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. 4**

Virtual Meeting, 17 NOVEMBER 2021

# OPERATIONAL MATTERS

(Submitted by the Coordinating Director)

# INTRODUCTION

1. Matters that are particularly related to the operations at National Meteorological Services (NMSs) are normally raised or addressed in this document.

## A. Retirement of the Annual Integrated World Weather Watch Monitoring

The Integrated WWW Monitoring is the integration of the Annual Global Monitoring (AGM) and the Special MTN Monitoring (SMM) in one single scheme. It required National Meteorological Centres (NMC) and Regional Telecommunication Hubs (RTH) to monitor the exchange of observational data on the Global Telecommunication System (GTS) and send the statistics to the WMO Secretariat for elaboration and publication of the results. Member States of the Caribbean Meteorological Organization usually monitored their observations during the Annual Global Monitoring (AGM) from 1-15 October each year and reported the results to the WMO Secretariat.

The Meeting will recall the discussion on the *WIGOS Data Quality Management System* (WDQMS) during the 2018 Meeting of Directors of Meteorological Services ([DMS2018\_Doc5](http://www.cmo.org.tt/cmc58.html), St. Kitts and Nevis). The WDQMS compares the data ingested (surface pressure and TEMP reports) into numerical weather prediction models at four centres which are the Deutscher Wetterdienst (DWD), the European Centre for Medium-Range Weather Forecasts (ECMWF), Japan Meteorological Agency (JMA) and the United States National Centers for Environmental Prediction (NCEP) with the Members' information, which is stored in OSCAR/Surface. WDQMS can be accessed at <https://wdqms.wmo.int/>.

The *Commission for Observation, Infrastructure and Information System*s (INFCOM) at the third part of its first session (12-16 April 2021) produced an information paper on WMO Information System (WIS) Monitoring Procedures and Metadata Quality Indicators. The information paper indicated that IWM and WDQMS were providing similar statistics of observational data. However, WDQMS is providing near-real time updates and web accessible maps, while IWM is a quarterly exercise requiring a longer data collection process. Further, due to the modern design, the near-real-time provision of statistics and the extensibility to cover all WIGOS networks and other needs the Standing Committee for Information Management and Technology (SC-IMT) supports the further development of WDQMS and suspension of the IWM exercises.

Further, INFCOM reviewed and decided inter alia:

*(1) To suspend the operation of the Integrated World Weather Watch Monitoring (IWM) and to adopt the WMO Integrated Global Observing System (WIGOS) Data Quality Monitoring System as operational replacement;*

The WIS metadata catalogue is an essential component of the WIS infrastructure and enables discoverability of the data in WIS as well as providing valuable metadata to the users. It is the responsibility of the WIS Centres that publish data to provide the appropriate metadata for the purpose of describing the data and making them discoverable and accessible. The metadata quality is critical for the effectiveness of data discoverability and accessibility in WIS. In Regional Association IV (North America, Central America and the Caribbean), the Global Information System Center (GISC) is Washington (GISC-Washington) and Meteorological Services of CMO Member States can access their metadata at <https://gisc-washington-cprk.ncep.noaa.gov/openwis-user-portal/srv/en/main.home>. It is the responsibility of each Meteorological Service as the National Centre, to ensure that the metadata published by GISC-Washington is correct.

WMO Integrated Global Observation System (WIGOS) is a core WMO activity and a basic WMO infrastructure element supporting all WMO programmes and application areas. It enables WMO and its Members accomplish their shared mission to help save lives, protect property and increase prosperity everywhere on the globe, and provide relevant data and information for policy- and decision making in support of sustainable development. It provides the global framework, the management and design tools so that all providers of meteorological and related environmental observations can optimize their investment in user-driven measurement capabilities. That combination will help meet as many requirements as effectively and efficiently as possible.

### WIGOS Operational Phase: Role of Members

During the WIGOS operational phase, National Meteorological and Hydrological Services (NMHSs) are expected to take on greater responsibility for the national implementation of WIGOS and use the framework provided by WIGOS to exert leadership in the acquisition and management of meteorological and related environmental observations at the national level. The NMHSs are expected to become the key integrators at the national level, both by strengthening their own observing systems in accordance with the WMO Technical Regulations, and by building national partnerships. Additionally, NMHSs are expected to provide national leadership based on their experience in the acquisition, processing and dissemination of observational data for environmental monitoring and prediction purposes.

