

**Notes also** that a shared services arrangement with ITU for an ethics function had been in place since November 2016 and requests annual reports of the Ethics Office to be provided to the Council starting with the next session.

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## **Decision 65 (EC-69)**

### **PREPARATION OF WMO STRATEGIC PLAN 2020–2023**

THE EXECUTIVE COUNCIL,

**Recalling** the decision of the Seventeenth World Meteorological Congress (Cg-17) that the Global Societal Needs identified by the Organization based on post-2015 sustainable development goals, and which form the solid basis for the Strategic Plan for the period 2016–2019, represent relevant issues and directions that could still influence the focus of the Organization beyond the period 2016–2019, and should form the basis for the WMO Strategic Plan for the period 2020–2023,

**Recalling also** Resolution 71 (Cg-17) – Preparation of the Strategic and Operating Plans 2020–2023, requesting the Executive Council to organize a planning process, and Decision 82 (EC-68) – Preparation of WMO Strategic and Operating Plans 2020-2023,

**Having considered** the recommendations of its Working Group on Strategic and Operational Planning [*EC-69/INF. 16.2(1)*] and the first draft WMO Strategic Plan,

**Noting** that the draft Strategic Plan took into consideration the decisions of Congress and EC and key drivers influencing the directions of the Organization,

**Endorses** the following vision of the draft Plan: “We envision a world in 2030 where all WMO Members, especially the most vulnerable, are more resilient to the socioeconomic consequences of extreme weather, water, climate and other environmental events; and support their sustainable development through the best possible services, whether over land, at sea or in the air”;

**Endorses** the overarching priorities and the structure of the draft Plan based on five long-term goals and associated objectives in the next planning period 2020-2023 as shown in the Annex;

**Observes** that further development of the draft Plan should be guided by: (a) an outcome-based approach expressing clear benefits to Members; (b) an interactive approach to science and services to address service needs; (c) the sharing of knowledge as a critical factor in developing capacities; and (d) cooperation with all actors, including the private sector, to enhance the generation of services yielding socioeconomic benefits;

**Requests** regional associations and technical commissions to continue to contribute to the preparation of the Strategic Plan to ensure that the needs of Members, as well as science and technology development, are taken into consideration;

**Requests** its Working Group on Strategic and Operational Planning to refine the draft Strategic Plan for further consideration by EC-70;

**Requests further** the Secretary-General to support the preparation of the Strategic Plan.

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**Annex to Decision 65 (EC-69)****WMO DRAFT STRATEGIC PLAN****WMO STRATEGIC PLAN****Draft****Contents**

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**Foreword**

*... to be completed once main text approved... 1.5 to 1 page*

## Executive Summary

... to be completed once main text approved... page or 2 at most

**The Drivers** ... this section could possibly become an annex

### *Resilience and adaptation to threats of extreme weather and climate change*

High-impact weather and climate extremes such as severe storms, excessive heat, droughts and floods are the causes of most natural disasters and are occurring with greater frequency and intensity due to climate change. Today, these significant changes in weather, climate, water, atmospheric composition, and other environmental conditions such as air pollution, are having compelling consequences for the safety of people, the resilience of natural and built environments, water security, and prosperity of nations. These events are even impacting the social fabric and stability of communities. The significant growth of human settlements, particularly in heavily populated urban settings, flood plains, and coastal zones, are further exacerbating society's exposure and vulnerabilities to these hydrometeorological hazards due both to climate variability and change. In 2017, the World Economic Forum identified weather extremes and natural disasters as their highest risk, as the costs for natural disasters in 2016 alone, spiralled upwards to US\$ 175B; well above the 1986-2015 average of US\$ 126B.

These implications of changing weather and climate patterns, water availability and other environmental conditions are escalating the demand from governments, institutions and citizens for more useful, reliable and accessible multi-hazard information, products and services to mitigate, prepare and safely adapt to the threats of severe hydrometeorological hazards and of a rapidly changing climate.

