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OPAG on Information Systems and Services

Report of the Chairperson of the OPAG-ISS

(Submitted by Geerd-R. Hoffmann, Chair of the OPAG-ISS)

Summary and purpose of document

This document provides information on the status of current activity related to the OPAG ISS and planning until CBS-XIII.

ACTION PROPOSED

The Management Group is invited to:

- (a) Note OPAG ISS activity;
- (b) Review the work programme and planned activity for the OPAG ISS;
- (c) Review OPAG ISS ETs as required.

DISCUSSION

Introduction

1. The Chair of the OPAG ISS presented a detailed report of activity at CBS-Ext.(02) (December 2002, Cairns, Australia). CBS endorsed the outcome of the ISS activities and directed on the most important activities for the next two years. The current status and the tentative planning of activity until CBS-XIII are addressed with regard to the terms of reference of the respective ICT, ETs and rapporteurs.

Expert Team for the Improved MTN and GTS (Chair: Peiliang Shi, China)

2. The Terms of reference of the ET gave focus on the medium-term (2-4 years) improvement of the GTS, and in particular a) Develop and implement the improved MTN project, b) update the organisation and design principles for the GTS and c) provide guidance on technical, operational and administrative/financial aspects of telecommunication techniques and services for WWW operations, especially for the implementation of the GTS.

3. CBS-Ext.(02) endorsed the IMTN project consisting of "Cloud I" and "Cloud II" and noted with appreciation the firm implementation plans. XIV-Congress noted with much satisfaction that the IMTN implementation and operation had started at the end of 2002/early 2003, as initially planned, and it expressed its great appreciation for the collaborative effort made by the NMHSs concerned. Further implementation has continued, and upgrades of several MTN circuits (Tokyo, Beijing, New Delhi, Moscow) are firmly planned by the end of 2003. Further work is required for the implementation of the IMTN in Region I and III.

4. The ET-IMTN also developed guidance on the use of DVB and DAB techniques. It should be emphasized that the tasks of the ET-IMTN, and in particular b) and c) are interdependent with the tasks of the Expert Team on Enhanced Utilisation of Data Communication System. This required coordination lead to a joint meeting of the ET-EUDCS and ET-IMTN in May 2002, which was very effective.

5. The development of the implementation and operation of the GTS as regards regional parts (RMTN) is the responsibility of the respective regional working groups on the WWW (WG-PIW), taking benefit from the work of the CBS/OPAG-ISS. Diagrams of the current status of implementation of the GTS in each Region are posted on the WMO Web server, and CBS Newsletters are urging all WMO Members to provide feedback to maintain updated information.

Expert Team on Enhanced Utilisation of Data Communication System (Chair: Jean-François Gagnon, Canada)

6. The ET-EUDCS, which had a joint meeting with the ET-IMTN in May 2002, further developed recommended practices for TCP/IP and related protocols, including a file naming convention for operational routing and distribution, as well as new guidance for using the Internet between GTS centres (via e-mail and VPNs). Its outcome, after its review by the ICT-ISS, was endorsed by CBS-Ext.(02). With respect to the new file naming convention, CBS requested to assess a practical implementation date and to develop urgently the detailed complementary procedures for its applications.

7. The operational use of the Internet by NMHSs, while minimizing the operational and security risks, is a matter of increasing importance. The *WMO Guide on Internet Practices* is under review and update, taking into account the changes in relevant technology, and is planned to be available by end of November (English version). The guidance document on VPNs is strongly influenced by the very rapid technological development, and should be further developed and reviewed.

8. An ad-hoc Expert meeting on enhanced utilisation of data communication services (esp. Internet) is planned in December 2003 to further develop the guidance material. A joint meeting of the ET-EUDCS and ET-IMTN is planned in 2004 (first half) to consolidate all contributions with a view to CBS-XIII. The attendance to the joint meeting should be harmonized from the two ETs' membership (one expert from Australia, Brazil, Canada, China, France, Germany, Japan, Kenya, Russian Federation, Turkey, United Kingdom, USA, plus ECMWF & ASECNA).

Expert Team on Data Representation and Codes (Chair: Jean Clochard, France)

9. A meeting of the ET-DR&C (Arusha, Tanzania, 17 - 21 February 2003) developed, for experimental testing, two new compression schemes for GRIB Edition2 based on JPEG 2000 and PNG, and finalized the guide for GRIB-2. Descriptors to BUFR Tables for oceanographic data and for new satellite data, including ENVISAT and AIRS satellites were added. A proposal to encode in BUFR all SIGMET data was finalized, and a programme for a Workshop on use of XML in meteorology was prepared. The ET-DR&C meeting was followed by the first seminar on TDCF held for African English speaking countries.

