



WORLD WEATHER WATCH PROGRAMME (WWW)

WWW BASIC SYSTEMS AND SUPPORT FUNCTIONS; THE REPORT OF THE PRESIDENT OF CBS

SUMMARY

ACTION REQUIRED:

Congress is invited to:

- (a) Provide guidance regarding the future implementation of the World Weather Watch Programme;
- (b) Adopt the draft text given in Appendix A for inclusion in the general summary of Cg-XV;
- (c) Adopt the draft resolution given in Appendix B.

REFERENCES:

1. *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2006 of the Commission for Basic Systems (WMO-No. 1017)*
2. *Abridged Final Report with Resolutions and Recommendations of the Thirteenth Session of the Commission for Basic Systems (WMO-No. 985)*

CONTENT OF DOCUMENT:**Appendices for inclusion in the final report:**

- A. Draft text for inclusion in the general summary of Cg-XV
- B. Draft Resolution 3.1/1 (Cg-XV) – World Weather Watch Programme for 2008-2011

Appendix for information:

Cg-XV/Rep. 3.1.0: Progress/Activity Report

DRAFT TEXT FOR INCLUSION IN THE GENERAL SUMMARY OF CG-XV

3.1.0 WWW BASIC SYSTEMS AND SUPPORT FUNCTIONS; THE REPORT OF THE PRESIDENT OF THE COMMISSION FOR BASIC SYSTEMS (CBS) (*agenda item 3.1.0*)

3.1.0.1 Congress noted with appreciation the report of the president of the Commission for Basic Systems (CBS) on the activities of the Commission since Fourteenth Congress and welcomed the contribution of CBS to the implementation and utilization of WWW basic systems comprising earth- and space-based observing, telecommunication, data-processing and forecasting systems and data management techniques to provide enhanced severe weather warnings and forecasts, environmental monitoring and prediction products, including long-range forecasts and climate predictions, in particular with a view to enabling the NMHSs to mitigate and respond to natural disasters. Congress also welcomed the contribution of CBS in the development of the Public Weather Service programme (see agenda item 3.4.1). Congress was also pleased by the significant contribution and critical role of CBS as regards cross-cutting programmes and activities, including Natural Disasters Prevention and Mitigation, the WMO Information System (WIS) and Quality Management Framework. Congress noted with satisfaction that CBS had intensified collaboration with CAS concerning the WWRP (in particular THORPEX and PWS matters), with CCI concerning seasonal to interannual climate predictions as well as data management and GCOS matters, with CIMO concerning AWS and radiosonde systems, and with CAeM concerning aeronautical codes and AMDAR. Congress noted the role of the president of CBS in representing the Commission at sessions of other technical commissions and regional associations, in the Meetings of the Presidents of Technical Commissions, in the Executive Council Advisory Group on the International Exchange of Data and Products and in the Consultative Meetings on High-level Policy on Satellite Matters.

3.1.0.2 Congress noted that CBS had held its twelfth regular session in 2005 in St. Petersburg, Russian Federation and the extraordinary session 2006 in Seoul, Republic of Korea. The regular session had been preceded by a Technical Conference on Public Weather Services focused on innovations and new technologies for improved services, disaster mitigation and prevention, social and economic benefits of PWS. The extraordinary session had been preceded by a Technical Conference on WMO Information System, where presentations of technical solutions and prototypes were made and recommendations on WIS plans, objectives and enhanced services for all WMO Programmes were developed. Congress recognized the value of the continuing practice of organizing Technical Conferences just preceding CBS sessions.

3.1.0.3 Congress recalled with satisfaction that the CBS Open Programme Area Groups (OPAG) Expert Teams now included more than 160 experts and had accomplished a great deal of work. More than 50 meetings, workshops and seminars had been held since 2004 on matters falling under the Commission's purview or otherwise related to the WWW. It appreciated the important role of the CBS Management Group in the coordination of overall CBS activities. Congress was pleased to note the inter-programme role entrusted to several CBS Expert Teams for ensuring coordination and collaboration with other WMO Programmes in addressing cross-cutting requirements. It noted that details of the CBS activities and accomplishments were provided under the relevant agenda items.

