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| Submitted by: Secretariat  8.1.2018  **DRAFT 1** |

**5. STATUS OF THE PRIORITY AREAS IMPLEMENTATION OF THE PLAN FOR THE WIGOS PRE-OPERATIONAL PHASE (PWPP)**

**5.4 Development and implementation of the WIGOS Data Quality Monitoring System**

(Submitted by the Secretariat)

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| **Summary and purpose of document**  The document provides the status of the priority area No. 4 of the PWPP as a result of the work by TT-WDQMS. |

**Action proposed**

The session will be invited to review the progress made and to formulate recommendations how to proceed further in this priority area.

**References:**

[Final Report from EC-68, Geneva, 15-24 June 2016, Resolution 2 (EC-68)](http://library.wmo.int/opac/index.php?lvl=notice_display&id=19656)

**5.4. Development and implementation of the WIGOS Data Quality Monitoring System**

**5.4.1 Background[[1]](#footnote-1)**

The key priority is the development of a modern and efficient performance monitoring and reporting system for observational data availability and data quality. This is essential for measuring the effectiveness and impact of WIGOS, and for developing robust incident management practices that will lead to improved WIGOS data quality and availability. This priority area is being addressed by a group of international experts – initially mainly from CBS, and progress is being made in particular on modernizing the NWP-based monitoring of the surface-based component of the WIGOS. Substantial resources will be needed in order to develop the initial ideas into an actual system, to bring in the space-based component of the GOS, and to broaden the concept to the other WIGOS component systems. While the WIGOS monitoring is not fundamentally different in scope from already existing monitoring activities of the NWP centres, incremental IT resources will be required to support the generation, exchange, storage and analysis of WIGOS-specific monitoring and incident management outputs/reports.

The following key items with milestones were proposed:

(a) Initial WIGOS (land surface stations of the GOS) monitoring capability at ECMWF, NCEP and/or other NWP centres, evaluation and incident management functions by end of 2016;

(b) Functional specifications and the pilot components developed, following a demonstration project in RA I by end of 2016;

(c) Full WIGOS (GOS surface-based components) operational monitoring and incident management functionality by end of 2018;

(d) Monitoring Workshop(s) for JCOMMOPS, GAW, GCOS, GCW and hydrology components of WIGOS in 2016-2017;

(e) Initial monitoring capability for all WIGOS components by end of 2018;

(f) Mechanisms for routine reporting of monitoring results to EC, regional associations and Members by end of 2017;

(g) Mechanisms and regional structures in place to handle incident management actions and support Members in improving the data availability and quality by 2018 (dependent on establishment of RWCs).

**5.4.2 Progress achieved**

(a) and (b) A set of pilot and demonstration projects were developed, including a Monitoring pilot project developed in cooperation with Global NWP Centres which provides an initial monitoring capability for the land surface stations of the GOS, now including results for surface and upper-air observations. The monitoring function is based on output files from ECMWF, NCEP JMA, and DWD. A WDQMS global monitoring web-tool was developed at WIGOS PO in cooperation with TT-WDQMS, which takes the monitoring files from NWP centres to automatically produce 6 hourly geographical maps of results. A demonstration project in RA I developed in cooperation with EUMETNET, ran progressively from July 2016, with the evaluation and incident management functions being operated by Kenya. The first results of the demonstration project were assessed by TT-WDQMS-1 (December 2016) and used to consolidate the concept and the plans for further development of the WDQMS. This demonstration project was extended into mid 2017, but no additional results were found. A further demonstration activity was undertaken in RA VI, led by [insert BHG Met Name here]. The results highlighted the need for strong inter NMHS relationships. The results highlight the need for strong Member buy-in to the implementation of the WDQMS via RWCs.

(c) The extension of the monitoring to cover other components of the GOS is being developed under the NWP pilot project for the marine, the climate and the aircraft observations. The implementation of the operational activities will depend on the establishment of Regional WIGOS Centres, which are expected in pilot mode from 2018.

(d) A Monitoring Workshop was held at Geneva, Switzerland, from 26-29 June 2017, which discussed the “integration” of monitoring activities from JCOMMOPS, GAW, GCOS, GCW and hydrology components of WIGOS.

(e) The initial monitoring capability for all WIGOS components will depend on the follow-up of the 2017 Monitoring Workshop for JCOMMOPS, GAW, GCOS, GCW and hydrology components of WIGOS. As the level of complexity, scope and operational maturity is different in each of the five areas engaged in the integration activities is different the speed of alignment and sharing of best practice will be different in each of the areas.

(f) The TT-WDQMS has intensively discussed this issue both with the OSCAR/Surface development team and at TT-WDQMS-2 (Reading, UK, 12-14 December 2017) and has made a few proposals on how the monitoring results should be made publicly available online via OSCAR/Surface, e.g. monthly updates for data availability for each (surface) station/variable. It is still not fully clear if that covers the required “Mechanisms for routine reporting of monitoring results to EC, regional associations and Members by end of 2017”, therefore, further discussion is proposed.

(g) This item “Mechanisms and regional structures in place to handle incident management actions and support Members in improving the data availability and quality by 2018” is dependent on the establishment of RWCs, as stated.

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1. An extract from the PWPP (3.4) [↑](#footnote-ref-1)