### *Dramatic advancements in science, technology and social media*

Monitoring and prediction services are recognized for their essential value for the protection of life and property from meteorological and hydrological hazards as well as for strengthening resilience of society to climate variability and change. Furthermore, they underpin responsible economic growth in sectors including agriculture and food production, transportation, energy and water resources. Thanks to dramatic advances in science and technology, now more than ever investments are necessary to strengthen monitoring infrastructures, handle large or complex datasets ('big data') and improve the quality of and access to predictions and services. This would result in effective disaster risk reduction, more timely and effective planning and decision-making and greater realization of socioeconomic benefits. This would further enable

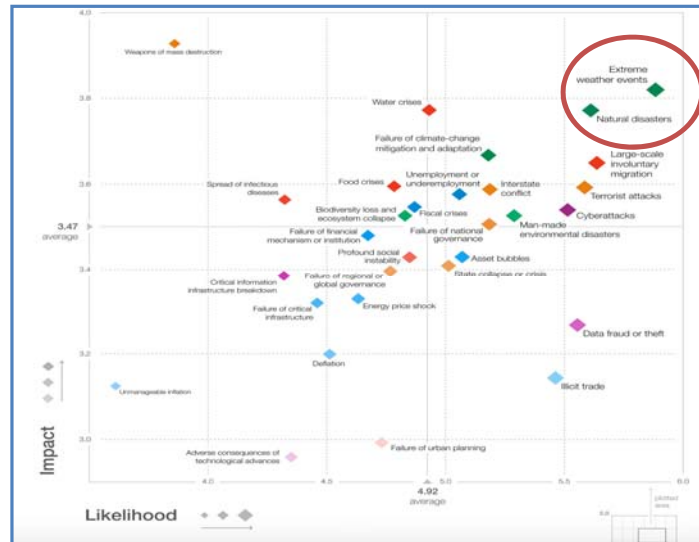


Figure 1: World Economic Forum 2017 Risk Assessment

society to mitigate and adapt to high-impact weather, climate and hydrological extremes, over land or sea. Furthermore, the recent pace of scientific and technological innovations should have far-reaching impacts on institutional arrangements world-wide for meteorological and hydrological services. Consequently, decision-makers are becoming more capable and more demanding, along with the introduction of new service providers from the private sector and academia.

### **Widening capacity gap among National Meteorological and Hydrological Services**

Many WMO Members face significant development and capability gaps in serving the weather-, climate- and water-related needs of their governments, institutions, socioeconomic sectors and citizens. Their capacity to sustain monitoring networks and quality services, in addition to on-boarding advances in science and technology, is limited due to infrastructure, financial and human resource challenges. Moreover, it is often these nations that are more vulnerable in coping with the natural disasters, protecting life and property and economic recovery. On the other hand, more advanced NMHSs are rapidly making significant performance strides through optimum use of advanced weather and climate prediction modelling, high performance computing platforms, advanced in-situ observing networks, and surface based and space based remote-sensed observational infrastructure systems, and data transmission methods. However, all depend upon reliable, high-quality services that prevent loss of life and property, contribute to economic growth and support environmental stewardship worldwide.

### **Demand for Actionable, Accessible and Authoritative Science and Information**



The realization of societal well-being that underpin the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change and the Sendai Framework for Disaster Risk Reduction, which all will serve as the centrepiece for national and international policymaking over the next years, is critically dependent upon actionable, accessible and authoritative (AAA) meteorological and hydrological information and services. National

Meteorological and Hydrological Services contribute to these goals (SDGs) at national levels, while Members collaborating through WMO's mechanisms and Programmes further these goals at international levels. Through such initiatives as the WMO Integrated Global Observing System, the Global Framework for Climate Services and the World Weather Watch, networks of real-time data collection, management and processing, and global and regional prediction systems, support the enhancement of the core capabilities, competencies and performance of its Members to contribute to the global agenda as well as regionally and nationally based objectives. Dedicated efforts are required to overcome these challenges, and WMO actions will be guided by its long-term vision and three overarching Strategic Priorities.

### **Our Vision**

*We envision a world in 2030 where all WMO Members, especially the most vulnerable, are more resilient to the socioeconomic consequences of extreme weather, water, climate and other*

WMO, a specialized agency of the United Nations, with 191 Member States and Territories, is its authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces and the resulting distribution of water resources.

