WORLD WEATHER WATCH PROGRAMME

Report to Plenary on item 3.1

REFERENCE:
Cg-XVI/C/WP 3.1

APPENDICES:
A. Draft text for inclusion in the general summary on item 3.1
C. Draft Resolution 3.1/2 (Cg-XVI) - Terms of Reference of the Commission for Basic Systems

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 resolutions in Appendices B and C be adopted.
3.1 **WORLD WEATHER WATCH PROGRAMME** *(agenda item 3.1)*

3.1.0.1 Congress recognized that the WWW continues to be the “core” operational infrastructure facility for all WMO Programmes as well as for many international programmes of other agencies. Congress reaffirmed that the WWW Programme (as described in the Annex to this paragraph), with the evolving development of its observing, information and data-processing and forecasting components, continues to be the backbone Programme of WMO that not only accomplishes its goals through the coordinated efforts of Members, but also directly contributes to cross-cutting activities. Congress agreed that the WWW should provide a fundamental contribution to all WMO priority areas, namely, the Global Framework for Climate Services (GFCS), Disaster Risk Reduction, the WMO Integrated Global Observing System (WIGOS), the WMO Information System (WIS), Capacity Building and Aeronautical Meteorology.

3.1.0.2 Congress re-affirmed that there is a need to further strengthen public awareness of this unique Programme of WMO, which contributes to the security of life and property and sustainable development. It noted that the celebration in 2013 of the fiftieth anniversary of the establishment of the WWW should provide this opportunity, and invited the Secretary-General to make necessary arrangements and encourage Members to provide the necessary resources. Congress also stressed the need to mobilize resources for strengthening the components of the WWW, especially in developing countries.

3.1.0.3 Congress confirmed that the WWW continues to provide an effective mechanism for the application of developments in science and technology in operations of NMHSs as well as for the WMO and co-sponsored programmes. Congress recognized the opportunities new science and technologies offer the WWW and encouraged Members to continue working with the private sector to rapidly implement those which provided increased efficiency and new capabilities. In this connection, Congress noted with satisfaction the RA VI (Europe) initiative to organize a technical conference on interaction with the private sector and requested the Secretary-General to identify resources needed to organize it in the near future. Congress stressed the need to ensure that support for the WWW Programme reflects the highest priority attributed to that Programme and is sufficient to carry out its important activities in order to fulfil and sustain the core activities of the Organization. It agreed on the purpose, scope and main long-term objectives of the WWW and adopted Resolution 3.1./1 (Cg-XVI).

3.1.0.4 Congress noted that CBS had reviewed its specific Terms of Reference, with guidance provided by the Executive Council, and had recommended amendments to its Terms of Reference. Congress adopted Resolution 3.1/2 (Cg-XVI), which provides these amended Terms of Reference.

**WWW System Support Activities (WWWSSA)**

3.1.0.5 Congress requested the Commission for Basic Systems and the regional associations to continue identifying gaps in the implementation and operation of the WWW, and defining guidelines for the allocation of priorities in support of the implementation of WWW component systems to allow Members to provide required services to users. In this respect, it encouraged the establishment of a two-way communication mechanism for improving the strategic level coordination and feedback between the Commission for Basic Systems and the regional associations. Congress requested the Secretary-General, in collaboration with Members and funding agencies, to give a high priority to resource mobilization for supporting the implementation and operation of the WWW, in particular for mitigating the deficiencies observed.
3.1.0.6 Congress noted with appreciation that the technical advisory services provided in the form of expert missions, guidance materials and meetings in the framework of the WWW system support activities contributes to the development and improvements of the WWW components. It stressed the importance to continue providing such technical advisory services.

3.1.0.7 The CBS software registry provides information to Members on the software packages offered by individual Members through the WMO Web server. Since the efficiency of the World Weather Watch is highly dependent on computer-based applications and systems for its operation, Congress invited WWW centres to consider offering meteorological application software for free exchange among Members and to provide relevant updates to the 2006 edition of the CBS software registry.

