

C A R I B B E A N

M E T E O R O L O G I C A L

O R G A N I Z A T I O N

**ANNUAL MEETING OF DIRECTORS OF METEOROLOGICAL SERVICES Doc. 5**

Belize City, BELIZE, 11 NOVEMBER 2015

**OUTCOME/HIGHLIGHTS OF THE SEVENTEENTH WMO CONGRESS**

(Submitted by the Coordinating Director)

**Summary**

1. The World Meteorological Organization (WMO) held its Seventeenth Congress in Geneva, Switzerland from 25 May to 12 June 2015. The World Meteorological Congress is WMO’s highest policy-making organ. It was chaired by its President, **Mr David Grimes** of Canada. The Congress adopted a work programme that sets the course for the activities of the WMO over the next four years. The main challenges to be addressed in that period are: the evolution of the WMO Strategic Plan to keep on responding efficiently to the activities of the Organization and its strategic priorities, in particular the WMO contribution to the implementation of the Global Framework for Climate Services (GFCS) established by the Third World Climate Conference (WCC-3).

2. Congress provided guidance on the global scientific and technical programmes including the WMO Integrated Global Observing System (WIGOS) and the WMO Information System (WIS). It also gave guidance on a number of issues that will strengthen the capacity of National Meteorological and Hydrological Services (NMHSs) and their visibility and the recognition of their role in support of sustainable development. In particular, Congress gave high priority to training and capacity building for NMHSs in developing countries.

3. Four of the nine CMO Member countries that are also Members of the WMO were represented for all or part of the Congress. These are Barbados, the British Caribbean Territories, Jamaica, and Trinidad and Tobago.

**A. Election of Officers**

4. During the intercessional period before the seventeenth WMO Congress, WMO had the following elected officials:

1. Mr Michel Jarraud - Secretary-General
2. Mr David Grimes - President
3. Dr Antonio Divino Moura - First Vice President
4. Prof. Mieczyslaw S. Ostojski - Second Vice President
5. Mr AbdalahMokssit - Third Vice President

5. The President and Vice Presidents were returned to office unopposed. However, there were four candidates for the post of Secretary-General, because Mr Jarraud had to demit office having served the maximum three (3) terms. The four candidates for post of Secretary-General were:

1. Mr Jeremiah Lengoasa - South Africa
2. Dr Elena Manaenkova - Russian Federation
3. Dr Shailesh Nayak, - India
4. Prof Petteri Taalas - Finland

**Prof Petteri Taalas** was appointed Secretary-General after four (4) rounds of voting.

**B. Key Priorities 2016-2019**

6. Congress agreed with the WMO Strategic Plan which sets the direction and priorities to guide the activities of Members and all WMO constituent bodies to enable all Members to improve their core information, products and services, maintain necessary infrastructures, and to directly benefit from advancements in science and technology. The Plan emphasizes the following **key priorities** to advance the realization of the eight expected results, which outline the benefits and improvements to the capacity of all Members. The key priorities are:

1. Improve the accuracy and effectiveness of impact-based forecasts and multi-hazard early warnings of high impact meteorological, hydrological and related environmental hazards from the tropics to the poles;
2. Implement climate services under the Global Framework for Climate Services (GFCS);
3. Strengthen the global observing systems through the implementation of the WMO Integrated Global Observing System (WIGOS);
4. Improve the ability of NMHSs to provide sustainable high quality services in support to safety, efficiency and regularity of the air traffic management worldwide;
5. Improve operational meteorological and hydrological monitoring, prediction and services in polar, high mountain regions;
6. Enhance the capacity of NMHSs to deliver on their mission; and
7. Improve efficiency and effectiveness of WMO though adopting continuous improvement measures and recommendations based on a strategic review of WMO structures, operating arrangements and budgeting practices.

**C. Improving Service Quality and Service Delivery**

**Service Delivery**

7. Congress recalled that the WMO Strategic Plan for the period 2016-2019 had recognized “Improved service quality and service delivery” as an Expected Result for the Organization. This Expected Result is aimed at improving the operational, end-to-end framework for NMHSs to translate leading-edge science into information that is actionable and easy to interpret by different sectors of society. The Plan highlights the fact that it is through effective and timely delivery of services that users derive a high level of return on NMHSs’ investment in basic infrastructure (such as observing systems, modelling, communications and human resources) and that nations derive a high level of return on their investments in National Meteorological and Hydrological Services (NMHSs).

8. Congress emphasized the value of NMHSs continuing to strengthen relations with the media and other key partners in reaching end users. Congress therefore recognized Service Delivery as the core business of NMHSs, that is, providing essential meteorological, hydrological and related environmental services and information to communities, for the purpose of saving lives and livelihoods, and for improving the quality of life as well as enhancing national economies.

