WMO SUBMISION TO SBSTA 43

Outcomes of the Seventeenth World Meteorological Congress (Cg-17) with respect to the World Climate Programme (WCP), Global Climate Observing System (GCOS) and Integrated Global Greenhouse Gas Information (IG3IS)

The seventeenth World Meteorological Congress (Cg-17) was held in Geneva, Switzerland from 25 May to 12 June 2015. The following are Congress decisions relevant to research, systematic observation, adaptation and disaster risk reduction.

a) Resolution 9 (Cg-17) - Identifiers for Cataloguing Extreme Weather, Water and Climate Events

Congress noted the calls for reducing the losses associated with extreme events in the Sendai Framework for Disaster Risk Reduction 2015−2030, the United Nations Framework Convention on Climate Change Warsaw international mechanism for loss and damage associated with climate change impacts, and the United Nations draft sustainable development goals.

Congress further noted that developing identifiers for cataloguing weather, water and climate extreme events in cooperation with institutions having competences about possible impact of those weather events can provide an unambiguous reference for associated losses and damages and can promote consistency in the characterization of extreme events. It noted that more consistent event characterization in terms of type of event, location, duration, magnitude and timing would allow for better evaluation of the types of losses and damages associated with different types of events, and the most damaging events and thresholds, and trends.

Congress considered that an identifier and cataloguing system is an important prerequisite for the Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes and the United Nations Office for Disaster Risk Reduction Global Assessment Reports on Disaster Risk Reduction, and that it could greatly assist the Global Framework for Climate Services by bringing a standardized approach of National Meteorological and Hydrological Services to the analysis and recording of extreme hydrometeorological events in national databases, and by supporting the international exchange and validation of these data.

Congress decided to standardize weather, water, climate, space weather and other related environmental hazard and risk information and develop identifiers for cataloguing weather, water and climate extreme events.

b) Resolution 10 (Cg-17) - Sendai Framework for Disaster Risk Reduction 2015-2030 and WMO participation in the international network for multi-hazards early warning systems

Congress noted the need for a holistic and integrated multi-hazard approach to early warning systems as a strategy to streamline such systems, to apply lessons learned from their operations, and to contribute effectively to disaster risk reduction. It further noted that the Sendai Framework calls for the necessity of enhancing multi-hazard early warning systems (MHEWS) and that the Member States of the United Nations called for strengthened regional and international cooperation to develop science-based methodologies and tools to support MHEWS.

Congress-17 also noted the need for a multi-stakeholder partnership at various levels forged through voluntary commitment to foster and enhance cooperation, collaboration and networking on improving early warning systems with a multi-hazard approach. In this respect, Congress welcomed the development of the concept for the establishment of the International Network for Multi-hazard Early Warning Systems (IN-MHEWS), developed by the organizing team of the United Nations World Conference on Disaster Risk Reduction Working Session on Early Warning, presented during the Conference, and the support this received from the Working Session and a number of key stakeholders.

Congress-17 noted that IN-MHEWS would involve a number of appropriate international, regional and national partner agencies and institutions that have the mandates for the monitoring, forecasting and warning of natural and human-induced hazards.

Congress-17 further noted that WMO is planning to conduct an International Conference on MHEWS in 2016 in collaboration with Members, technical commissions, regional associations, and partners that have expressed commitment to IN-MHEWS and other international bodies and stakeholders.

Congress urged WMO Members to adopt a shared approach with relevant agencies and organizations at the national level to promote implementation of the Sendai Framework.

c) Resolution 15 (Cg-17) - World Climate Programme (WCP)

Recognizing the fundamental role of the World Climate Programme in climate science, research and modelling, observations of climate, management of climate information, climate monitoring, and climate applications and services, Congress decided to reconstitute the World Climate Programme.

It further recognized the continuing importance of the WCP and its associated activities in making an effective contribution to the Intergovernmental Panel on Climate Change, the United

Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification, as well as to the Sendai Framework for Disaster Risk Reduction (2015 –2030) and the United Nations sustainable development goals (2015-2030).