3.1.0.4 Congress recognized with appreciation that CBS had greatly invigorated its collaboration with the regional associations. This was achieved through the practice of facilitating the participation of the chairpersons of the six Regional Working Groups on the WWW in the sessions of the Commission, participation of relevant regional coordinators or rapporteurs in the CBS Expert Teams, and a series of expert-level meetings and workshops in the Regions facilitated by CBS lead experts. This had, over the years, improved the WWW implementation activities in the Regions and ensured a better understanding of Region-specific aspects in the work of CBS. Congress also encouraged an increased participation of representatives of other technical

commissions and programmes in sessions of CBS, as that promoted inter-programme coordination and collaboration.

3.1.0.5 Congress recognized that the WWW had continued to be the “core” operational facility for all WMO Programmes as well as many international programmes of other agencies. Congress reaffirmed that the WWW continued to be the backbone Programme of WMO that not only accomplished its goals through the coordinated efforts of Members, but also actively contributed to cross-cutting activities, particularly the technical development of the WMO Information System (WIS) and of the concept of integrated observing systems. Congress also agreed that there is a need to strengthen the visibility of the WWW, by increasing public awareness of this unique Programme of WMO, which contributes to the security of life and property and sustainable development. It confirmed that the WWW should provide an important input to the GEOSS and this collaboration, in turn, should contribute to further the development and enhancement of the WWW. Congress also stressed the need to explore additional resources for strengthening the components of the WWW, especially in developing countries.

3.1.0.6 Congress noted that the indispensable role and substance of the WWW Programme and related CBS activities were reflected in WMO Strategic plan 2008-2011. It also confirmed that WWW continued to provide an effective mechanism for the application of developments in science and technology in operations of meteorological and hydrological services as well as for most of the other programmes of WMO. Congress stressed the need to ensure that the budget of the WWW Programme reflected the highest priority attributed to that programme and was sufficient to carry out its important activities to fulfil the core activities of the Organization. Congress adopted Resolution 3.1/1 (Cg-XV).

DRAFT RESOLUTION

Res. 3.1/1 (Cg-XV) - WORLD WEATHER WATCH PROGRAMME FOR 2008-2011

THE CONGRESS,

Recalling:

- (1) Resolution 2 (Cg-XIV) — World Weather Watch Programme for 2004-2007,
- (2) Resolution 3 (Cg-XIV) — Radio-frequencies for meteorological and related environmental activities,
- (3) Resolution 3234 (XXIX) of the General Assembly of the United Nations - International Co-operation in the Peaceful Uses of Outer Space,
- (4) Resolution 40 (Cg-XII) — WMO policy and practice for the exchange of meteorological and related data and products including guidelines on relationships in meteorological commercial activities,

Noting:

- (1) The *Abridged Final Report with Resolutions of the Fourteenth World Meteorological Congress* (WMO-No. 960), general summary, agenda item 3.1,
- (2) The *Abridged Final Report with Resolutions and Recommendations of the Thirteenth Session of the Commission for Basic Systems* (WMO-No. 985),
- (3) The *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2006 of the Commission for Basic Systems* (WMO-No. 1017)
- (4) Resolution 6.2/1 (Cg-XV) —WMO Strategic Plan 2008-2011,

Expresses:

- (1) Its satisfaction that progress has been made in the further improvement of the operation of the WWW during the period 2004-2007, through:
 - (a) A generally stable and increasing global output of the surface and upper-air observation networks, a significant increase of observational data from platforms such as aircraft, ships and buoys, an overall strengthening of the GOS through the inclusion of the R&D satellites in the space-based sub-system of the GOS and an increase in the number of operational geostationary and polar-orbiting satellites and ground receiving stations;
 - (b) An improved understanding of the impact of various observing systems on Numerical Weather Prediction;
 - (c) Improved coordination and performance of the GOS contribution to GCOS;
 - (d) An improved GTS capacity and further implementation of advanced telecommunication and data-management techniques and services;