3.1.0.8 Congress recalled that the objective of the WWW Operational Information Service (OIS) is to collect from, and distribute to, WMO Members and WWW Centres detailed and up-to-date information on facilities, services and products made available in the day-to-day operation of the WWW. Congress was pleased to note that the updated operational information is available on the WMO server. Since the overall efficiency of the OIS depends on the prompt notifications of changes and updated information from NMHSs, Congress stressed the importance for all Members to continue reviewing the operational information and updating it as required.
Programme Description

WORLD WEATHER WATCH PROGRAMME

1. Purpose and scope of the World Weather Watch (WWW) Programme

1.1 The World Weather Watch (WWW) Programme facilitates the development, operation and enhancement of world-wide systems for observing and exchanging meteorological and related observations, and for the generation and dissemination of analyses and forecast products, as well as severe weather advisories and warnings, and related operational information. The activities carried out under this Programme collectively ensure that Members have access to the required information to enable them to provide data, prediction and information services and products to users. WWW is organized as an international cooperative programme, under which the infrastructure, systems and facilities needed for the provision of these services are owned, implemented and operated by the Member countries. This is based on the fundamental understanding that the weather systems and patterns do not recognize national boundaries and are always evolving on varying temporal and spatial scales, and that international cooperation is paramount, as no one country can be fully self-sufficient in the provision of all weather, water and climate related services.

1.2 The Programme's main functions are planning, organization and coordination of the facilities, procedures and arrangements at the global and regional levels, related to the design of observing and communications networks, the standardization of observing and measuring practices and techniques, the use of data management principles, the application of scientific and technical means for assuring, analysing and predicting weather systems, and the presentation of the information in a form and format that is understood by all, regardless of language. WWW is the key Programme of WMO in providing basic data, analyses, forecasts, and warnings to Members and other WMO and co-sponsored Programmes, such as the Global Climate Observing System and Global Ocean Observing System, and relevant international organizations.

1.3 WWW puts priority on capacity-building activities to avail of technological advances to enhance the WWW components, especially in developing countries, and on cost-effective, systematic monitoring and improvements to the operations of WWW that can be derived thereof. Thus, it allows Members to obtain maximum benefits from the WWW.

1.4 The WWW Programme effectively contributes to the implementation of all the WMO Expected Results of the WMO Strategic Plan. Many of the activities are strongly linked with all other WMO Programmes and it will provide direct support to the future WMO high priority areas, namely GFCS, DRR, WIGOS and WIS, Capacity Building and Aeronautical Meteorology.

2. Programme structure

2.1 The World Weather Watch Programme comprises the design, implementation, operation and further development of the following three interconnected, and increasingly integrated, core components:

(a) Global Observing System (GOS), consisting of facilities and arrangements for making meteorological observations (including climatological observations) and other related environmental observations at stations on land and at sea, and from aircraft, meteorological environmental satellites and other platforms;
(b) Global Telecommunication System (GTS), consisting of integrated networks of telecommunications facilities and services for the rapid, reliable collection and distribution of observational data and processed information;

(c) Global Data-processing and Forecasting System (GDPFS), consisting of World, Regional Specialized, and National Meteorological Centres that provide quality-assured, processed data, analyses, and forecast products on a wide range of temporal and spatial scales.

2.2 Coordination, integration and efficient operation of the three core components are achieved through support programmes as follows:

(a) The WWW Data Management (WWWDM) support programme monitors and manages the information flow within the World Weather Watch system to assure quality and timely availability of data and products and the use of standard representation formats;

(b) The WWW System Support Activity (WWWSSA) support programme provides specific technical guidance, training and implementation support, the WWW Operational Information Services, and supports cooperative initiatives.

2.3 In addition, the WWW Programme incorporates three programmes that complement and enhance the core components of the WWW, as well as provide significant input and support to other WMO and co-sponsored Programmes:

(a) The Instruments and Methods of Observation Programme (IMOP) improves the quality and long-term stability of observations and measurements of meteorological and related environmental variables through the standardization activities and coordination and promotion of the use of efficient methods and technology to meet the requirements of operational and research applications;

(b) The Emergency Response Activities (ERA) programme assists NMHSs to respond effectively to large-scale atmospheric pollution and environmental emergencies in close collaboration with other relevant international organizations;

(c) The WMO Antarctic Activities (WMOAA) programme coordinates the WWW basic systems implementation and operation in Antarctica to meet the requirements for meteorological services as well as for environmental monitoring and climate research.