Members own and operate the scientific infrastructure required for providing the weather, climate, water and related environmental services, primarily through national meteorological and hydrological organizations.

*environmental events; and support their sustainable development through the best possible services, whether over land, at sea or in the air.*

## **Our Mission**

The strategic plans of the organization are guided by the purposes of the Organization that are outlined under Article 2 of its Convention:

- (a) To facilitate worldwide cooperation in the establishment of networks of stations for the conduct of meteorological observations as well as hydrological and other geophysical observations, and to promote the establishment and maintenance of centres charged with the provision of meteorological, hydrological and related services;
- (b) To promote the establishment and maintenance of systems for the rapid global exchange of meteorological, hydrological and related information;
- (c) To promote standardization of meteorological, hydrological and related observations and to ensure the uniform publication of observations and statistics;
- (d) To further the application of meteorology to aviation, shipping, water management, agriculture, fisheries and other human activities;
- (e) To promote activities in operational hydrology and to promote close cooperation between meteorological and hydrological services;
- (f) To encourage research and training in meteorology, hydrology and, as appropriate, in related fields, and to assist in coordinating international aspects such as research and training.

WMO plays an essential, effective world-wide leadership role in enhancing the execution and performance of its Members, and in particular their NMHSs, through improved data interoperability, quality management systems, access to world-wide science and expertise, and support to the delivery and use of their high-quality, authoritative services enabling them to better fulfil their mandates, demonstrate their relevance and raise their visibility within national governments and with other stakeholder organizations.

## **Overarching Priorities**

The Strategic Plan sets out long-term goals and strategic objectives as we strive to achieve our vision. As we translate these top level goals and objectives into detailed plans we will focus our resources in accordance with three overarching priorities:

1. **Reducing losses of life and property** from hydrometeorological hazards.
2. Supporting climate action to build **resilience and adaptation to climate risk**.
3. **Enhancing socioeconomic value** from hydrometeorological and climate services.

## Long-term Goals and Strategic Objectives (SO)

### Goal 1 **Better serve societal needs: Delivering actionable, authoritative, accessible, user-oriented and fit-for-purpose services**

Enhanced service capability of Members to provide high quality, on demand, geo- and impact-based weather, climate, water, marine and related environmental products and services, in support of sustainable development goals, disaster risk reduction, climate adaptation, and other risk-based decision-making to meet evolving societal needs.

#### ***SO 1.1 Integrating climate information***

- Climate Service Information System for climate services operational information about climate archived, analysed, modelled, exchanged and processed to support the production and delivery of authoritative climate information products through operational mechanisms.

#### ***SO 1.2 Enhancing climate and hydrometeorological disaster flagship products to support decision-makers***

- Enhanced WMO global consolidated products and services used by the UN system for weather, climate and hydrological information (statement on the state of the global climate, greenhouse gas and ozone bulletins, water assessment report, catalogue of extreme events, disaster impact reports, ENSO regular advisory, impact-based decision support systems).

#### ***SO 1.3 Enhancing weather warning systems worldwide***

- Established or improved early warning systems, and developed alerting protocol frameworks which improve engagement with first responders and civil emergency managers for reducing life and property losses due to extreme weather.

#### ***SO 1.4 Supporting sustainable water management***

- Designed and delivered hydrological services for water management considering socioeconomic development, population dynamics, changes in the cryosphere and climate change.
- Facilitated data exchange supporting the development of global status and outlook capabilities.
- Innovative ways to address the issue of declining observing networks and institutional and human capacity.

### Goal 2 **Enhance Earth system observations and predictions: Strengthening the technical foundation for the future**

Modernized, enhanced, optimal, and integrated global observational network of the Earth system (the atmosphere, hydrosphere, oceans, cryosphere and biosphere), high-quality observations and the necessary data exchange, data management and

data processing mechanisms to support research and operational services. New information sources and technologies applied and new stakeholders incorporated for improved observation, data processing, modelling, prediction and services.

**SO 2.1 *Ensuring adherence to the highest standards of observations***

- High-quality meteorological observations ensured through setting of international standards and compliance by at least a majority of Members.
- Potential for large number of additional observations promoted and standards set for those datasets and for their exchange.

