

Training Workshop for Regional WIGOS Centres functions and tools in RA VI

Santander, Spain, 20-22 November 2023

Introduction to Regional WIGOS Centres (RWCs)



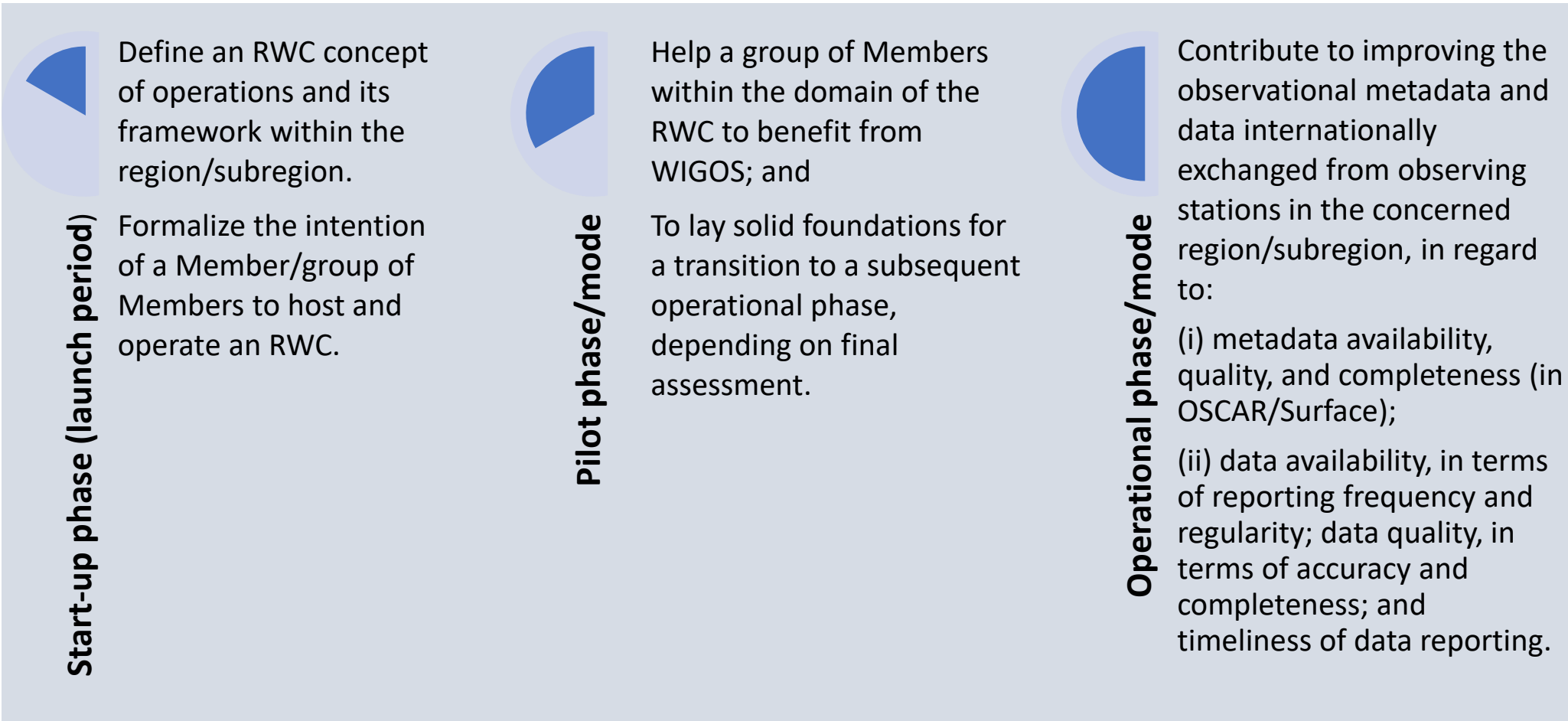
Outline

1. Introduction
2. Roles and importance of RWCs
3. Mandatory and optional functions
4. Roles and responsibilities of relevant National Focal Points
5. Daily tasks and priorities of RWCs

Roles and Importance of RWCs

The EC-68 through Decision 30 endorsed the concept note on the establishment of WMO Regional WIGOS Centres as general guidance for regional associations. The overall purpose of RWCs is to provide Members and Regions with support and assistance in national and regional WIGOS implementation and related operational activities.