Congress further decided to structure the Programme to be composed of the Global Climate Observing System (GCOS), the World Climate Research Programme (WCRP), the World Climate Services Programme (WCSP) and the Global Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA).

d) Resolution 39 (Cg-17) - Global Climate Observing System (GCOS)

Congress recognized the importance of efficient coordination and interoperability across the various component observing systems of GCOS and effective integration of in situ and space-based observations in meeting user needs. Congress further recognized the unique opportunities for coordinated national and international reliable physical, chemical and biological observation of Essential Climate Variables across the atmospheric, oceanic and terrestrial domains, including hydrological and carbon cycles and the cryosphere, provided through the joint sponsorship of GCOS by WMO, IOC, UNEP and ICSU. It recognized the new opportunities for increased international support, enhanced interoperability and improved integration opened up by the prospect of embedding the GCOS system of systems within the emerging operational structure of the Global Earth Observation System of Systems and the fundamental importance of GCOS to the Global Framework for Climate Services.

Reaffirming the continuing strong commitment of WMO to the objectives of GCOS and support for its implementation in order to meet the full range of user needs, Congress decided to strengthen and to continue GCOS as a programme of the Organization as regulated by the 1998 Memorandum of Understanding with partners such as IOC, UNEP and ICSU, and as regulated by new memorandums of understanding agreed by international sponsors.

It urged Members to strengthen their national atmospheric, oceanographic and terrestrial climate observing networks and systems, including networks and systems for the hydrological and carbon cycles and the cryosphere within the framework of GCOS and in support of user needs.

It further urged to ensure, to the extent possible, the long-term continuity of the critical space-based components of GCOS, including the generation and dissemination of the satellite-based climate data and products based on the Essential Climate Variables that are required to meet the needs of NMHSs, the Conference of the Parties to UNFCCC, IPCC and other users of climate services,

Congress also urged to encourage the National Meteorological and Hydrological Services (NMHSs) to provide effective leadership in the preparation of national reports to the UNFCCC on their activities with regard to systematic observation of the global climate system, including the identification of gaps, using revised UNFCCC reporting guidelines on global climate

observing systems that reflect the priorities of the GCOS Implementation Plan and which incorporate reporting on the Essential Climate Variables identified therein.

e) Resolution 46 (Cg-17) - Integrated Global Greenhouse Gas Information System

Congress noted that there is a growing need for actionable information to understand and manage greenhouse gas budgets on enhanced temporal and spatial scales and that the Integrated Global Greenhouse Gas Information System (IG^3IS) would address this need.

Congress requested WMO Members to ensure submission of observational data as well as metadata to the dedicated WMO/GAW Data Centre as well as the GAW Station Information System within the period of time required to support IG^3IS, as will be documented in the specification of requirements through the WMO Integrated Global Observing System and its Observing Systems Capability Analysis and Review Tool/Requirements catalogue. It also requested the Members to cooperate on development of modelling tools for inverse modelling and anthropogenic greenhouse gas flux attribution.

Congress further requested WMO Secretary-General to take all necessary actions to develop and maintain WMO collaboration in matters related to the carbon cycle with relevant organizations, agencies, groups and institutions, such as the Food and Agriculture Organization of the United Nations, the International Maritime Organization, the United Nations Environment Programme, the United Nations Educational, Scientific and Cultural Organization, and the Group on Earth Observations.

f) The following Resolutions were covered by GFCS submission to SBSTA 43:

- **Resolution 60 (Cg-17) - WMO Policy for the International Exchange of Climate Data and Products to Support the Implementation of the Global Framework for Climate Services;**
- **Resolutions 61 (Cg-17) - Governance of the Global Framework for Climate Services (GFCS);**
- **Resolution 63 (Cg-17) - Energy as an Additional Priority Area of the GFCS; and**
- **Resolution 68 (Cg-17) - Establishing of a WMO Cross-cutting Urban focus.**

g) Submission of Supplement to the Technical Guidelines of the National Adaptation Plans (NAPs)

WMO and GFCS in collaboration with the UNFCCC Secretariat is developing Supplement to the Technical Guidelines of the NAP, providing details on scientific and technical information on the role of data analysis, climate monitoring and prediction in adaptation planning and practices. The Supplement provides a list of selected publications and guidance materials, which show the role of National Meteorological and Hydrological Services (NMHSs), in the above-mentioned areas.