2.4 The World Weather Watch component systems are primarily managed under the technical responsibility of the Commission for Basic Systems (CBS) with the exception of the IMOP that is managed under the technical responsibility of the Commission for Instruments and Methods of Observation (CIMO).

2.5 The WWW Programme works closely with other related programmes, in particular:

(a) The Tropical Cyclone Programme (TCP), which assists Members in establishing national and regionally coordinated systems to ensure that the loss of life and damage caused by tropical cyclones are reduced to a minimum, and to achieve sustainable development;

(b) The WMO Space Programme (WMO SP) which promotes wide availability and utilization of satellite data and products for weather, climate, water and related applications of WMO Members, and coordinates environmental satellite matters and activities throughout all WMO Programmes;
The WMO Public Weather Services Programme (PWSP) whose principal aims is to strengthen the capabilities of WMO Members to meet the needs of society through provision and delivery of comprehensive weather and related environmental services, with particular emphasis on public safety and welfare, and to foster a better understanding by the public of the capabilities of their respective National Meteorological and Hydrological Services (NMHSs), and of how best to use the services that NMHSs deliver.

3. Global Observing System (GOS)

3.1 Purpose and scope

(a) The GOS provides, from the Earth and from outer space, observations of the state of the atmosphere and ocean surface for the preparation of weather analyses, forecasts, advisories and warnings, and for climate and environmental studies and activities carried out under programmes implemented by WMO and by other relevant international organizations. It is operated by National Meteorological Services (NMSs), national or international satellite agencies, and involves several consortia\(^1\) dealing with specific observing systems or specific geographic regions;

(b) GOS systematically evolves, through the Rolling Review of Requirements process, into a composite cost-effective system with its subsystems providing interoperable data and information based on the agreed upon standard practices. GOS is services driven observing system in support of the NMSs mandates;

(c) GOS put special emphasis on meeting the requirements of monitoring the climate and the environment, in collaboration with partner organizations, to improve understanding of climate processes and to enable increasingly beneficial climate and environmental studies and services;

(d) Areas of emphasis in the implementation of GOS may differ in individual countries, but common standards, cost-effectiveness, data interoperability, long-term sustainability and innovative collaborative arrangements among Members are the key aspects of the future design and operation of the observing networks.

3.2 Main long-term objectives:

(a) Improve and optimize global systems for observing the state of the atmosphere and the ocean surface to meet the requirements, in the most effective and efficient manner, for the preparation of increasingly accurate weather analyses, forecasts and warnings, and for climate and environmental monitoring studies and activities carried out under programmes implemented by WMO and by other relevant international organizations;

(b) Provide for the necessary standardization of observing practices, including the planning of networks on a regional basis to meet the requirements of users with respect to quality, spatial and temporal resolution and long-term stability, particularly with a view to its further evolution as the key component of the WMO Integrated Global Observing System (WIGOS).

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\(^1\) Examples are EUMETNET, AMDAR, ASAP, DBCP, EUMETSAT
4. Global Telecommunication System (GTS)

4.1 Purpose and scope

4.1.1 The Global Telecommunication System (GTS) is an integrated system of managed data communication networks, point-to-point circuits and satellite-based data collection and broadcast systems, which interconnect meteorological centres through agreed procedures and services. It provides the telecommunication services for the collection, and exchange of observational data (particularly GOS data) and the distribution of processed information from the Global Data-processing and Forecasting System (GDPFS) and other related centres. The GTS is operated by National Meteorological Services, national or international satellite agencies or contracted commercial telecommunication service providers. The Internet complements the GTS where technical or economic conditions limit the scope of the GTS. Maintenance and enhancement of systems to exchange data, products and information thus facilitate access to information needed for the preparation of analyses, forecasts and warnings, research activities and other environment-related applications.

