



World Meteorological Organization

Weather • Climate • Water

Decisions and Guidance from Cg-17 and EC-67; Status and Plans

WIGOS

(WG-TDI-2/Doc. 4.1)

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(WIGOS-PO)

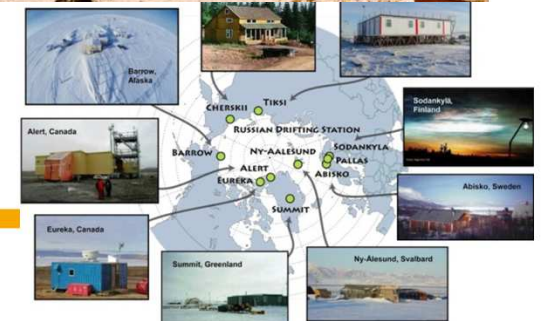
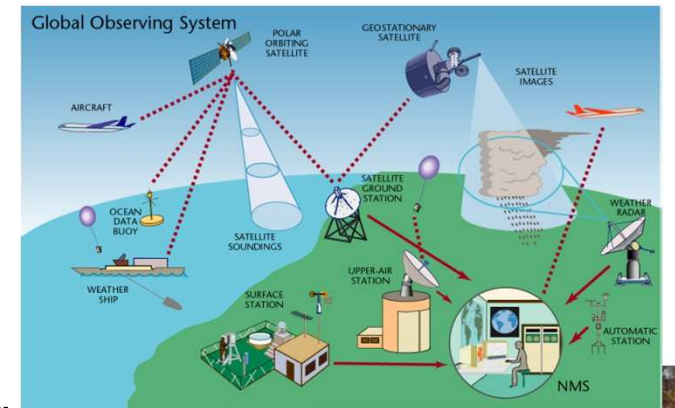
Outline

- WIGOS; WIGOS Framework
- WIGOS Pre-operational Phase (2016-2019)
- Five Priority Areas of WPP
- Role of Regional Associations



What is WIGOS?

- A **framework** for integrating WMO observing systems and WMO contributions to co-sponsored observing systems,
- ... for **better** planning, operating and delivering observations *to meet user needs*, to enable more efficient and effective service delivery.
- WIGOS includes:
 - Global Observing System (**GOS**)
 - WMO Hydrological Observing Systems
 - observing components of:
 - Global Atmospheric Watch (**GAW**)
 - Global Cryosphere Watch (**GCW**)(surface-based and space-based sub-systems)



Note: WIGOS is neither ... nor ...



WIGOS Framework

- At its simplest, the WIGOS framework is about:
 - ***Documenting and implementing*** standard and recommended practices and procedures in making and sharing observations,
 - ***Coordination, collaboration and building partnerships*** for efficiency and effectiveness,
 - ***Integration and interoperability*** in all senses,
 - ***Timely delivery of observations*** that meet user needs in ***a way they can use them***,
 - ...



WIGOS Framework: Key activity areas

Management of WIGOS Implementation

Collaboration with WMO co-sponsored OSs and intl. partners & Progrs

Data Discovery and Availability

To oversee, guide and coordinate WIGOS

To ensure supply of and access to WIGOS observations



To plan, implement and evolve WIGOS component systems

Design, planning and optimised evolution

Observing System Operation & Maintenance

Quality Management

To facilitate and support the operation of WIGOS

Communications and Outreach

WIGOS Information Resource

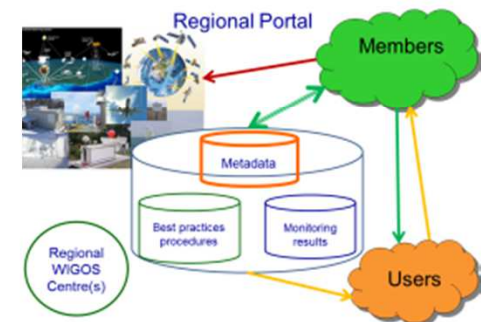
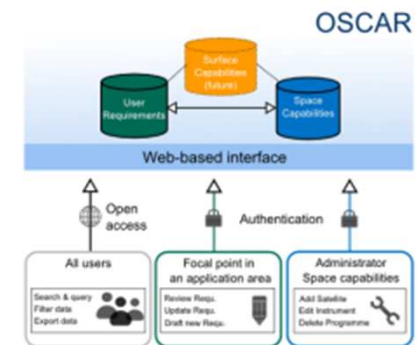
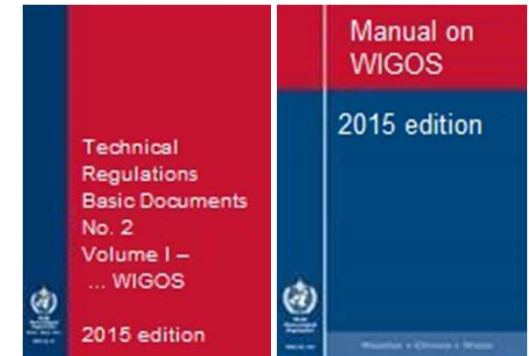
Standardization and interoperability

