WORLD WEATHER WATCH PROGRAMME

The Global Telecommunication System and Data Management as Components of WMO Information System

Report to Plenary on item 3.1

REFERENCE:

Cg-XVI/C/WP 3.1(2)

APPENDICES:

A. Draft text for inclusion in the general summary on item 3.1
B. Draft Resolution 3.1.2/1 (Cg-XVI) - Report of the Extraordinary Session 2010 of the Commission for Basic Systems relevant to GTS, Data Management and WIS related Technical Regulations

ACTION PROPOSED:

It is recommended that the draft text given in Appendix A be included in the general summary of the work of the session and that the draft resolution given in Appendix B be adopted.
3.1 WORLD WEATHER WATCH PROGRAMME (agenda item 3.1)

The Global Telecommunication System and Data Management as components of WMO Information System

Global Telecommunication System (GTS)

3.1.2.1 Congress noted with appreciation the progress on the Improved Main Telecommunication Network (IMTN) with the merging of the two IMTN clouds. It noted that as most MTN centres are now on the IMTN cloud and that the others have plans to join the cloud, the IMTN project is now completed. It noted the significant progress in the regional networks and that the migration to IP was almost complete. However, it was concerned that serious shortcomings still existed in some WMO Regions. Congress emphasized the importance of continued improvement of the regional component of the GTS to underpin the meteorological services of each Member, as well as to enable the implementation of WIS and WIGOS, and other new initiatives of WMO, such as the Global Framework for Climate Services (GFCS). It urged Members and regional associations to sustain their commitment in this effort and to take effective actions to modernize their national and regional data-collection systems, especially to get as many NMCs as possible connected to the GTS. It encouraged the Secretary-General to focus on improvement of the GTS, especially in developing and least developed countries, when implementing capacity building and disaster risk reduction actions for the next financial period.

3.1.2.2 Congress recalled that CBS had agreed that the IMTN, now connecting the main RTHs of the GTS, will form the core network of WIS providing any-to-any connectivity among all GISCs. It also recalled that CBS had defined the network connecting Data Collection or Production Centres (DCPCs) and National Centres (NCs) to each GISC as the GISC’s Area Meteorological Data Communication Network (AMDCN). Each GISC will take a leading role in ensuring the effectiveness of its AMDCN so that each connected centre can take advantage of more reliable, cost-effective and sustainable managed data communication networks. Congress noted that this new two-level network structure incorporating the GTS will enable further optimization of operational arrangements for global and regional data exchange, especially improving the timeliness of end-to-end delivery of warning messages.

3.1.2.3 Congress requested CBS to further refine the new structure of GTS, and to pursue a smooth evolution of networks and related applications, such as Automated Message Switching Systems, from the current point-to-point topology to the two-level managed data communication network service architecture. In particular, Congress requested CBS to further explore the potential efficiencies from multicast and related services available in the new architecture. Congress noted that innovative administrative and financial arrangements and partnership were required to share and take full benefit from those new network services, and invited NMHSs to work with their associated GISC and to be as flexible as possible in that regard, taking account of respective national policies.

3.1.2.4 Congress noted with appreciation that the satellite-based data distribution services continue to be an important component of GTS for the distribution of large volumes of information, and that there had been extensive implementation and significant technological upgrades. Furthermore it noted that some satellite systems also provide a data collection service. It urged NMHSs to consider taking advantage of this new service in designing their new observing and warning systems. Congress expressed its gratitude to all Members and organizations operating satellite-based meteorological data distribution and collection systems for the benefit of all NMHSs.
3.1.2.5 Congress noted that the Internet had continued to play an increasingly important role for access to and delivery of a wide-range of data and products and as a complement to dedicated circuits for the GTS, with particular importance for smaller NMHSs. Congress recalled the complementary role of the GTS dedicated circuits, GTS circuits implemented across the Internet and of the Internet itself to meet the various operational and other needs and to ensure overall robustness of the system. It welcomed CBS’s effort in updating the technical guidance for the efficient use of the Internet with minimized operational and security risks. Congress emphasized that as the Internet is necessary for the WIS information Discovery, Access and Retrieval (DAR) service, it is essential that the Internet guidance developed by CBS reflect the new WIS functionality and should include recommended practices for user authentication and authorization. Noting the risks associated with the Internet usage, Congress requested CBS to pay particular attention to internet security and continue to review and update related practices, procedures and guidelines. The Congress approved the relevant CBS recommendation for amendments to the Manual on the Global Telecommunication System (see draft Resolution 3.1.2/1 (Cg-XVI)).