The specific objectives of a RWC depend on its implementation stage, which are described below:



Functionalities of an RWC

The basic functions of the RWC should be regional coordination, guidance, oversight, and support to WIGOS implementation and operational activities at the regional and national levels, as daily activities.

The following mandatory and optional functions are specified:

Mandatory functions

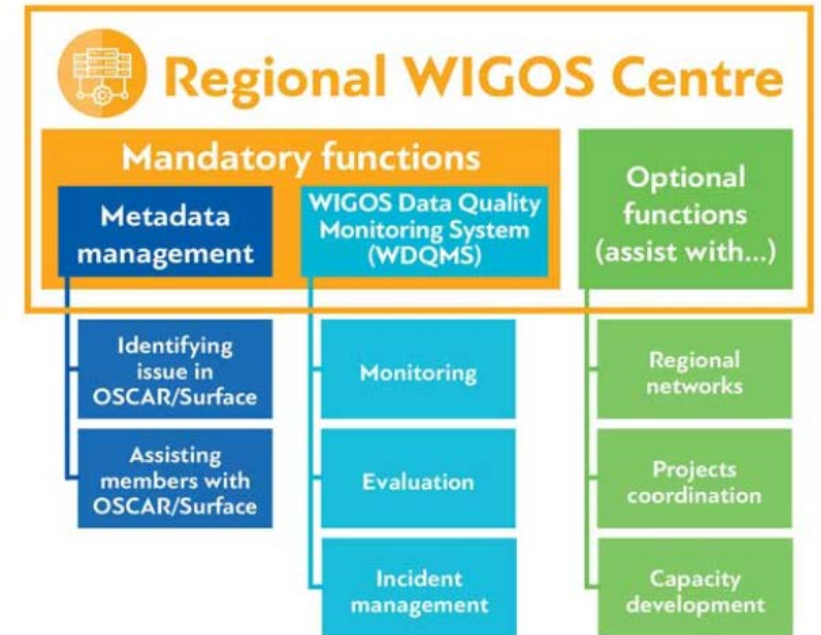
- (Regional) WIGOS metadata management (work with data providers to facilitate collecting, updating, and improving the quality of WIGOS metadata in OSCAR/Surface); and
- (Regional) WIGOS performance monitoring, evaluation and incident management (WIGOS Data Quality Monitoring System – WDQMS) and follow-up with data providers in case of data availability or data quality issues.

Optional functions

- Depending on available resources and regional needs, one or more optional functions may be adopted, e.g.: (a) assistance with the coordination of regional/subregional and national WIGOS projects; (b) assistance with regional and national observing network management; and (c) support for regional capacity development activities.

Incident management

- Members engagement in the incident management process, by closely collaborating with the RWCs in their functions, is essential to allow improving the stations' performances.



Roles and responsibilities of NFP: WIGOS

WIGOS National Focal Points shall:

1. **Take the lead in communications on WIGOS with the WMO Secretariat** (WIGOS Branch in the Infrastructure Department and the WMO Regional Offices) and the relevant Regional Working Groups/Teams;
2. **Monitor and report on the status of the national WIGOS implementation and initial operations**, taking into account the guidance provided in the Guide to WIGOS (WMO-No. 1165);
3. **Report to the Regional WIGOS Centres**, in coordination with the National Focal Points on the WIGOS Data Quality Monitoring System (WDQMS) and the WMO Secretariat on issues and challenges that might impact the implementation and operations of WIGOS in the country and seek advice;
4. **Identify and follow-up on WIGOS-related training and capacity development needs;**
5. **Contribute to the design of the Global Basic Observing Network (GBON) and the Regional Basic Observing Network (RBON)** and identify existing or new stations that could be committed by their Country to GBON and/or RBON, and take actions to reach such commitment; liaise with the Secretariat concerning GBON and with its relevant Regional Working Groups/teams concerning RBON;
6. **Liaise with the WIGOS relevant National Focal Points to support the integration of all WIGOS component observing systems, e.g., through the WIGOS tools;**
7. **Coordinate the development of national schema(s) for the assigning of WIGOS Station Identifiers, across all WIGOS component observing systems.**