- (e) The design and development of technological solutions and prototypes for the components of the overarching WMO Information System;
 - (f) Quick response to emerging requirements regarding amendments to codes and data representation forms, and spreading use of WMO table-driven code forms;
 - (g) Successful protection of radiofrequencies allocated to meteorological systems, including radiosondes, radars, satellites and passive remote sensing;
 - (h) Significant improvement of the accuracy of NWP products including increased production and availability of Ensemble Prediction Systems (EPS) products, their better use by more NMHSs, wider availability of routine products for day-to-day forecasting, and visible progress in emerging GDPFS centres from developing countries;
 - (i) The effective structure of RSMCs with activity and/or geographical specialization, and designation of Lead Centre for EPS Verification, Global Producing Centres for Long-range Forecasts (LRF), Lead Centre for Standard Verification of LRF;
 - (j) Progress in the arrangements for generation, distribution and verification of long-range and seasonal-to-interannual forecasts, and defined global products to be made available by global-scale producing centres;
 - (k) Improvement and broadening of the emergency response activities and related arrangements through cooperative relations with relevant international organizations including IAEA, ICAO, UN-OCHA, CTBTO, and WHO;
 - (l) Improved WWW operational information services and modernized formats and practices related to WMO-No. 9 Vols. A and C, including e-formats, Web use and on-line access by Members;
 - (m) Improved quality and quantitative monitoring procedures;
- (2) Its concern that deficiencies remain in the implementation of the WWW in some areas;
- (3) The need for intensified and coordinated activities in support of the implementation, operation and maintenance of the WWW and related cross-cutting activities to meet the objectives of the WMO Strategic Plan and maximize the benefits available to all Members;

Confirms:

- (1) That the World Weather Watch has the highest priority as the basic WMO Programme on which nearly all other programmes of the Organization depend and provides the basis for the operations of NMHSs;
- (2) That the World Weather Watch Global Observing System provides an essential basis for the development, implementation and operation of the global observing systems, including GCOS and other concepts involving integration of observations;
- (3) That the World Weather Watch Global Telecommunication System, including Data Management, provides an essential basis for the development, implementation and operation of the WMO Information System (WIS) for the collection and sharing of information for all WMO and related international programmes;

- (4) That the World Weather Watch continues to provide an effective mechanism for the application of science and technology in operations;
- (5) That the World Weather Watch 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 World Meteorological Organization Convention;

Considering:

- (1) The absolute importance of meteorological observations for determining the state of the atmosphere, for warning and forecasting weather and water events, and for monitoring the climate,
- (2) The need for developing and strengthening the surface-based and space-based GOS in the framework of an integrated observing system strategy to close data gaps that still exist, particularly in the tropical belt, over the oceans and in remote land areas, and to achieve a cost-effective and flexible system of systems that can meet in an optimal way the requirements of all WMO Programmes, in particular for natural disasters prediction and mitigation,
- (3) The continuing need for developing, upgrading and strengthening the GTS as the core component of the WIS to overcome existing implementation shortcomings and to meet increasing requirements for the collection, exchange and distribution of weather, water, climate and related observational data and products, including an efficient support to integrated observing systems,
- (4) That modern data-processing and forecasting systems and techniques need to be further developed to provide increasingly reliable and longer lead-time weather prediction guidance for day-to-day forecasting, severe weather forecasting, long-range forecasts and climate predictions, in particular with a view to enabling the NMHSs, particularly developing countries, to respond to natural disasters and environmental emergencies,
- (5) The need to maximize cooperation and coordination for the optimum implementation and operation of the WWW and the WIS in meeting the increasing requirements for meteorological and related environmental monitoring,
- (6) That advanced technology for improving the WWW system and the WIS calls for special efforts in the provision of technical guidance, specialized training and capacity building,

Decides:

- (1) That the substance of the World Weather Watch Programme shall comply with the WMO Strategic Plan 2008-2011 adopted under Resolution 6.2/1 (Cg-XV), with its major contributions focused on the following Expected Results:
 - I: Enhanced capabilities of Members to produce better weather forecasts and warnings;
 - IV: Integration of WMO observing systems;
 - V: Development and implementation of the new WMO Information System;
 - VI: Enhanced capabilities of Members in multi-hazard early warning and disaster prevention and preparedness;
 - IX: Enhanced capabilities of Members in developing countries, particularly Least Developed Countries, to fulfil their mandates;

- (2) That the WWW Systems Support Activities should continue to be carried out as integral parts of each of the WWW Programme components, with priority being given to:
 - (a) Assisting developing countries in strengthening their 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 operational efficiency of key WWW components and facilities;
 - (c) Introducing new techniques and equipment along with the provision of the corresponding training, technical advice and capacity building, as necessary and appropriate;

