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## **REPORT OF THE PRESIDENT OF THE WMO-IOC JOINT TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)**

### **Key achievements**

Cg-17 re-established the Marine Meteorology and Oceanography Programme (MMOP) as the key operational programme providing assistance to Members in the sustained provision of global and regional coverage of marine observational data, products and services to address the continued and expanding requirements of the maritime and coastal user communities for met-ocean services and information, focusing on safety of life and property at sea, integrated coastal management and societal impacts. This recognizes the fact that on timescales beyond weather, on which many critical decisions need to be made, from crop planting for next season to major town and infrastructure planning for coming decades, information from the ocean is critical. In addition, the ocean's ability to uptake, store and transport heat around the globe is the main source of predictive capability.

Cg-17 noted the extensive inter-agency coordination and collaboration required to effectively deliver the MMOP. As you are aware, the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) assists WMO Members in the sustained provision of global and regional coverage of marine observational data, products and services. Through this, it supports Members in addressing the continued and expanding requirements of the maritime user community for met-ocean services and information, focusing on safety of life and property at sea, integrated coastal management and societal impacts. Congress encouraged the continuing strong partnership with the International Oceanographic Commission (IOC) as represented by JCOMM, and the JCOMM development and delivery of services in collaboration with the International Maritime Organization (IMO) and the International Hydrographic Organization (IHO).

A deep discussion was held at Cg-17, on the proposal for the prioritization of marine activities throughout the WMO, for inclusion in the WMO Strategic Plan. This priority aims to encourage the improved interaction between all marine activities across the WMO Programmes. Cg-17 postponed the decision for a later session, to allow a deeper discussion to be conducted.

JCOMM fully supports the prioritization of marine activities in WMO and in addition, supports the linkage to the service delivery strategy and capacity-building. It will assist this process through ongoing and proposed activities in its intersessional period (now through to 2017). One specific activity will be a review of the marine services at WMO, to be carried out by an ad hoc Working Group for Improvement of Marine Services. The first meeting was held from 24-26 February 2016.

Cg-17 encouraged the MMOP and JCOMM to continue to sustain and grow the relevant observational programmes, including the investigation of new methods and technologies (e.g. the use of submarine cables for climate monitoring and disaster warning).

JCOMM will continue to strengthen the delivery of marine services and products in alignment with its intersessional priorities, as follows:

- Weather (especially) and ocean forecasting;
- Disaster and Risk Reduction;
- Global Framework for Climate Services (GFCS) implementation;

- WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS) implementation;
- Capacity development.

Cg-17 further urged Members to maintain and enhance their essential marine meteorological and oceanographic observation systems and to make available in real-time the data collected by the systems, including ship-based sounding system, weather buoys, oil-rigs and the tide gauge network to WIGOS.

Building on what the WMO President noted at Cg-17: that marine-related activities must be recognized in the WMO Strategic Plan, JCOMM should be represented at the WMO EC Working Group on Strategy and Planning.

During the past PTC and PRA meeting (January 2016), the PTCs and PRAs supported the approach of prioritization of marine activities, and the proposal for a review of MMOP, and suggested new direction on specific service delivery. As well, it was recognized that other TCs and RAs have complimentary synergies with JCOMM and as such, the PTCs and PRAs are asked to support improved delivery of marine products and services (including capacity-building activities) through joint activities, wherever relevant.

The PTCs and PRAs underlined the decision of Cg-17, where Members were urged to maintain and enhance their essential marine meteorological and oceanographic observation systems and to make available in real-time the data collected by the systems, including ship-based sounding system, weather buoys, oil-rigs and the tide gauge network to WIGOS.

### ***Services and Forecasting System Programme Area***

Noting the achievements to date in operational ocean forecasting, Congress requested JCOMM to continue to support the operational implementation of ocean forecasting services and facilitate the adoption of new products stemming from ocean forecasting and analysis services. Congress requested the MMOP, working with JCOMM, to develop a marine services implementation plan that is coherent with the implementation plan for the WMO Strategy for Service Delivery and consider learnings from the Global Data-processing and Forecasting System (GDPFS). Additionally, Congress requested JCOMM to assist the process for establishing marine regional specialized meteorological centres, in support to the provision of Maritime Safety Information and the World Wide Met-Ocean Information and Warning Service, including METAREA/NAVAREA Coordination.

Congress adopted Resolution 6 (Cg-17) – Competency requirements for marine weather forecasters. Congress appreciated that JCOMM had developed a set of qualification and competency requirements for marine weather forecasters (MWF). Congress noted that the harmonization of the competence of MWF at the global level would take into account the considerable variations in the legitimate functions of the Marine Weather offices, including the local conditions (legal, climatological, user-driven), and Members will need practical guidance on the implementation of the competency requirements, including well-defined competency assessment procedures.

### ***WMO Guide and Manual on Marine Meteorological Services (WMO-No. 558 & WMO-No. 471)***

The WMO Executive Council, at its sixty-fifth session (2013) endorsed the proposal by JCOMM to review the overall structure of the *Guide to Marine Meteorological Services* (WMO-No. 558) and *Manual on Marine Meteorological Services* (WMO-No. 471), in view of new structures for those mandatory publications, avoiding duplication and/or potential conflict in contents, and ensuring consistency with mandatory International Maritime Organization (IMO) publications relating to the content and dissemination of Maritime Safety Information.