Roles and responsibilities of NFP: OSCAR/Surface

OSCAR/Surface National Focal Points shall:

- 1. Liaise with the National WIGOS FP in the country/territory to ensure that all the operators of the relevant observing systems in the country/territory are aware of OSCAR and ready to make the required metadata routinely available to OSCAR;**
- 2. Coordinate user account creation in OSCAR for the people accredited, to manage within OSCAR the relevant metadata from the country/territory;**
- 3. Promulgate the WMO Technical Regulations relevant to OSCAR, as well as the guidance and training materials for adequate use of OSCAR;**
- 4. Make all efforts to ensure that all accredited users of OSCAR are well-trained to make the right use of the editing tools available in OSCAR;**
- 5. Promote, in collaboration with the WMO Secretariat and in compliance with the required standards, the use of automatic, or semi-automatic, machine-to-machine transfer of information for insertion/updates of metadata within OSCAR, from the relevant observing systems of the Member country/territory;**
- 6. Work closely with the established Regional WIGOS Centre (RWC) of the region/subregion;**
- 7. Upon request, provide the Secretariat and the RWC with an overview of the country/territory WIGOS metadata status in OSCAR;**
- 8. Take, without any delay, actions in order to correct any erroneous and/or missing metadata identified in OSCAR, regarding the Member country/territory observing systems;**
- 9. Collaborate with the relevant WMO working bodies and the Secretariat to perform the critical review and gap analysis at national and regional levels, using the OSCAR/Analysis tool.**

Roles and responsibilities of NFP: WDQMS

WDQMS National Focal Points shall:

1. Liaise with the OSCAR/SURFACE NFP in the country/territory to ensure that metadata from all stations exchanging data internationally are available and updated in OSCAR/SURFACE;
2. Provide timely answers to all queries and tickets sent by the respective RWC related to issues and incidents with observations from the country/territory;
3. Initiate and coordinate actions that need to be performed at a national level, related to issues and incidents with observations from the country/territory, in order to solve them as quickly as possible;
4. **Promulgate nationally the WDQMS related practices and procedures specified** in the WMO Technical Regulations (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices, with support of any related guidance and training material;
5. Follow all the procedures agreed at a regional/subregional level in the context of the respective RWC;
6. **Liaise with other relevant WMO regional centres of the region**, particularly with regional instrument centres and regional training centres, as appropriate **to find sustainable solutions for the issues and incidents identified by the WDQMS.**

Daily tasks and priorities of RWCs

RWC: Duties and technical resources

Duties

RWCs should

- **have the resources to run the incident management function**, through an appropriate incident management system (IMS) for the registration and follow-up of issues identified in the quality evaluation process.
- **utilize the results of quality evaluation and incident management practices to identify systemic issues** that might be addressed to improve the performance of stations through proposed modification or changes to processes and procedures.

Results of quality evaluation analyses and resulting changes to the observing system should be notified, recorded and documented in line with national, regional and WMO quality management standards and recommended procedures.

Technical resources

RWCs should have access to information, data and tools that support quality evaluation processes.