Stresses the role to be played by regional associations in coordinating the WWW implementation, identifying deficiencies, specifying requirements, and planning system support projects, on a regional scale;

Invites the regional associations to promote the coordinated implementation of the WWW Programme and the WIS in the Regions and to keep under continuous review related regional requirements;

Requests the Executive Council:

- (1) To ensure that the further development and implementation of the WWW Programme is carried out with the highest priority and in accordance with the WMO Strategic Plan;
- (2) To coordinate and promote the development and use of integrated observing systems, with specific attention to the role and contributions of the surface-based and space-based GOS, to achieve a cost-effective and flexible system of systems that can meet in an optimal way the requirements of all WMO Programmes;
- (3) To coordinate and promote the development, implementation and use of the WMO Information System (WIS) for the collection and sharing of observational data, products and related information for all WMO and related international programmes, with specific attention to meeting the requirements stemming from the development of an integrated observing systems strategy;
- (4) To adjust the Programme as necessary, particularly in the light of the recommendations made by the Commission for Basic Systems and the regional associations;
- (5) To assist Members in all possible ways in meeting their respective responsibilities within the WWW Programme;
- (6) To promote the establishment of cooperative arrangements for the implementation, operation and maintenance of WWW system components, as appropriate;
- (7) To consider the financial, policy and strategic aspects of the use of new technology in the WWW and the WIS;

Requests the Commission for Basic Systems:

- (1) To pursue the technical planning and development of the WWW Programme and to coordinate its implementation, in accordance with the WMO Strategic Plan, taking into account any adjustments and directives from the Executive Council;

- (2) To pursue its leading role in the technical planning and development of the WMO Space Programme in support of all WMO Programmes;
- (3) To take a leading role in the technical development and planning of integrated observing systems with a view to a cost-effective and flexible system of systems that can meet in an optimal way the requirements of all WMO Programmes;
- (4) To pursue its leading role in the technical planning and development of the WMO Information System (WIS) for the collection and sharing of information for all WMO and related international programmes;
- (5) Maintain close liaison with the other technical commissions, the regional associations, other relevant international organizations, and international programmes, in particular GCOS, with a view to ensuring that their relevant requirements and recommendations are taken into consideration in the planning and implementation of the WWW, and in the technical planning and development of the WIS;
- (6) Identify appropriate initiatives which might be pursued by Members and/or groups of Members, to maximize the performance of the WWW and the benefits to be gained from it;

Urges all Members, especially donor countries, individually and through appropriate multinational arrangements, to cooperate actively in the implementation and operation of the World Weather Watch, and in particular:

- (1) To continue, to the best of their ability, to implement, further develop, operate and maintain the surface-based and space-based sub-systems of the GOS, especially in the data-sparse areas of the globe, and to ensure the required quality and regularity of observations;
- (2) To implement, upgrade, operate and maintain the GTS as a core component of the WMO Information System (WIS), including space-based and other modern data communication capabilities, to ensure the timely, reliable and cost-effective collections, distribution and transfer of time-critical and operational-critical data, products and other relevant information;
- (3) To implement, operate and maintain the WMO Information System (WIS), including enhancement of information systems and services by further implementing modern data communication and management techniques and practices;
- (4) To operate and enhance GDPFS capabilities for generation of higher quality and new types of NWP products and their provision and use for operational and severe weather forecasting, natural disaster prevention and mitigation and seasonal to inter-annual predictions, using the present RSMCs and where appropriate, new RSMCs with appropriate activity specialization;
- (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, including appropriate capacity building activities, and, individually or collectively, to evaluate their effectiveness and their integration in the WWW;
- (7) To keep the Secretary-General informed about their plans and activities regarding the implementation of the WWW,

Requests the Secretary-General:

- (1) To keep the Members informed of progress and developments in the planning and implementation of the WWW Programme;
- (2) To continue to improve the monitoring of the operation of the World Weather Watch and the publication of results;
- (3) To assist Members, as necessary, in overcoming difficulties which may arise in the implementation of the WWW Programme during the fifteenth financial period;
- (4) To propose projects and priorities for the consolidation and further implementation of key WWW facilities, and for implementation of the WIS;
- (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 the Commission for Basic Systems in the implementation of this resolution;
- (7) To bring this resolution to the attention of all concerned;
- (8) To submit a report to the Sixteenth World Meteorological Congress on the implementation of the plan during the fifteenth financial period together with proposals for the continuation and further development of the World Weather Watch.