4.1.2 The main goal will be the further development of structure and operational principles of the GTS and other components of the WMO Information System (WIS). As a core network of WIS, the GTS will respond to growing data communication needs of all WMO Programmes and exploit new technical and economic opportunities. The priority activity will be focused on achieving cost-effectiveness, enhanced data transmission capacity and a greater variety and flexibility of services. The WIS will continue to evolve jointly supported by the GTS and WWWDM programmes, and including input from other relevant programmes.

Main long-term objectives:

(a) Improve and optimize the WIS and its operational procedures to provide effective and efficient telecommunication services for the collection and communication of observational data, processed information, advisories, warnings, and others, within established time limits;

(b) Maintain and further develop the GTS as the core network of the WMO Information System (WIS) that will provide the information systems and services for the exchange of and access to data, which will meet the requirements for such services of all WMO Programmes.

5. Global Data-processing and Forecasting System (GDPFS)

5.1 Purpose and scope

5.1.1 The WMO Global Data-processing and Forecasting System (GDPFS) represents the function of weather forecasting including the production of weather and climate analyses, forecasts, specialized forecast products, and alerts, advisories and warnings of severe weather for the protection of life and property. The GDPFS includes the network of operational meteorological centres that produce a wide range of numerical weather prediction (NWP) products, forecasts, and warnings, and is a part of a global early warning system for meteorological and environmental hazards. The outputs of the GDPFS are required by NMHSs and other Members’ agencies to meet diverse requirements that range from immediate support to emergency response, to routine weather forecasts and warnings for the general public and for air traffic control, to environmental predictions such as sea-state or air quality, to products that create economic advantage for Members, tailored products and services to different economic sectors, and therefore represent the means for Members to deliver many meteorological services, especially those requiring predictions.
The GDPFS aims at the provision of increasingly more relevant, reliable, and quality assured NWP products spanning forecast ranges from instantaneous to long-term, and from local to global scales, improved early warning services for the mitigation of meteorological disasters and effective advice for emergency response to environmental catastrophes.

5.1.2 The GDPFS contributes to several WMO high priorities: the GDPFS’ network of Global Producing Centres and Lead Centres for Long-Range Forecasts and Regional Climate Centres is foundational in the development of a Global Framework for Climate Services. As well, the GDPFS contributes to Disaster Risk Reduction through the implementation of new scientific and technological means to improve severe weather forecasting, for example in the use of Ensemble Prediction Systems (EPS), and in particular contributes to building capacity through improved access to and use of advanced NWP/EPS products and post-processing methods in NMHSs of developing countries through the Severe Weather Forecasting Demonstration Project (SWFDP).

5.2 Main long-term objectives:

(a) Provide relevant, reliable, and quality assured NWP products spanning all forecast ranges, and from local to global scales, especially in support of improved early warning services;

(b) Develop capacity in weather and environmental predictions, especially in developing countries.

6. WWW Data Management (WWWDM)

6.1 Purpose and scope

The World Weather Watch Data Management (WWWDM) support programme will continue to develop and coordinate the support functions including data formats and codes, metadata standards, needed for an orderly and efficient overall management of meteorological data and products within the framework of WIS. It will also coordinate the monitoring of the operations of the WWW to improve the availability and quality of data and products.

6.2 Main long-term objectives:

(a) Implement modern standardized data handling and archiving models, procedures, practices, interfaces and formats required for efficient exchange, archive and retrieval of all information used in the World Weather Watch and other related WMO Programmes;

(b) Define and coordinate implementation of metadata standards for the WIS so that it meets the data exchange and access requirements of all WMO Programmes.

7. WWW System Support Activity, including the Operational Information Service (OIS)

7.1 Purpose and scope

7.1.1 The WWW System Support Activity (WWWSA) support programme provides technical advice and support, especially to developing NMHSs, in order to assist in achieving the most effective and efficient implementation and sustainable operation of the World Weather Watch. The programme promotes the development of standard solutions to common operational problems and their implementation through coordinated projects.