As a minimum, these include:

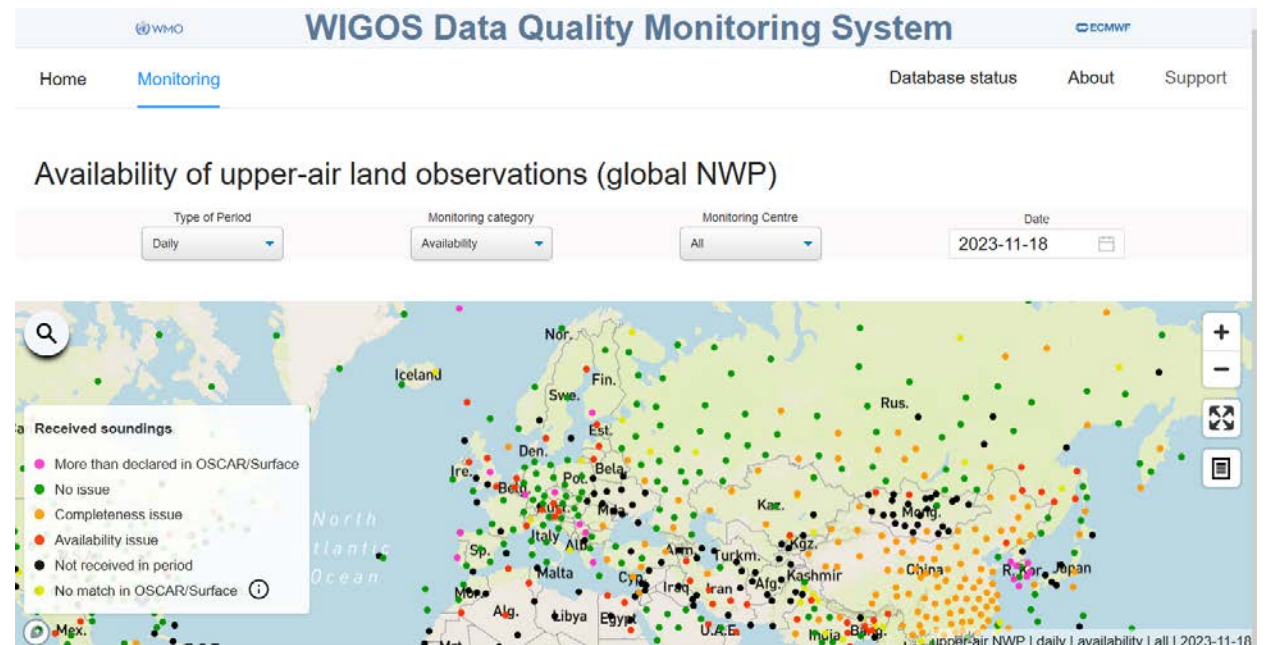
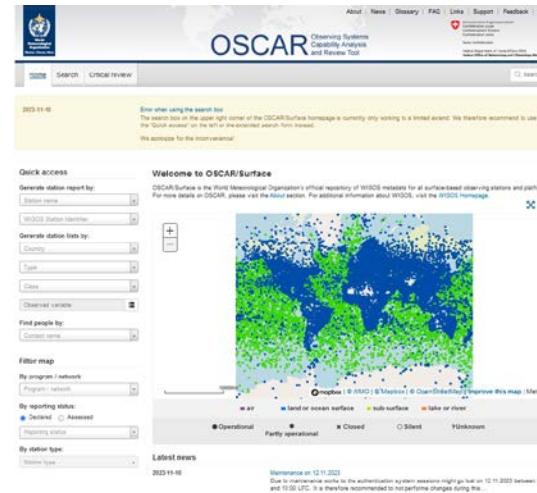
1. **Observation bulletins in TAC and BUFR** received via GTS and stored in an operational observations database;
2. **OSCAR/Surface**;
3. Relevant **automated monitoring statistics** provided via the web tools and other global, regional, and national monitoring reports that might be of use for the quality evaluation process;
4. **Quality monitoring results** and statistics in a form that allows flexible and rapid rendering of the data for analysis, comparison, plotting, etc.;
5. **Data analysis applications and tools.**

Daily tasks and priorities of RWCs

RWCs should evaluate the performance of GOS stations (for example, Regional Basic Synoptic Network surface and upper-air land stations and stations) of countries under their responsibility. This should be done on a daily basis by reviewing the automated quality monitoring reports received from the WIGOS Monitoring Centres.