To assist NMHSs, WMO has published a WIGOS Learning Portal at <https://etrp.wmo.int/course/view.php?id=146>. The contents of the portal are visible by everyone. However, if you want to post a message in the forum, or if you wish to receive notifications of new posts, you will be required to create an account on <https://etrp.wmo.int/> and log in.

**B. Providing Impact-based Forecast and Warning Services through the Common Alerting Protocol (CAP) standard**

The Meeting will recall the discussion on the Common Alerting Protocol (CAP) at the 2019 Meeting of Directors of Meteorological Services ([DMS2019\_Doc4](http://www.cmo.org.tt/cmc59.html), Anguilla). Including a free cloud-based CAP editor for the creation and publishing of the alerts internationally through the "Editor Tool", this is available at <https://cap.alert-hub.org/>. The tool has been initialized for each Member State and it requires the Head of the Meteorological Service registered with the hub, to designate which persons are authorized to compose or approve alerts.

The Common Alerting Protocol (CAP) is an international standard format for emergency alerting and public warning. Itis designed for "all-hazards", related to weather events, earthquakes, tsunami, volcanoes, public health, power outages, and many other emergencies. CAP is also designed for "all-media", including communications media ranging from sirens to cell phones, fax, radio, television, and other various digital communication networks based on Internet. The CAP format enables simultaneous communication of alerts for any kind of emergency over many different alerting systems, thus increasing effectiveness while simplifying the alerting task.

At the 18th Session of Regional Association IV (RA IV) (8-11 February 2021) which was held via video conference, RA IV decided in regards to "*Providing Impact-based Forecast and Warning Services to stakeholders through the Common Alerting Protocol (CAP) standard*":-

1. *To endorse the implementation of Impact-based Forecast and Warning Services (IBFWS) by Members through formal engagement with Disaster Management and Civil Protection Authorities (DMCPAs) and other stakeholders;*
2. *To adopt the CAP standard for the dissemination of warnings to the stakeholders, as a significant step in the implementation of the Global Multi-hazard Alert System (GMAS) framework in the Region;*
3. *To encourage the Technical Commissions to progress on the development of the GMAS framework implementation plan development and the incorporation of CAP provisions in WMO Technical Regulations.*

**C Regional Basic Observing Network and Global Basic Observing Network**

The Regional Basic Synoptic Network (RBSN) consist approximately 4 000 of stations and approximately 3 000 stations comprise the Regional Basic Climatological Network (RBCN), in all of the six WMO Regional Associations. Data from these stations are exchanged globally in real time. These stations will become a major part of the Regional Basic Observing Network, which will replace the RBSN and RBCN. The design, implementation and management of the RBON will be defined in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160) section 3.2.3.

Global Numerical Weather Prediction (NWP) and climate reanalysis play essential roles as backbones for all products and services provided by the National Meteorological and Hydrological Services of the WMO Members to their countries, even at regional and local levels. Within the WMO Rolling Review of Requirements (RRR) process, all application areas currently listed, with the sole expectation of Space Weather, have some level of dependency on Global NWP and climate reanalysis products.

The global systems delivering these products depend on access to globally consistent sets of observations provided by surface- and space-based observing systems. Preliminary reports from the WDQMS show continued poor availability of surface-based observational data over many areas. This limits the ability of all WMO Members to provide high quality weather and climate products and services to their constituencies.

In order to ensure that observational requirements for Global NWP and climate reanalysis are met more effectively, a new approach was proposed, in which the basic surface-based observing network that is essential to support these applications is designed and defined at the global level. This network is the *Global Basic Observing Network* or GBON.

The GBON is the foundation upon which the Regional Basic Observing Networks (RBON) are built to respond to requirements of a broader range of WMO application areas, including further requirements of Global NWP beyond the essential base provided by the GBON. Hence all GBON stations/platforms and their observing programmes are included in the respective RBON of the Region in which they are operating.

The design, implementation and management of the GBON will be defined in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160), section 3.2.2 Global Basic Observing System.

In response to the GBON provisions listed in the Manual, Members and relevant international organizations and programmes are requested to commit specific observing stations/platforms with specific observing programmes to be part of the GBON, or to take any steps nationally or regionally to develop the required observing capacity. OSCAR/Surface and WDQMS will play important roles in the designation and monitoring of the GBON stations, respectively.

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