10. A training seminar on TDCF for RA III/IV is planned in Costa-Rica (10-14 November 2003). A meeting of the ET-DR&C is planned for April 2004, in RA II or V, to be followed by a training seminar for RA II (East) and RA V countries.

Expert Team on Migration to Table Driven Code Forms (Chair: Fred Branski, USA)

11. XIV-Congress endorsed the plan for a WMO-wide migration to table-driven code forms developed by CBS, noting that the migration plan allowed sufficient time and flexibility for implementation. Congress stressed that the successful migration in developing countries would depend on capacity building, and that training was a fundamental prerequisite. Congress requested the Secretary-General to organize a training programme covering all WMO Regions over the period 2003-2005. It highlighted the complexity of the migration process and requested CBS to put in place an effective implementation/coordination mechanism for guiding, assisting and monitoring the migration to TDCF.

12. Comprehensive information on the migration plan, case study and TDCF has been posted on the WMO Web server. A Questionnaire on migration to TDCF will be sent soon to national Focal points on code matters. To better ensure the effective central coordination and monitoring of the transition to TDCF, the ET on Migration should be converted into an ICT on Migration to TDCF, and its TOR will be adjusted accordingly. Its meeting is planned in the 2nd quarter of 2004 to prepare a comprehensive report to CBS XIII.

Expert Team on Integrated Data Management (Chair: Steve Foreman, United Kingdom)

13. CBS-Ext.(02) endorsed the conclusions of ET-IDM on WMO Metadata based on the ISO standard for geographic metadata (ISO DIS 19115), and the related use of XML. CBS recognized that several further actions were required from all Programmes before WMO could adopt the metadata standard for operational use. Metadata is central to the development of the future WMO information system. CBS requested to pursue the development of the WMO metadata standard, involving, to the largest extent possible, members of other Commissions. In this regard XIV-Congress, noting the crucial importance of metadata for the FWIS, requested all WMO Programmes to join their efforts in the further development of detailed WMO metadata standards.

14. As indicated above, CBS-Ext.(02) agreed upon a file naming convention for operational routing and distribution. The new file naming convention facilitates a smooth transition from current abbreviated headings, but needs the development of definition tables for the required WMO product identifier of new data/products. This task, which is strongly related to the Metadata concept, should be undertaken by the ET-IDM, in coordination with the ET-EUDCS.

15. A meeting of ET-IDM is planned in December 2003, to further develop the detailed WMO metadata standards and related procedures, taking also into account relevant outcome of the ITT-FWIS meeting (see below). A further meeting is planned in 2004 (first half), to consolidate all proposals on Integrated Data Management matters with a view to CBS-XIII.

16. A consultant undertakes a study on the integration of data management activities of the WMO scientific/technical programmes and technical commissions. The study will include recommendations on areas, strategies and design factors to enhance data management standardisation and compatibility across WMO scientific/technical programmes and technical commissions. It will also propose co-ordination mechanisms for implementation by the Secretariat and the technical commissions, which have the potential to enhance and facilitate the co-ordination and implementation of a WMO inter-programme data management framework that meets the current and emerging requirements. The consultant's report is expected by the end of 2003.

Rapporteur on Monitoring (Jean-Pierre Bourdette, France)

17. A workshop on WWW quantitative monitoring (Toulouse, 2 - 4 June 2003) reviewed the Integrated WWW Monitoring (IWM) procedures and the major role of RTHs. It considered the arrangements for the implementation of the IWM pilot project and the extension of the Special MTN Monitoring (SMM). A proposal for monitoring BUFR data, as well as general procedures for a pilot test of daily near-real monitoring were developed. It also drafted general specifications of a monitoring application on a PC, which would facilitate the transition to IWM. As a follow-up, RTH Offenbach prepared SMM pre-analysis files for the monitoring of aircraft BUFR reports. No other further action related to the IWM was yet reported.