Two meetings took place to facilitate review of WMO-No. 558, in Wellington, New Zealand, 25-26 August 2014, and in Tromsø, Norway 22-24 June 2015. Experts worked on the revised structure of WMO-No. 558 and some of the most substantial issues, based on recent surveys and other feedback of relevance to the work to revise the Manual and Guide. Experts identified three sections requiring coordination with other WMO regulatory material – the material on Port Meteorological Officers (PMO) and Voluntary Observing Ship (VOS) (potential transfer of content to WMO Integrated Global Observing System (WIGOS)), the material on Search and Rescue (potential overlap with aviation regulations), and the relationship with training regulations regarding the competency framework. They also agreed to include offshore elements within the high seas chapter as it is with this chapter that there will be the greatest commonality in provisions. The revised target for submission of these draft texts for JCOMM approval should be at its fifth session in 2017.

### ***Fifth International Workshop for Port Meteorological Officers (PMO-5)***

The Fifth Workshop for International Port Meteorological Officers took place in Viña del Mar, Chile 20-24 July 2015. It provided a way to ensure that standard procedures proposed by WMO are followed throughout the whole Voluntary Observing Ship (VOS) fleet in every country, and that the data produced are homogenous and comply with WMO standards. The workshop will convey important recent developments (e.g. WMO publication No. 47, enhanced PMO communications), as well as address WIGOS developments and needs for harmonization of standards, better interoperability between observing systems, and quality management.

### ***Observations Programme Area Progress***

- The JCOMM Observations Programme Area (OPA) developed a five year work plan (2015-2020) with network specifications and improved implementation targets in responding to requirements, implementation (including incorporation of new technology), standards and best practices, data and information, and expanding governance to meet the needs of the GCOS-IP (GOCS No. 184<sup>1</sup>), together with new performance indicators and risk assessment;
- The Observations Coordination Group (OCG) has been exploring engagement with new groups into the group, such as the Glider Steering Committee, GOOS Regional Alliances (GRAs), and HF Radar for improved services in coastal waters, and the Tropical Pacific Observing System, TPOS 2020 project in its Transition Process and governance;
- The OCG initiated discussion on wave observations user requirements to better engage JCOMM experts in observations, data management and services programme areas.

### ***Contribution to WIGOS Pre-operational Phase (2016-2019) and WIS***

- The JCOMM Observations Programme Area (OPA) developed a five year work plan for new implementation targets aligned with GCOS-IP (GOCS No. 184<sup>2</sup>), together with new performance indicators and risk assessment.
- The JCOMM *in situ* Observations Programme Support Centre (JCOMMOPS) has been developing a metadata system in compliance with WIGOS Metadata Standards, and facilitating metadata collection and transition to OSCAR via Machine to Machine interface; A new JCOMMOPS website has been launched: <http://www.jcommops.org>;

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<sup>1</sup> [http://www.wmo.int/pages/prog/gcos/Publications/gcos-184\\_I.pdf](http://www.wmo.int/pages/prog/gcos/Publications/gcos-184_I.pdf)

<sup>2</sup> [http://www.wmo.int/pages/prog/gcos/Publications/gcos-184\\_I.pdf](http://www.wmo.int/pages/prog/gcos/Publications/gcos-184_I.pdf)

- JCOMM is integrating marine meteorological and oceanographic observations regulatory and guideline materials into WIGOS Regulatory Materials (e.g. Voluntary Observing Ship Scheme);
- The Marine Climate Data System (MCDS) is progressing, including regulatory materials. Communication with interested centres has been initiated for the establishment of Global Data Assembly Centres (GDACs) of specialized observing platforms, including Argo, drifting and moored buoys, etc. There has been a substantial re-writing of the Marine Climatology chapters of the WMO Guide and Manual (WMO-Nos 558 and 471 respectively), to be submitted to JCOMM-5 (October 2017, Indonesia);
- The JCOMM Cross-cutting Task Team for Integrated Marine Meteorological and Oceanographic Services within WIS (TT-MOWIS) has developed a work plan for integration and interoperability of marine data with WIS, including proposed governance for establishing marine DCPCs.

### ***Contribution to DRR and Capacity Development***

- The JCOMM Data Buoy Cooperation Panel (DBCP) organized the Fourth Training Workshop for the North Pacific Ocean and its Marginal Seas (NPOMS-4, November 2015, Republic of Korea) on the regional ocean observations application for understanding and forecasting of typhoons. It agreed on a more strategic ocean observations approach to address data impacts using Observing Systems Experiments (OSEs) and hindcast sensitivity studies;
  - The DBCP organized the Second Pacific Islands Training Workshop on Ocean Observations and Data Applications, May 2016, Noumea, New Caledonia. The workshop actively engaged with Pacific Small Island States, and regional intergovernmental organizations to build up capacity and awareness on ocean processes, ocean observations and data applications, as well as to design and coordinate a Pacific Islands ocean observation network;
  - The Regional Marine Instrument Center for RA IV (RMIC RA IV, USA) hosted a Training Workshop in February 2016 on wave measurement from moored buoys to enhance intercomparison, data quality control, and information sharing. A coordination mechanism was also discussed to provide guidance and ensure synergies and joint activities of existing RMICs;
  - The Coastal Inundation Forecasting Demonstration Project (CIFDP) is a multi-hazard warning system that promotes an integrated approach in the enhancement and delivery of early warnings, no matter what the causes for coastal inundations are, in line with the concept of impact-based forecasting and the UN Sendai Framework for DRR. Implementation will demonstrate how integrated coastal inundation forecasting and warnings can be improved and effectively coordinated by the National Meteorological and Hydrological Services (NMHSs). The CIFDP is jointly coordinated by JCOMM and the WMO Commission for Hydrology (CHy). The strategic approach for the CIFDP was formally adopted by JCOMM-4 (2012) and since, sub-projects have commenced, with expected completion by Cg-18 in 2019. Cg-17 noted its continued support of the CIFDP sub-projects currently underway. Further information about the CIFDP is available in the EC-68/INF. 3.2.5.
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