Note: This resolution replaces Resolution 2 (Cg-XIV) which is no longer in force.

World Meteorological Organization

FIFTEENTH CONGRESS

GENEVA, 2007



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WORLD WEATHER WATCH PROGRAMME (WWW)

WWW BASIC SYSTEMS AND SUPPORT FUNCTIONS; THE REPORT OF THE PRESIDENT OF CBS

PROGRESS/ACTIVITY REPORT

SUMMARY

Reference: Cg-XV/Doc. 3.1.0

CONTENT OF DOCUMENT:

Appendix:

- Progress/Activity Report on the WWW basic systems and support functions.

PROGRESS/ACTIVITY REPORT ON THE WWW BASIC SYSTEMS AND SUPPORT FUNCTIONS

In accordance with the 6LTP crucial to the realization of Strategy 6 is the development of the three basic components of the WWW Programme — the Global Observing System (GOS), the Global Telecommunication System GTS and the Global Data-processing and Forecasting System (GDPFS). As a basic infrastructure for the WMO Programmes, the WWW Programme contributes to the realization of most of the nine WMO strategies. The report summarizes major implementation activities under WWW carried out during 2003-2006. Basic results achieved within each of small programmes are presented under agenda items 3.1.1-3.1.4.

World Weather Watch Institutional Support

Implementation activities

- CBS-XIII was held 23 February–3 March 2005 in St. Petersburg (Russian Federation);
- CBS-Ext was held from 9–16 November 2006 in Seoul (South Korea);
- CIMO-XIV was held from 7–14 December 2006 in Geneva;
- Meetings of the CBS-Management Group were organized in 2005 and 2006;
- Representation of CBS was facilitated as required through the support to the president and vice-president of CBS;
- The WWW Programme was represented at RA sessions and international conferences, meetings of IOC, IAEA, CTBTO, UNEP;
- An expert meeting was organized to treat the emerging topic of the practical collaboration between GEOSS and CBS.

Global Observing System

Implementation activities

Implementation activities carried out through coordinated efforts by Members, constituent bodies and the Secretariat with a leading and consolidating role of OPAG on the Integrated Observing System (OPAG-IOS) comprising 5 Expert Teams and 7 Rapporteurs, established by CBS. In overall, during the reporting period 13 expert meetings and workshops were organized within the scope of CBS/OPAG-IOS together with appropriate studies and follow-up. The GOS performance based on WWW monitoring results has been made on regular basis

Global Telecommunication System and World Weather Watch Data Management

Implementation activities

CBS established an OPAG on Information Systems and Services (GTS and Data Management) comprising 8 Expert Teams and 2 Rapporteurs including three expert teams directly contributing to WIS development and one inter-programme team. The Executive Council established an Inter-Commission Coordination group on the WMO Information System (WIS). The Secretariat organized 30 meetings of these expert teams, meetings of experts for the development of the GTS at the regional level, including for the exchange of disaster early warnings and related information on the GTS, training seminars on table-driven code forms and a Technical Conference on the WIS.

Global Data-processing and Forecasting System

Implementation activities

CBS established an OPAG on Global Data-processing and Forecasting System including four expert teams and two rapporteurs. The Secretariat organized 14 meetings and workshops/seminars.

World Weather Watch System Support Activity, including Operational Information Service

Implementation activities

The expert teams established by CBS and the regional associations contributed to the World Weather Watch System Support Activity, including Operational Information Service, in their respective fields of activities.

Emergency Response Activities (ERA)

Implementation activities

CBS established a Coordination Group on Emergency Response Activities. The Secretariat organized/participated in eight expert meetings and workshops, and carried out a NMHS survey on ERA. IAEA organized a Nuclear ERA ConvEx-3 (2005) Exercise. The activities were coordinated with the CTBTO Working Group B on atmospheric transport modelling.