Steering Group on Radio-Frequency Coordination (Chair: Hans Richner, Switzerland)

18. The SG-RFC coordinated WMO contributions to ITU-R and preparatory activities on the issues included in the agenda of ITU World Radiocommunication Conference 2003 (WRC-03, Geneva, 9 June-4 July 2003). WRC-03 had a favourable outcome and closed serious issues that had been debated since 1992, including the bands 401-406 MHz (radiosondes), 1 675-1 710 MHz (radiosondes and meteorological satellites) and 2 700-2 900 MHz (meteorological radar). The most important issues are now related to the protection of spaceborne passive sensing, as emphasized by XIV-Congress (ref. Resolution 3). One meeting of the SG-RFC is planned in 2004 (first half) to coordinate WMO's participation and contribution to relevant ITU-R work.

Implementation-Coordination Team on Information Systems and Services (Chair: OPAG Chair)

19. One meeting of the ICT-ISS is planned in the third quarter of 2004 (depending upon the actual dates of CBS-XIII) to review and consolidate all the proposals and recommendations to CBS from the ISS/ETs.

20. The terms of reference of the ICT-ISS address the further development of operational information exchange procedures, including allocation of abbreviated heading tables for new data and products. This task requires a continuous review to support WWW/GTS operation, taking into account the requests and requirements that are mainly expressed by the RTHs located on the MTN, associated with the major GDPFS centres. Furthermore, CBS-Ext.(02) agreed upon a scheme of allocations of abbreviated headings to facilitate the migration to table-driven code forms. It further agreed that the relevant Tables of the *Manual on the GTS* should be revised accordingly, as soon as the actual need for exchanging the various type of "migrated data" arose, and it requested the OPAG on ISS to keep the matter under continuous review. To assist the ICT-ISS in this task, an ad-hoc sub-group will be established to coordinate, by correspondence (E-mail), proposals for the allocation of new abbreviated headings required for the exchange of new data and products on the GTS and for the code migration. The proposals would be submitted to the

OPAG-ISS chair for agreement on an experimental use, and then formally endorsed by CBS (through a session or its president, as appropriate). The ad-hoc sub-group should comprise:

- The OPAG-ISS co-chair
- The ET-DRC chair
- The ET- migration to TCDF chair
- Focal points of RTHs located on the MTN
- Assistance by a WMO Secretariat officer.

Inter-Programme Task Team on Future WMO Information Systems (Chair: Geerd-Rudiger Hoffmann, Germany)

21. XIV-Congress supported the views and conclusions of CBS that the Future WMO Information System (FWIS) was required as an overarching approach. It emphasized that the implementation of FWIS should build upon the most successful components of existing WMO information systems in an evolutionary process, through a smooth and coordinated transition. In particular, the FWIS would build upon the GTS with respect to highly reliable delivery of time-critical data and products, and the Improved MTN would be the basis for the core communication network. Congress emphasized that the comprehensive information exchange requirements of all WMO Programmes, as regarded information types and volumes, timeliness, sources and users, security, etc., needed to be taken into account to consolidate the FWIS concept, and to develop design and implementation plans.

22. When considering the study on policy-level implications of the FWIS, XIV-Congress agreed that the impact of the FWIS on Members' responsibilities and resources appeared to be commensurable with the development that would be anyhow needed to face the general evolution of information and communication technologies and of Members' requirements. It requested the Executive Council and CBS as well as the other technical commissions involved in the FWIS development to give particular attention to the impact on Members' responsibilities and resources and the policy aspects.

23. Congress requested CBS to pursue the further development of the FWIS towards the refinement and consolidation of the concept and then the design and implementation planning phases. It noted that, since all WMO Programmes stood to benefit, each should actively participate and contribute its own expertise and resources in all phases of the development of the FWIS. Congress emphasized that the support and involvement of many members of the WMO community, including especially regional associations and technical commissions, was needed.

24. A meeting of the ITT-FWIS will be held from 20-24 October 2003 in Kuala Lumpur, Malaysia. This meeting, taking into account Congress directives, will further refine and consolidate the FWIS concept, and work on an outlook of design and implementation phases, including transition. It will also consider the outcome of studies on the Virtual GISC prototype being undertaken by RTHs Bracknell, Offenbach and Toulouse in association with the ECMWF and EUMETSAT. The attendance to the meeting includes additional GTS expertise (Mr H. Ichijo, Japan), as requested by CBS-Ext.(02).

25. A further ITT-FWIS meeting is planned for 2004. In light of Congress directives, CBS-MG may wish to review and discuss the membership of the ITT-FWIS, as well as possible mechanisms to enhance the active participation and contribution of WMO Programmes, technical commissions and regional associations.