7.1.2 The Operational Information Service (OIS) collects from and distributes to WMO Members detailed and up-to-date information, in a timely and efficient manner, on facilities, services and products made available through the operation of the World Weather Watch.
7.2 Main long-term objectives:

(a) Assist developing NMHSs, particularly through technical advice and training activities, in obtaining the necessary self-reliance for providing weather forecasting and warning services in their country and to allow them to fulfill agreed responsibilities within the WWW system and other related WMO or international programmes;

(b) Promote development and implementation of innovative arrangements for cooperation and funding within the WWW system to strengthen the long-term and cost-effective operation of the basic infrastructure;

(c) Provide the information services on the operation of the World Weather Watch and related systems and improve their utility for the users.

8. Instruments and Methods of Observation Programme (IMOP)

8.1 Purpose and scope

IMOP organizes the necessary studies, as well as instrument intercomparisons and calibration campaigns to ensure required accuracy and guarantee the long-term stability and interoperability of the observing systems used within WIGOS, with particular focus on the GOS. It promotes traceability of measurements done by Members to recognized international standards and supports Members’ efforts to establish calibration laboratories, including collaboration with Regional Instrument Centres and relevant international organizations. This responsibility also extends to supporting the requirement of WMO cross-cutting activities such as the Global Framework for Climate Services, Disaster Risk Reduction and capacity building. The programme develops and supports publication of technical guidance, observation practices, standards and performance characteristics, and implements related capacity-building activities. The programme effectively contributes to the implementation of all Expected Results, with the main emphasis on the implementation of Expected Result 4, in particular with respect to providing improved technical standards and guidance on instruments and methods of observations to ensure the improvement of observation quality.

8.2 Main long-term objectives:

(a) Improve the quality and long-term stability of observations and measurements of meteorological and related environmental variables through the coordination and promotion of the use of efficient methods and technology to meet the requirements of operational and research applications;

(b) Enhance the effective and economic use of observing technology/systems through training and technology transfer in developing countries.

9. Emergency Response Activities (ERA)

9.1 Purpose and scope

9.1.1 The Emergency Response Activities (ERA) programme, implemented in close conjunction with the Global Data-processing and Forecasting System (GDPFS), assists NMHSs and other relevant agencies of Members, as well as relevant international organizations, to respond effectively to environmental emergencies associated with airborne hazards, for example, caused by nuclear accidents or events, volcanic eruptions, chemical accidents, smoke from large fires, and other events, which require emergency atmospheric transport and dispersion modelling
(ATM) support. This programme is carried out through the provision of specialized GDPFS products by designated Regional Specialized Meteorological Centres (RSMC); the development and implementation of efficient emergency procedures for the provision and exchange of specific data, information, and products related to the environmental emergency; regular exercises; and training for users.

9.1.2 Activities related to airborne radionuclide hazards fall under two categories. First, nuclear accidents or radiological incidents fall under two International Conventions, one on Early Notification, and the second on Assistance, to which WMO is a Party along with other international organizations concerned under the overall coordination of the IAEA. Secondly, WMO collaborates with the Comprehensive Nuclear-Test-Ban Treaty Organization and provides specialized operational modelling support to the Treaty’s Verification regime.

9.2 Main long-term objectives:

(a) Provide effective meteorological support in the response to environmental emergencies related to airborne hazards;

(b) Collaborate with relevant international organizations in meteorological aspects of mitigating the impacts of environmental emergencies related to airborne hazards.

10. WMO Antarctic Activities (WMOAA)

10.1 Purpose and scope

10.1.1 The WMOAA programme coordinates operational meteorological activities in Antarctica carried out by nations and groups of nations and under the auspices of the WMO Executive Council. Within the framework of the Antarctic Treaty, it focuses on the interfaces between these activities and relevant WMO Programmes to ensure continuity of weather, climate, water and related environmental programmes in the Antarctic in meeting the requirements for meteorological services as well as for environmental monitoring and climate research. Important stakeholders in this engagement include the WMO technical commissions, regional associations, the IOC, Antarctic Treaty Consultative Meeting (ATCM), and key science groups such as the ICSU, SCAR, IASC and WCRP.