9. Congress recalled that during its sixteenth session, it had approved *The WMO Strategy for Service Delivery* (herein referred to as “the Strategy”) to guide all activities and programmes of the Organization. Congress further recalled that, in approving the Strategy, it had also requested the preparation of an implementation plan to guide Members’ efforts in implementing the Strategy at the national level. It was noted with satisfaction that the “WMO Strategy for Service Delivery and its Implementation Plan” had been published (WMO-No. 1129) and that the publication was publicly available online at the WMO library website, as well as in hard copies. Members are strongly encouraged to implement the Strategy, using the Implementation Plan, with a view to improving the quality and delivery of the services they provide to the public.

**Aeronautical Meteorology**

10. Congress acknowledged that the activities under the Aeronautical Meteorology Programme (AeMP) during the intersessional period were guided by the following agreed priorities: support to Members in the implementation of the International Civil Aviation Organization (ICAO) and WMO requirements for Quality Management Systems (QMS), competence, development of proposals for meteorological services to Air Traffic Management (ATM); improvement of SIGMET provision and resolution of long-standing deficiencies; and development of proposals to mitigate the impacts of large-scale, high-impact events such as volcanic ash (VA), nuclear emergencies and space weather.

11. Congress recognized that the application of meteorology to aviation will become ever more important in the next 10 to 15 years, during which time substantial changes will happen in all areas of air navigation services in response to the significant growth of air traffic, rigorous requirements for reducing environmental impacts of aviation, and the need to increase efficiency of air traffic operations whilst maintaining the highest standards of flight safety.

*Progress in the implementation of QMS*

12. It was recalled that, as of 15 November 2012, the QMS requirement became a standard practice, supplemented by a set of recommendations on the conformity of the QMS with the International Organization for Standardization (ISO) 9000 series of quality assurance standards. Congress noted the attained level of compliance with the QMS requirements at the end of the intersessional period reached 110 Members whose aeronautical meteorological service providers (AMSP) have implemented a QMS. Moreover, the majority of those Members had also obtained the recommended ISO 9001:2008 certification.

13. Congress considered the implementation of QMS for the aeronautical meteorological services as a good showcase of a well-guided and closely monitored implementation of the WMO technical regulations, supported by appropriate capacity development actions. It recognized that the QMS brought tangible benefits to the NMHSs and other AMSPs through optimized processes and procedures, accountability and continuous improvement culture and noted further that the ISO 9000 certification requires a continuous resource-consuming maintenance effort through regular checks and re-certification audits. In this regard, Congress emphasized the link between the sustainability of the QMS and the cost recovery, in particular, for the developing and least developed countries.

14. Noting that there were still a number of Members that had been unable to reach the required level of compliance with the QMS requirements, such a situation was classified as a serious deficiency against the ICAO requirements. Congress reaffirmed its strong encouragement to all Members to complete and sustain the QMS for the provision of meteorological service to aviation and requested the Secretary-General, supported by the Commission for Aeronautical Meteorology (CAeM), to continue to provide assistance to the Members in need.

*Implementation of competency standards*

15. Congress recalled that during the intersessional period, the provisions of the WMO *Technical Regulations* (WMO-No. 49, Volume I, Chapter 5) concerning the required competency of aeronautical meteorological personnel (AMP), (including aeronautical meteorological forecasters (AMF) and aeronautical meteorological observers (AMO)), became standard practices as of 1 December 2013. Consequently, all Members were expected to undertake the necessary measures to ensure compliance with those standards and inform the Secretariat thereof.

16. Congress encouraged all Members who have not completed their competency assessment programmes for the AMP, to do so as soon as possible and report to the Secretariat on the achieved level of compliance. Congress further emphasized that such programmes should be an integral part of a continuous career development process to ensure that operational aeronautical meteorological personnel remain fully competent and able to demonstrate compliance with user demands for quality and performance of the service.

*Qualification standards*

17. Congress recalled that the qualification requirements for AMF will become a standard practice on 1 December 2016. Consequently, Members will be required to ensure that the level of qualification of the operational AMF personnel follows the WMO qualification standard, i.e., to be compliant with the relevant sections of the Basic Instruction Package for Meteorologist (BIP‑M), and inform the Secretariat thereof.

18. Congress urged Members to initiate preparation for compliance with the qualification requirements in due time in order to avoid a big lag between the applicability date and actual implementation. Such preparation would require an assessment of the qualification records of existing operational AMF, job descriptions, and consultation with relevant educational institutions to ensure the conformity of their curricula and training programmes with the WMO BIP-M. In instances of identified gaps in the qualification of existing AMF personnel, Members should arrange for appropriate training, where necessary in consultation with the relevant training institutions.