WWW Data Management

3.1.2.6 Congress noted the significant effort made by many Members to successfully meet the deadline of migration to Table-Driven Code Form (TDCF), and the significant support provided by CBS experts. It recalled that the 2010 target for migration of the data category 1 (SYNOP, TEMP, PILOT and CLIMAT) had not been fully met. It endorsed the EC-LXII invitation for CBS to consider measures with a view to ensuring that all WMO Members continue accessing the observational data available on the GTS in the appropriate format as well as to facilitate and foster the migration from TAC to TDCF. Congress supported the decision by CBS that after November 2010 the parallel distribution of TAC and TDCF category 1 data as well as the category 2 (satellite observations) and 4 (marine data) may continue and will be discontinued step by step whenever possible with respective advance notification by November 2014. It stressed the need for assistance to some developing countries in implementing the migration, and expressed its gratitude to those Members and organizations that had made available their TDCF converter software or contributed to relevant training workshops to complete this task.

3.1.2.7 Congress noted the efforts led by CBS, with participation of relevant technical commissions, in further developing the WMO Core Profile of the ISO 19115/19139 metadata standard. Recalling that EC-LVIII assigned the presidents of technical commissions the responsibility for the management of WMO metadata, Congress requested the Secretariat to publish it as WMO Core Profile of ISO metadata standard version 1.2 on the WIS web page\footnote{http://wis.wmo.int/2010/metadata/version_1-2/} after the endorsement of the presidents of technical commissions. Congress noted that CBS identified the need for interim releases of the WMO Core Profile in order to respond to the evolving needs of other technical commissions and cross-cutting Programmes. Congress agreed that the Secretariat should publish the interim releases and ensure compatibility with previous versions. Congress emphasized the need to assist NMHSs in implementing metadata generation and exchange, and decided that CBS should develop recommended practices, procedures and guidelines for operation, including training.

3.1.2.8 Congress was pleased to note that a Memorandum of Understanding (MoU) between WMO and the Open Geospatial Consortium (OGC) was signed in November 2009. This partnership is important for the development and use of relevant international standards for the WIS. It invited all technical commissions to join their efforts in these activities, in particular with a view to developing a WMO conceptual model of data representation and further developing the WMO Core Profile of the ISO 19100 standards for metadata. Congress particularly stressed the importance to ensure the interoperability of different data representation systems (e.g. WMO TDCF,
XML-based, NetCDF, HDF) used, or planned to be used, for the exchange or access of weather, climate and water information within and outside the WMO community.

3.1.2.9 Congress approved the relevant CBS recommendations for amendments to the Manual on Codes (see draft Resolution 3.1.2/1 (Cg-XVI)).

Climate Data Management

3.1.2.10 Congress emphasized the important work being undertaken by CCI and WCP for ensuring that high quality climate data is available to develop high quality climate monitoring products, climate assessments, research and climate services. It noted with appreciation the involvement of CCI in developing new and modern climate data management systems which take into consideration the WIS architecture and WMO and ISO standards for data and metadata exchange. It requested CBS and CCI to further strengthen this collaboration based on identified needs of the Members and on the user requirements for improving climate data inter-operability.