10.1.2 The WMOAA programme, as a component of the WWW Programme, effectively contributes to the implementation of all the WMO Expected Results of the WMO Strategic Plan. Many of the activities are strongly linked with all other WMO Programmes. It will provide direct support to all WMO high priority areas, namely GFCS, DRR, WIGOS and WIS, Capacity Building and Aeronautical Meteorology.

10.2 Main long-term objectives:

(a) Coordinate implementation and operation of the basic systems of the WWW to meet the requirements for meteorological services and research activities in the Antarctic, including climate and environment monitoring;

(b) Collaborate with other international organizations and programmes in Antarctica in order to ensure a coordinated and cost-effective scientific and technical programme.
DRAFT RESOLUTION

Res. 3.1/1 (Cg-XVI) - WORLD WEATHER WATCH PROGRAMME FOR 2012-2015

THE CONGRESS,

Recalling

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

(2) Resolution 64/86 of the United Nations General Assembly - International cooperation in the peaceful uses of outer space,

Noting:

(1) The Abridged Final Report with Resolutions of the Fifteenth World Meteorological Congress (WMO-No. 1026), general summary, agenda item 3.1,

(2) The Abridged Final Report with Resolutions and Recommendations of the Fourteenth Session of the Commission for Basic Systems (WMO-No. 1040),

(3) The Abridged Final Report with Resolutions and Recommendations of the Fifteenth Session of the Commission for Instruments and Methods of Observation (WMO-No. 1064)


Expresses:

(1) Its satisfaction that progress has been made in the further improvement of the operation of the WWW Programme during the period 2008-2011;

(2) Its concern that deficiencies remain in the implementation of the WWW Programme in some areas;

(3) The need for intensified and coordinated activities for the operation and maintenance of the WWW Programme in support of other WMO Programmes and high priority areas to meet the objectives of the WMO Strategic Plan and maximize the benefits available to all Members;

Confirms:

(1) That the WWW Programme has the highest priority as the basic WMO Programme on which all other Programmes of the Organization depend and provides the basis for the operations of NMHSs;

(2) That the WWW Programme continues to provide an effective mechanism for the application of science and technology in operations;

(3) That the WWW Programme contributes to the WMO Strategy for Service Delivery;

(4) That the WWW Programme 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 weather, climate and water observations for determining the current state of the atmosphere, for weather forecasting, including severe weather forecasting and warning services, for monitoring climate variability and climate change, for climate prediction and as a fundamental underpinning of the Global Framework for Climate Services,

(2) That advanced technology for improving the technical systems of the WWW Programme calls for special efforts in the provision of technical guidance, specialized training and capacity building,

Decides that the purpose, scope and main long-term objectives of the WWW Programme shall be aligned with the WMO Strategic Plan and high priorities of WMO;

Stresses the role to be played by regional associations in coordinating the WWW Programme 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 to keep under continuous review related regional requirements;

Requests the Executive Council:

(1) To ensure that the further development of the WWW Programme is carried out with the highest priority and in accordance with the WMO Strategic Plan;

(2) To adjust the WWW Programme as necessary, particularly in light of the recommendations made by the Commission for Basic Systems and the regional associations;

(3) To assist Members in all possible ways in meeting their respective responsibilities within the WWW Programme;

(4) To promote the establishment of cooperative arrangements for the implementation, operation and maintenance of WWW Programme system components, as appropriate;

Requests the Commission for Basic Systems:

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

(2) To take a leading role, together with the Commission for Instruments and Methods of Observation, in the technical development and implementation of the Global Observing System (GOS), as the key component of the WMO Integrated Global Observing System (IWigos), to meet, in an optimal way, the requirements of all WMO and co-sponsored Programmes;
(3) To pursue its leading role in the technical implementation and operation of the WMO Information System (WIS), including GTS as its core network, for the collection and sharing of information for all WMO and related international programmes;