The four monitoring categories are:

- Data availability
- Timeliness
- Accuracy/quality
- Metadata management



Daily tasks and priorities of RWCs

Near-realtime NWP monitoring of the Global Observing Systems networks

Surface land observations (global NWP) – Availability and Quality: Review the available web tool outputs and quality monitoring reports to identify stations that show any non-compliance concerning data availability, timeliness and measurement uncertainty (bias, standard deviation, MVD and RMSVD) regarding the WDQMS performance targets.

Reason for non-compliance	Category
The station did not report any data yesterday	Data availability
The total number of reports is significantly lower than the expected number of observations as defined in the observing schedule for international dissemination in OSCAR/Surface	Data availability
The total number of reports is higher than the expected number of observations defined in the observing schedule for international dissemination in OSCAR/Surface	Metadata
The station is not expected to send reports during the period according to OSCAR/Surface schedule	Metadata
The data arrived with a significant delay, which may lead to a situation where data could not be used in near real-time applications, for example, for nowcasting purposes	Timeliness
The daily averaged measurement uncertainty statistics (bias, standard deviation, MVD and RMSVD) received from WIGOS Monitoring Centres (for example, derived from O B results from Global NWP Centres) exceed the WMO threshold requirements concerning a particular variable or variables	Accuracy/quality

Note: If an issue continues for 5 (or more) days, the Incident Management Procedure be initiated by raising a ticket in the Incident Management System which is assigned to the WDQMS National Focal Point of the country operating the station.

Daily tasks and priorities of RWCs

Near-realtime NWP monitoring of the Global Observing Systems networks

Upper-air land observations (global NWP) – Availability and Quality: Review the available WDQMS outputs and monitoring reports to identify stations that show any non-compliance concerning the received upper-air soundings and measurement uncertainty (bias, standard deviation, MVD and RMSVD) regarding the WDQMS performance targets.

Reason for non-compliance	Category
The station did not report any data yesterday	Data availability
The total number of reports is significantly lower than the expected number of soundings as defined in the observing schedule for international dissemination in OSCAR/Surface	Data availability
The total number of reports is higher than the expected number of soundings as defined in the observing schedule for international dissemination in OSCAR/Surface	Metadata
The station reported data but has completeness issues	Data availability
The station is not expected to report during the period according to OSCAR/Surface schedule	Timeliness
The station reported data but there is no corresponding station ID in OSCAR/Surface	Accuracy/quality
The data arrived with a significant delay, which may lead to a situation where data could not be used in near real time applications, for example, for nowcasting purposes;	Timeliness
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Daily tasks and priorities of RWCs

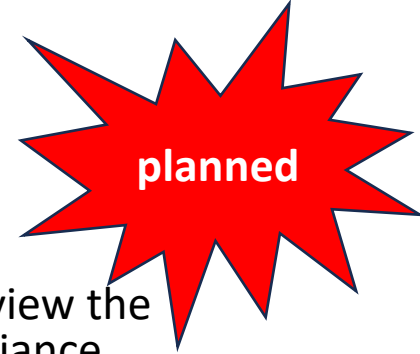
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Daily tasks and priorities of RWCs



Global Basic Observing Network (GBON)

Surface land observations – Station compliance (Availability of surface land observations (GBON): Review the available WDQMS outputs and quality monitoring reports to identify stations that show any non-compliance concerning data availability

Reason for non-compliance	Category
The station did not report any data yesterday	Data availability
The total number of reports is significantly lower than the expected number of observations as defined in the observing schedule for international dissemination in OSCAR/Surface.	Data availability

Upper-air land observations – Station compliance (Availability of upper-air land observations (GBON): Review the available WDQMS outputs and quality monitoring reports to identify stations that show any non-compliance concerning sounding data availability

Reason for non-compliance	Category
The station did not report a complete sounding yesterday	Data availability
The station reported one complete sounding yesterday	Data availability

Incident Management

The figure illustrates the Incident Management Procedure (IMP) to formally record issues, report incidents, follow up on actions and correct problems.

The success of an IMP depends on the clear identification of roles and responsibilities.



Thank you



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