|  |  |  |
| --- | --- | --- |
| WORLD METEOROLOGICAL ORGANIZATIONCOMMISSION FOR BASIC SYSTEMS-----------------------------SECOND MEETING OFINTER-PROGRAMME EXPERT TEAM ONCODES MAINTENANCEOFFENBACH, GERMANY, 28 MAY - 1 JUNE 2018 |  | IPET-CM-II / Doc. 10.127.04.2018-------------------------ITEM 10.1ENGLISH ONLY |

COLLABORATION WITH OTHER ORGANIZATIONS AND TECHNICAL BODIES

The WIGOS Data Quality Monitoring System (WDQMS)

*Submitted by Jeff Ator (USA)*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Summary and Purpose of Document**

This document discusses the ongoing work of the ICG-WIGOS Task Team on the WIGOS Data Quality Monitoring System (TT-WDQMS).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ACTION PROPOSED**

The team is requested to take note of the information and consider whether there may be any future opportunities for collaboration with the TT-WDQMS.

**DISCUSSION**

As part of the migration to WIGOS, WMO established an Intercommission Working Group on WIGOS (ICG-WIGOS). One desired feature of the WIGOS migration is to develop a worldwide system for the real-time monitoring of WIGOS observing site performance, along with a mechanism for the prompt resolution of any diagnosed issues. The concept is known as the WIGOS Data Quality Monitoring System (WDQMS), and the ICG-WIGOS established a task team (TT-WDQMS) to begin developing this new system and sketch out its new features. The TT-WDQMS held its most recent plenary meeting from 12-14 December 2017 at ECMWF in Reading, UK, but it also conducts more frequent teleconferences among its members to coordinate and continue progress towards its prescribed goals.

As currently envisioned, the WDQMS consists of 3 components:

1. Monitoring Function
2. Evaluation Function
3. Incident Management Function

At present, most of the team’s efforts have been devoted to the monitoring function; specifically, to the development of a web-based tool for monitoring the timeliness and quality of observations received at worldwide NWP centers. A prototype is available at <http://128.65.196.37/wdqms/map>, but it currently only shows receipts of radiosonde and synoptic reports from 4 NWP centers (ECMWF, JMA, DWD, NCEP) that are participating in the pilot project. More capability is envisioned to be added in the next 1-2 years, including:

* Additional reporting fields for the radiosonde and synoptic data types, including basic quality information (e.g. observation minus background) for temperatures and winds at each site, an indicator of the highest reported level received (for radiosonde), and an indicator as to whether the report was received in TAC or in BUFR.
* Additional data types, including aircraft, buoys, wind profilers, and ships. At this point it is planned to introduce aircraft data as the next included type, and work is progressing in coordination with the WMO Expert Team on Aircraft-Based Observations (ET-ABO) to define a suitable list of fields to be reported from each of the centers.
* Additional reporting centers. Even though only 4 NWP centers are currently participating in the pilot project, it is envisioned that more will be added as time progresses and the prototype draws nearer to operational viability.

Once operational, the idea behind the monitoring function is that any issues or anomalies diagnosed by this function would be immediately referred to the second of the above two functions (i.e. the “Evaluation Function”), whose objective would be to analyze the referred issue and determine if it requires any further attention. It is envisioned that this function would be housed at one or more Global WIGOS Centers (GWCs), and, if it was deemed worthy of further attention, it would then be assigned a tracking number and referred to the third of the above functions (i.e. the “Incident Management Function”) for resolution. This third function would be housed at Regional WIGOS Centers (RWCs) within each of the WMO regions, where it is expected that relevant contact information within each of the regional member countries would be readily available as well as the capability to coordinate the resolution of any issues spanning multiple countries within the region. At present, RA-VI (Europe) has organized an RWC which is expected to be declared operational very shortly; however, as of yet no other region is known to have established an RWC, and no other viable prototypes exist yet for either the evaluation function or the incident management function.