(4) To pursue its leading role to enhance the implementation of the Global Data-Processing and Forecasting System (GDPFS) through increased lead-time and reliability of forecasts and warnings, and its critical support to the delivery of services to the general public as well as to all relevant socio-economic sectors;

(5) To 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 in due consideration;

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

(1) To continue, to the best of their ability, to further develop, implement, operate and maintain the WWW Programme component systems (observation, information and data-processing and forecasting components) and to ensure the requirements of Members for the provision of services and products are fully met;

(2) To contribute to the implementation and operation of the WIGOS, WIS, and GDPFS and participate in their projects;

(3) 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 Programme activities as far as possible;

(4) 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 Programme;

(5) To keep the Secretary-General informed about their plans and activities regarding the implementation of the WWW Programme;

**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 WWW Programme 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 sixteenth financial period;

(4) To propose projects and priorities for the consolidation and further development of key WWW Programme facilities;

(5) To assist the Executive Council, the regional associations and the Commission for Basic Systems in the implementation of this resolution;
(6) To bring this resolution to the attention of all concerned;

(7) To submit a report to the Seventeenth World Meteorological Congress on the implementation of the WWW component systems during the sixteenth financial period together with proposals for further development of the World Weather Watch.

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

Res. 3.1/2 (Cg-XVI) - TERMS OF REFERENCE OF THE COMMISSION FOR BASIC SYSTEMS

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) The Abridged Final Report with Resolutions of the Fifteenth World Meteorological Congress (WMO-No. 1026),

(2) The final reports of the 2009 Meeting of the Presidents of Technical Commissions (Geneva, February 2009) and the 2010 Meeting of the Presidents of Technical Commissions (Geneva, January 2010),

(3) The decision of the sixty-second session of the Executive Council (Geneva, Switzerland, 8-18 June 2010),

(4) The WMO Strategic Plan (WMO-No. 1028),

(5) Recommendation 8 (CBS-Ext.(10)) – Terms of Reference of the Commission for Basic Systems,

Considering the new preamble to be incorporated in the WMO General Regulations on the general Terms of Reference of technical commissions as proposed by the Executive Council,

Recognizing that the Terms of Reference of technical commissions should be aligned with the long-term priorities of the Organization, the WMO Results-based Management approach and overall Organization objectives and Strategic Thrusts,

Decides that the terms of reference of CBS be amended as provided in the Annex to this resolution;

Requests the Secretary-General to make the necessary amendments to the WMO General Regulations;

Authorizes the Secretary-General to make any consequent purely editorial amendments.

Annex: 1
Annex to draft Resolution 3.1/2 (Cg-XVI)

TERMS OF REFERENCE FOR CBS

The Commission shall be responsible for matters relating to:

(a) Cooperation with Members, other technical commissions, regional associations and relevant bodies in the development and operation of integrated systems for observing, data processing, forecasting, telecommunications, and data management. These activities shall be in response to requirements and in support of all WMO Programmes, particularly contributing to disaster risk reduction, and taking advantage of 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) Continued development of the World Weather Watch (WWW) as a priority;

(d) Further development and implementation of the Public Weather Services Programme, with particular attention to end-to-end service delivery;

(e) Further development and implementation of the WMO Space Programme;

(f) Contribution to the development and implementation of the Global Framework for Climate Services;

(g) The processing, storage and retrieval of basic data for meteorological and related purposes including, in particular, the organization of the Global Data-processing and Forecasting System of the WWW;

(h) 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;

(i) Observational systems, facilities and networks (land, sea, air, and space) as decided by Members including, in particular, all technical aspects of the WMO Integrated Global Observing System, particularly the global observing systems;

(j) Telecommunication networks, radio-frequency allocation and facilities for operational, research and applications purposes including, in particular, the organization of the WMO Information System, including the Global Telecommunication System of the World Weather Watch;

(k) The development and application of operational procedures, schedules, and arrangements for the exchange of and access to weather, climate and water information (data and, products), including warnings, required by all WMO Programmes, in particular, through the WMO Information System;

(l) 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.