**SO 2.2 *Integrating observing networks and data management systems***

- (Increase) quantity of high-quality observations in compliance with WMO Technical Regulations.
- (Number of) integrated data management systems facilitating the provision of scientific data to decision-makers.
- (Increase) number of Members implementing WIGOS at the national level.

**SO 2.3 *Filling critical gaps in global observations***

- Availability of integrated in situ, space-based and model-derived observations and products to address critical gaps in observational coverage at national, regional and global scales.
- Increased number of CryoNet observations in high mountain and polar regions, integral to the aims of the Global Cryosphere Watch.
- Improved observing network design to complement and support evolving seamless prediction systems.

**SO 2.4 *Fostering broadest application of free and open data exchange***

- Measuring Member compliance with WMO Resolutions 25 (Cg-XIII), 40 (Cg-XII) and 60 (Cg-17).
- Number of new or additional datasets made freely accessible to Members.
- Increase in products and services offered through WMO "Cascading Prediction System".

**SO 2.5 *Enhancing the value of cascading seamless prediction systems***

- (Number of) common operational entities such as multi-hazard early warning centres or flood forecasting centres with Global Data-processing and Forecasting Systems functions established to enhance integration and interoperability of meteorological, climatological, hydrological and marine observations and prediction systems in a cascading seamless process from days to climate scales.

### **Goal 3 Advance targeted research: Leveraging leadership in science**

Leveraged global research community resulting in fundamental advances in the understanding of the Earth system including the inter-relationships between atmosphere, ocean, cryosphere and biosphere, leading to improved predictive skill at all time scales in a seamless context. This results in a strengthened forecast and warning performance of all Members as the interface between research and operations applies the best science for improving all components of the service value chain.

#### ***SO 3.1 Advancing scientific knowledge of the Earth system***

- (Number of) projects implemented or initiated addressing grand challenges in scientific research, modelling, analysis and observations: cryosphere, clouds and circulation, carbon sinks and their feedbacks, water availability and flooding, regional sea level and coastal impacts, aerosols impact on air quality, high-impact weather and climate predictions.

#### ***SO 3.2 Applying scientific and technological advances to improve predictive capabilities***

- (Number of new) applications using results of scientific research and technological advances for improving predictive capabilities in high-impact weather forecasting, seasonal to sub-seasonal prediction, polar prediction, urban meteorological services, modelling and prediction of the water cycle.

#### ***SO 3.3 Integrating greenhouse gas information***

- Integrated Greenhouse Gas Information System operational: an independent information system to help countries to improve the quality and confidence in national GHG emission inventories. This will be achieved by joining atmospheric observations and inverse modelling techniques – the “top-down” – with spatially and temporally explicit emission inventory data – the “bottom-up”. The combination of these data sources will better inform emission reduction policies and measures.

### **Goal 4 Close the gap on service: Enhancing and leveraging existing capabilities among all WMO Members to bring capability to all**

Sharing, exchanging and building global, regional and national capacity and cooperation to ensure equitable contributions to and benefits from the combined capabilities among all WMO Members. Gender specific considerations are also important dimensions in this strategy.

#### ***SO 4.1 Understanding the needs of developing countries to provide better services***

- Monitored, assessed, understood and reported status of observing systems, staffing, service capacity, level of compliance, and overall status and needs of the NMHSs and the Members.



- Measured and aligned contributions of constituent bodies, development partners and national governments (including through supporting the development of national strategic plans and National Adaptation Plans) that address Member requirements.

#### **SO 4.2 *Strengthening core competencies and expertise***

- Every Member has access to expertise, experience and knowledge exchanged among countries, including best practices for sustainability in the face of a changing business environment, through education and training at global, regional and national level.
- Exchange of expertise and collaboration established and maintained among weather, climate, hydrological and marine weather constituencies and between operational and research communities.

#### **SO 4.3 *Establishing strategic partnerships for the global weather enterprise***

- (Number of) strategic, functional and mutually beneficial partnerships and alliances among Members and with academia, government departments, UN, international and nongovernmental organizations, the private sector and the civil society that support Member service obligations and reinforce the position of WMO as the global authoritative voice.
- Increased clarity on the different roles and responsibilities of those involved in the weather enterprise, with agreements in place between the centres/Members to make this work effectively.
- Established sustained capability and services in regions that lack this; targeted donor funding towards well judged, sustainable service delivery models.