Operational Information Service related to Information System and Services

3.1.2.11 Congress noted the migration plan for transition from the catalogue of meteorological bulletins (Volume C1) to WIS Discovery, Access and Retrieval (DAR) metadata catalogue. The transition plan indicates that RTHs will continue to maintain Volume C1 using existing procedures in parallel with providing updates to the WIS DAR metadata catalogue. Volume C1 will be considered the primary source of this information until 2015.

3.1.2.12 Noting that several MTN centres had not implemented the maintenance of their parts of Volume C1 and/or had not provided updates of their routeing catalogue, Congress urged Members operating these centres to fully implement the standard procedures for the maintenance of Volume C1 and the recommended practices for updating the routeing catalogues.

3.1.2.13 Noting the deficiencies in the updating and presentation of Volume C2 of WMO-No. 9 – Transmission Programmes, Congress requested that WMO Members review the contents of Volume C2 and send amendments to the WMO Secretariat as required. Congress emphasized that failure to adhere to the agreed GTS practices negatively impacted on other NMHSs causing loss of data and products essential to their operations.

Radio Frequency Coordination

3.1.2.14 Congress appreciated the substantial efforts made by Members, CBS and the Secretariat in protecting the radio frequency bands allocated to meteorological systems and environmental satellites. It urged all Members to ensure continuous coordination with their national radio communication authorities and to actively participate in the national, regional, and international activities involving radio communication regulatory issues for meteorological and related activities. It encouraged all Members to use as a reference the new joint International Telecommunication Union (ITU)-WMO Handbook Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction, freely available online² in all official languages of WMO.

3.1.2.15 Congress strongly urged Members to start early preparations at national level of active participation in the ITU World Radiocommunication Conference 2012, including participation in events organized by regional radio communication organizations.

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3.1.2.16 Congress noted the statement delivered by the president of Regional Association VI on behalf of 30 Members of WMO expressing concern at the increasing threats to the parts of the radio spectrum utilized for meteorological purposes. Congress recalled Resolution 4 (Cg-XV) and agreed that the protection of frequencies used for meteorological purposes is of direct and vital interest to the international meteorological community and reiterated its full support for radio-frequency activities. Congress further agreed that a clear, strong and knowledgeable involvement, from all Members and relevant WMO bodies including regional associations, technical commissions and the Secretariat, is essential to the efforts and commitments already made by NMHSs under Resolution 4 (Cg-XV). It urged the pursuance of, in an organized manner, the continuous review of regulatory and technical matters related to radio-frequencies for operational and research meteorological and related environmental activities. Congress requested the Secretary-General to give the requisite high level of priority to this subject, enhancing the Secretariat support and re-allocating the core budget to ensure both coordination among Members and relevant body representation of WMO in the international frequency management process (mainly ITU-R) during the 2012-2015 period.

3.1.2.17 Congress noted that following the recommendation by CBS, the Secretary-General had established a voluntary trust fund on radio frequency coordination (RFC Trust Fund) to secure additional support to WMO representation in radio frequency management process. It encouraged Members to contribute to the RFC Trust Fund and/or make in-kind contributions and secondments to support WMO radio frequency coordination for the benefit of all Members.

Development of WIS Technical Regulatory Documents

3.1.2.18 Congress noted with appreciation the leading role of CBS in the technical development of WIS, and the critical role of the Intercommission Coordination Group on WIS (ICG-WIS) as a coordination mechanism spanning across WMO Programmes and technical commissions, as well as across global and regional levels.

3.1.2.19 Congress recalled its previous emphasis in 2007 on the need for appropriate technical regulatory documentation for facilitating the implementation by Member countries at global, regional and national levels. Congress noted with satisfaction the progress made by CBS and ICG-WIS on the development of this technical regulatory documentation in the intersessional period and noted that CBS-Ext.(10) (November 2010, Namibia) had reviewed and endorsed the draft amendments to the Technical Regulations (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices, Section A.3, and the draft of the Manual on the WMO Information System (WMO-No. 1060) as Annex VII to the Technical Regulations (WMO-No. 49), Congress approved those amendments with the adoption of Resolution 3.1.2/1 (Cg-XVI). It agreed that the Manual on WIS be a mandatory publication.