*MET deficiencies, and cost recovery issues*

19. Congress expressed concern that some deficiencies in the provision of aeronautical meteorological service persisted despite the efforts to resolve them. Among those deficiencies, the inadequate provision of SIGMET information by some Members was a major safety concern. Congress noted that a new approach to overcome the limited capabilities of such Members to provide effective SIGMET service was discussed by the Conjoint ICAO/WMO MET Divisional Meeting (Montreal 2014) and a proposal for a regionalization of the SIGMET provision in such areas was to be further developed in the Aviation System Block Upgrades (ASBU) framework.

20. Congress noted that lack of adequate cost-recovery for the provision of meteorological service to aviation continued to be an issue for many Members. Congress appreciated that several VCP-funded projects have been carried in an attempt to promote the best practices in cost recovery and establish the needed national agreement between the stakeholders, following the relevant ICAO and WMO guidance. It was expected that more requests for such projects would be coming from Members in the near future. Development of an appropriate cost recovery mechanism for those Members with low traffic volumes, with due consideration of the specifics of the flight operations, should also be considered.

**Public Weather Services**

21. Congress emphasized that the core business of NMHSs was to serve the public good by providing essential and reliable weather, climate and related environmental information to the community at large and noted that some Members reported fewer fatalities following recent severe weather events, attributing this to improved communication of warning messages. While NMHSs face many challenges, such as funding, maintenance of observational networks, widely available alternative services from well-resourced private sector providers, staffing, evolving technology and pressure to provide an ever increasing range of better services to larger populations in urban areas, dependable, useable, credible and available public weather services are the most visible part of the work of NMHSs, and contribute significantly to their credibility in facing these challenges. Congress firmly believed that it was primarily through the timely and effective delivery of Public Weather Service (PWS) that governments recognized the value of NMHSs and realized a high level of return on their investments in NMHSs.

*Challenges and Opportunities for PWS delivery*

22. Congress acknowledged that advances in technology and communications have revolutionized the way environmental information is being collected, integrated, disseminated and shared. These advances have pushed the expectations of users to such levels that they expect the information to be delivered to them when they want it, where they want it, and in their preferred formats customized to their needs. Furthermore, the proliferation of weather information from various sources on the internet, media and social networks also pose significant challenges to the NMHSs in delivering consistent authoritative forecast and warning messages to members of the public, especially during extreme weather situations. To respond to these expectations, a number of NMHSs have already moved to multi-channel delivery methods, using interactive push technologies and customized services. It is expected that many more will follow suit in order to further improve timely access to information. Dissemination of information has also evolved at a rapid pace, and sophisticated graphical formats have been created for better visual displays of forecasts.

23. The emergence of the Global Positioning System (GPS), smart phones and automated alerting systems means seamless ingestion of data and display of graphical weather forecasts and warnings, and allows the provision of location-specific and tailored weather information for travelling public. Congress agreed that these developments presented challenges, but also opportunities to NMHSs, particularly with respect to delivery of time-sensitive warning information in a manner that protects the public. The main challenge would be the optimum use of technology in the provision of weather information in ways that will fully satisfy the users. Opportunities are afforded in the availability of solutions on various platforms and degrees of automation to facilitate the continuous availability of public forecasts and warnings, including mobile applications and social networks. Congress called on Members to embrace these opportunities so as to enable their NMHSs to provide the best possible consistent and authoritative weather information and services to users, and to share best practices. Congress also agreed that increased efforts in communication and public education by NMHSs will be essential to ensure that the public receives and understands the authoritative weather information and warning messages issued by NMHSs for taking timely and appropriate actions.

*PWS Competencies*

24. It was recalled that Cg-XVI had recommended that all technical commissions make the definition of competency requirements for the core tasks in meteorology and hydrology a high priority activity and incorporate this task into their work programmes. Congress noted with appreciation that the PWS Programme, in close consultation with the Executive Council Panel on Education and Training, had developed the “Competency Framework for PWS Forecasters and Advisors”.

**Quality Management in Service Delivery**

25. Congress noted further the on-going development of quality management aspects of other programme areas, like WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS), Hydrology and Water Resources Programme (HWRP), World Climate Programme/World Climate Services Programme (WCP/WCSP), Global Framework for Climate Services (GFCS), Disaster Risk Reduction (DRR), Global Atmospheric Watch (GAW), etc. Several different expert bodies have been established by the technical commissions concerned to address quality management aspects of the respective programmes. However, it was understood that the quality management focus may vary from programme to programme, e.g., in some areas the main concern is about quality of observational data and related information derivatives, while in other areas the concern is on the availability of a recognized/certified QMS that warrants quality in accordance with a service level agreement. Therefore, Congress agreed that the WMO QMF should be further developed to streamline the quality actions of different programmes, technical commissions and expert bodies to ensure their consistency as part of the overarching organization-wide QM policy.

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September 2015