Governments of member countries of the Indian Ocean Commission, with funding allocation of ECU 5 million. The Government of Madagascar is the executing agency. A management committee and a Regional Project Director oversee the project.

Comprehensive risk assessment (CRASH)

5.5 The objective of this project is to promote a comprehensive approach to risk assessment and, thus, enhance the effectiveness of efforts to reduce the loss of life and damage caused by flooding, violent storms, volcanic eruptions, and earthquakes. The modern technology involved should include geographic information systems, remote sensing, and seismic hazard studies.

5.6 The project will see the preparation of a comprehensive report on the causes, current risks, and possible future probability of flooding from different causes, the risk of major storms and the occurrence and consequences of earthquakes and volcanic eruptions. The combined risks will be discussed and analysed.

5.7 The intention is to undertake field work as part of the project, experts being drawn largely from developed countries, and a demonstration project being located in a developing country. The various items of technology used in the project may be generalized and presented in forms appropriate for inclusion in STEND, as described below. The project is expected to be used as a basis for training local experts and those from other developing countries in the use of the technologies involved.

5.8 The operational activities of the project will be supervised by a steering group composed of representatives from the countries/donors and the host countries for the project. The seismic and volcanic hazard assessments will be coordinated through the relevant international organizations, both governmental and non-governmental.

System for technology exchange for natural disasters (STEND)

5.9 The objective of this project is to identify and facilitate the transfer of technology for use in reducing the impact of natural disasters. Technology is included which is relevant to all types of natural disasters encompassed within the IDNDR. This technology includes instrumentation and other equipment, technical manuals and other guidance material, and computer software.

5.10 STEND is being developed for collecting information on relevant operational technology and advising potential users on the purpose, nature and conditions for acquisition of the technology concerned. STEND is modelled on HOMS and HOMS, in turn, provides the hydrological component of STEND.

5.11 The technology in STEND is provided by a variety of national institutions and international projects with expertise and experience in the specific topics of disaster reduction technology. Similarly, several different channels, such as international scientific organizations and IDNDR bodies as well as the usual WMO channels, are used to distribute information from STEND.

5.12 The implementation of the project is overseen by a STEND Advisory Committee composed of representatives of agencies active in each field of expertise and of international scientific organizations having responsibilities in the fields concerned.

Tropical cyclone disasters

5.13 The objective of the ICSU/WMO Project on Tropical Cyclone Disasters is to improve the predictions of tropical cyclones so that populations under threat may learn to rely on the predictions and, consequently, to follow the emergency measures recommended for their protection.

5.14 This International Demonstration Project of the IDNDR is being implemented jointly by ICSU and WMO.

5.15 Continuing efforts are required for the further improvement of tropical cyclone prediction by organizing scientific gatherings with the participation of both researchers and forecasters, by exchanging scientists between advanced meteorological centres and tropical cyclone-affected regions, by publishing scientific and technical reports, and by training meteorologists.

5.16 An unmanned aerial vehicle (UAV) reconnaissance system is being developed as a cost-effective means of obtaining the observations that are required for providing better initial data for the numerical prediction of tropical cyclones. Fund raising is being continued for substantial development of the aerosonde and/or other types of UAV reconnaissance to find a cost-effective observing system.

6. Review of the Plan and its implementation

The WMO Executive Council is requested to review the implementation of the projects described above, to add or delete projects as the need arises, and, in general, to keep the WMO Plan of Action for the IDNDR up to date.