3.1.2.20 Congress noted the progress on the Guide to WIS (WMO-No. 1061) and requested CBS to continue and complete this effort. It emphasized the need for additional components including a “best practices for metadata management” and appropriate training material. It noted that due to the requirement for all Members to benefit from WIS, the Guide to WIS should also be made available in all official languages.
DRAFT RESOLUTION

Res. 3.1.2/1 (Cg-XVI) - REPORT OF THE EXTRAORDINARY SESSION 2010 OF THE COMMISSION FOR BASIC SYSTEMS RELEVANT TO GTS, DATA MANAGEMENT AND WIS RELATED TECHNICAL REGULATIONS

THE CONGRESS,

Having considered the Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2010 of the Commission for Basic Systems (WMO-No. 1070),

Noting:

(1) Resolution 1 (Cg-XV) – Technical Regulations of the World Meteorological Organization,

(2) Resolution 2 (Cg-XV) – World Weather Watch Programme for 2008–2011,

(3) The decision of Congress, at its fourteenth session, to establish an overarching WMO Information System (WIS) that would be used for the collection and sharing of information for all WMO and related international programmes,

(4) The Technical Regulations (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices, Section A.3,


Recalling:

(1) That Congress, at its fifteenth session, emphasized the need for appropriate WIS regulatory documentation and tasked CBS to develop regulatory documentation,

(2) That the Executive Council, at its sixty-second session, emphasized the importance of appropriate regulatory and guidance documentation on the WIS and requested ICG-WIS and CBS to prepare amendments to the relevant section of WMO-No. 49 - Technical Regulations, and the Manual on WIS, for consideration of Cg-XVI,

Decides to take action on each of the recommendations as follows:

Recommendation 1 (CBS-Ext.(10)) – Amendments to the Manual on Codes (WMO-No. 306), Introduction Chapter of Volumes I.1 and I.2

Recommendation 2 (CBS-Ext.(10)) – Amendments to the Manual on Codes (WMO-No. 306), Volume I.1

(1) Approves these recommendations, with effect from:
(a) 1 July 2011 for applying the procedures for amending the Manual on Codes as defined in the Annex to Recommendation 1 (CBS-Ext.(10));

(b) 2 November 2011 for amendments to the Manual on Codes for operational use as defined in the Annex to Recommendation 2 (CBS-Ext.(10));

(2) Requests the Secretary-General to make the amendments, as given in the annexes to these recommendations, to the Manual on Codes;

(3) Authorizes the Secretary-General to make any consequent editorial amendments;

Recommendation 3 (CBS-Ext.(10)) - Amendments to the Manual on the Global Telecommunication System (WMO-No. 386), Volume I, Part II

(1) Approves this recommendation, with effect from 2 November 2011;

(2) Requests the Secretary-General to make the amendments, as given in the annexes to this recommendation, to the Manual on the Global Telecommunication System;

(3) Authorizes the Secretary-General to make any consequent purely editorial amendments;

Recommendation 5 (CBS-Ext.(10)) - Amendments to the Technical Regulations (WMO-No. 49), Volume I, Section A.3

Recommendation 6 (CBS-Ext.(10)) - Manual on the WMO Information System (WIS) (WMO-No. 1060)

(1) Approves these recommendations, with effect from 1 January 2012;

(2) Requests the Secretary-General to make the amendments, as given in the annexes to these recommendations, to the Technical Regulations, Volume I – General Meteorological Standards and Recommended Practices, Section A.3;

(3) Requests the Secretary-General to publish the Manual on the WMO Information System, in all the WMO official languages;

(4) Authorizes the Secretary-General to make any consequent editorial amendments.