### **Goal 5 Work smarter: Supporting effective policy- and decision-making and implementation in WMO**

Effective functioning of policy- and decision-making, constituent bodies and oversight of the Organization, where WMO meetings and constituent bodies would yield more strategic and concrete outcomes and action which focus on the fundamental capabilities and services for the benefit of Members. Streamlined administrative processes to enhance the efficiency of the Secretariat and mobilizing new external financial resources and technical expertise to enhance Member performance. Gender equity would be mainstreamed in all WMO activities.

#### **SO 5.1 *Optimizing WMO structures and processes***

- Optimal structures and processes of WMO designed and agreed on by constituent bodies.
- Clear project culture promoted placing emphasis on quality, timeliness and accountability, as well as forward-looking identification of emerging issues, guiding the relationship between WMO constituent bodies, Members and the Secretariat.

**SO 5.2 Mobilizing resources to implement WMO Programmes**

- Effective and comprehensive resource mobilization plans developed.
- Increased resources available to WMO Programmes to fully address the goals and priorities of the Organization and its Members.

**SO 5.3 Communicating effectively about the value of WMO's work**

- Visibility of WMO and NMHSs increased through informed products for decision-makers and civil society about the value of weather, climate, hydrology and related environmental observations, research and services.

**SO 5.4 Effectively supporting collaboration among Members**

- Members enabled and supported by the WMO Secretariat to effectively collaborate on activities, which deliver to the WMO vision.

**Implementation of the Strategic Plan****Guiding Principles**

The following principles underpin the WMO Strategic Plan ensuring better alignment with the core purposes of the Organization and enhancing its role within the UN system:

1. WMO should be cost-effective in delivering on its core mandate to better serve the Members, enhance their performance and strengthen the national role of NMHSs;
2. WMO should influence and inform the global agenda where it best serves the interest of Members through enabling strategic partnerships with the UN system and other international organizations, especially in the domain of disaster risk reduction and climate action;
3. Alliances and partnerships should be encouraged among Members, multilateral and bilateral development partners and other relevant actors to attract investment, enhance capability and performance, and deliver improved outcomes for society;
4. Relationships and cooperation should be strengthened among the public and private sector, academia and other non-state players to better serve the socioeconomic needs of societies around the world;
5. WMO should ensure an interactive approach to science and services by developing science priorities that are informed by our service needs now and into the future.

**Key strategies**

In supporting the vision and the achievement of the requisite Long-term Goals, there are **five key strategies** that contribute to their success:

1. Advocating for free and open and expanding the access to relevant Earth observations data to be integrated as part of the WMO Integrated Observational Systems;
2. Developing services and improved access to services at global and regional levels;

3. Leveraging the advances in science and technology for the benefit of all Members' operations and services;
4. Forging strategic partnerships and alliances among all the players in the "weather enterprise";
5. Developing competency and capacities to ensure that all NMHSs can provide the highest levels of consistent, quality weather, climate and water services that deliver increasing benefits to the user community. *(New principle added.)*

This strategic framework will guide the decisions and activities of WMO in helping to realize its 2030 vision, and will serve as the focus for the upcoming financial period 2020–2023, bringing the greatest benefits to Members. The integrated WMO Operating Plan 2020-2023 presents time-bound programme activities and projects, result-oriented budgets and success indicators. The Operating Plan forms the basis for resource allocation, and defines the risks and performance matrices against which to assess progress to achieve expected results through the WMO Monitoring and Evaluation System.

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**Annex - Relationship between Long-term Goals, Strategic Objectives and the WMO Programme and budget structure ... consider relationship to WMO Convention; this annex could be removed**

Long-term Goals and Strategic Objectives	Major activity area	Theme	Relevant Programme Elements
<b>1. Better serve societal needs: Delivering actionable, authoritative, accessible, user-oriented and fit-for-purpose services</b> 1.1 Integrating climate information 1.2 Enhancing the climate and hydrometeorological disaster knowledge base to support decision-makers 1.3 Establishing weather warning systems worldwide 1.4 Supporting sustainable water management	<b>Specific Areas of Weather, Climate and Hydrology</b>	<b>Meteorology Applications</b>	<ul style="list-style-type: none"> <li>• AgMP</li> <li>• AeMP</li> <li>• MMOP</li> <li>• PWSP</li> <li>• DRR</li> <li>• TCP</li> <li>• Gender</li> </ul>
		<b>Climate Applications</b>	<ul style="list-style-type: none"> <li>• AgMP</li> <li>• AeMP</li> <li>• PWSP</li> <li>• DRR</li> <li>• TCP</li> <li>• Gender</li> </ul>
		<b>Hydrology Applications</b>	<ul style="list-style-type: none"> <li>• HWRP and associated programmes</li> </ul>
<b>2. Earth system observations and predictions: Strengthening the technical foundation for the future</b> 2.1 Ensuring adherence to the highest standards of observations 2.2 Integrating observing networks and data management systems 2.3 Filling critical gaps in global observations 2.4 Fostering broadest application of free and open data exchange	<b>Foundation Activity</b>	<b>Observation and Information Systems</b>  <b>Prediction Systems</b>	<ul style="list-style-type: none"> <li>• WWW</li> <li>• WIGOS</li> <li>• GDPFS</li> <li>• GTS</li> <li>• ERA</li> <li>• WIS</li> <li>• IMOP</li> <li>• WMOSP</li> <li>• WWWDM</li> </ul>

Long-term Goals and Strategic Objectives	Major activity area	Theme	Relevant Programme Elements
2.5 Enhancing the value of cascading seamless prediction systems			<ul style="list-style-type: none"> <li>• WWWSSA</li> <li>• WMOAA</li> <li>• WHYCOS</li> <li>• WHOS</li> <li>• WMOQMFP</li> <li>• GCOS</li> <li>• Polar &amp; High Mountain Activities</li> </ul>
<b>3. Advance targeted research: Leverage leadership in science</b> 2.1 Advancing scientific knowledge of the Earth system 2.2 Applying scientific and technological advances to improve prediction capabilities 2.3 Integrating greenhouse gas information system	<b>Foundation Activity</b>	<b>Research</b>	<ul style="list-style-type: none"> <li>• WWRP</li> <li>• GAW</li> <li>• WCRP</li> </ul>
<b>4. Close the gap: Enhancing and leveraging existing capabilities among all WMO Members to bring capability to all</b> 4.1 Understanding the needs of developing countries to provide better services 4.2 Strengthening core competencies and expertise 4.3 Establishing strategic partnerships for the global weather enterprise	<b>Capacity Development and Partnerships</b>	<b>Capacity Development</b>	<ul style="list-style-type: none"> <li>• VCP</li> <li>• ETRP</li> <li>• RP</li> <li>• LDC</li> <li>• SIDS-MITs</li> <li>• Gender</li> </ul>
<b>5. Work smarter: Supporting effective policy- and decision-making and implementation in WMO</b> 5.1 Optimizing WMO structures and processes 5.2 Mobilizing resources to implement WMO Programmes 5.3 Communicating effectively about the value of WMO's work 5.4 Effectively supporting collaboration among Members	<b>Governance Administration</b>	<b>Executive Management Governing Bodies, Programme Support Services, Resource Management</b>	<ul style="list-style-type: none"> <li>• Executive Management</li> <li>• Cabinet and External Relations</li> <li>• Strategic Planning</li> <li>• Information and Public Affairs Programme</li> <li>• Internal Oversight</li> <li>• Legal Services</li> <li>• Conference Services</li> <li>• Language Services</li> <li>• Resource Mobilization</li> <li>• Resource Mobilization</li> </ul>

### Decision 66 (EC-69)

## OUTLINE OF THE OPERATING PLAN AND BUDGET 2020–2023

THE EXECUTIVE COUNCIL,

**Recalling** Decision 81 (EC-68) and Decision 82 (EC-68) and Financial Regulations Article 3 - Maximum expenditures for the financial period,