Capacity Development



WIGOS Framework elements of particular relevance to Regions and Members

- **WIGOS Regulatory Material:**
 - *Metadata Standard*
 - *Station Identifiers*
- **WIGOS Information Resource (WIR):**
 - Portal
 - OSCAR (Observing Systems Capability Analysis and Review Tool)
 - SORT (Standardization of Observations Reference Tool)
- **Routine (24/7) monitoring of all WIGOS components:**
 - Functionality & Performance
 - Data Availability & Quality, Incident Management



Why a WIGOS Pre-operational Phase?

- Implementing the **key building blocks** of the WIGOS Framework during the **Implementation Phase** does not mean the job is done – **much more to be done!**
- **Staged approach**, starting with the building blocks of the WIGOS Framework, moving now on national WIGOS implementation, with regional support
- Need to develop **a culture of compliance** with the WMO Technical Regulations (WMO-No. 49) (a critical success factor)



Why a WIGOS Pre-operational Phase (2)?

- **Key principle** of WIGOS - an **inclusive approach** to the **integration and sharing of observations** from a diverse range of observing systems, both NMHS and non-NMHS owned, into a composite set of observations to help Members improve their services across all WMO application areas.
- Members need **practical guidance** (best practices, procedures, examples, etc.)



Plan for WIGOS Pre-operational Phase (PWPP)

- ***Five priority areas:***
 1. National WIGOS implementation
 2. WIGOS Regulatory and Guidance Material
 3. WIGOS Information Resource
 4. WIGOS Data Quality Monitoring System
 5. Regional WIGOS Centres



1. National Implementation, Coordination & Governance Mechanisms



Role of Members

- Develop their **National Observing Strategy** and **National WIP**;
- Establish national WIGOS governance, coordination and implementation mechanisms;
- Nominate national **WIGOS** focal points and **OSCAR/Surface** focal points;
- Coordinate their WIGOS implementation with the implementation of WIS and other WMO key priorities;



Role of Members

- Implement and operate their observing networks and systems in accordance with the **WMO** *Technical Regulations* (WMO-No. 49);



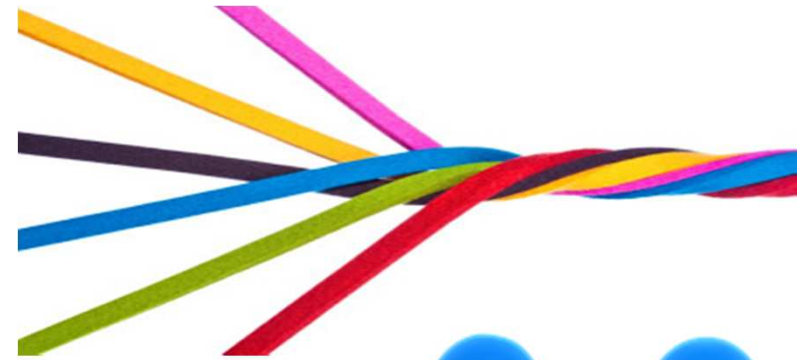
Role of NMHSs

- NMHSs play a **leading role** at the national level in the WIGOS implementation and further development, both:
 - via **strengthening and integrating** their national observing systems,
 - via establishment of **national partnerships and relationships**;
- Success of WIGOS depends on **full integration and sharing** of observations from both NMHSs and non-NMHSs sources



Role of NMHSs

- Key **integrating** role at the national level in the WIGOS implementation for:
 - strengthening and integrating their national obs. system;
 - building national **partnerships**,
 - providing national **leadership** on the implementation of GFCS and other WMO key priorities; and
 - ensuring the ongoing delivery of the fit-for-purpose **reliable & trusted** observations.



Role of NMHSs

- Leading role in developing the ***National Observing Strategy***:
 - To enable to better meet the user needs and demands, and
 - To ensure that NMHS has the best basis for planning of its investment in systems, science and people.
- It will also permit the NMHS to make ***informed decisions*** based on user requirements for future planning purposes, incl. a ***service & demand-driven*** observing network.



2. WIGOS Regulatory and Guidance Material



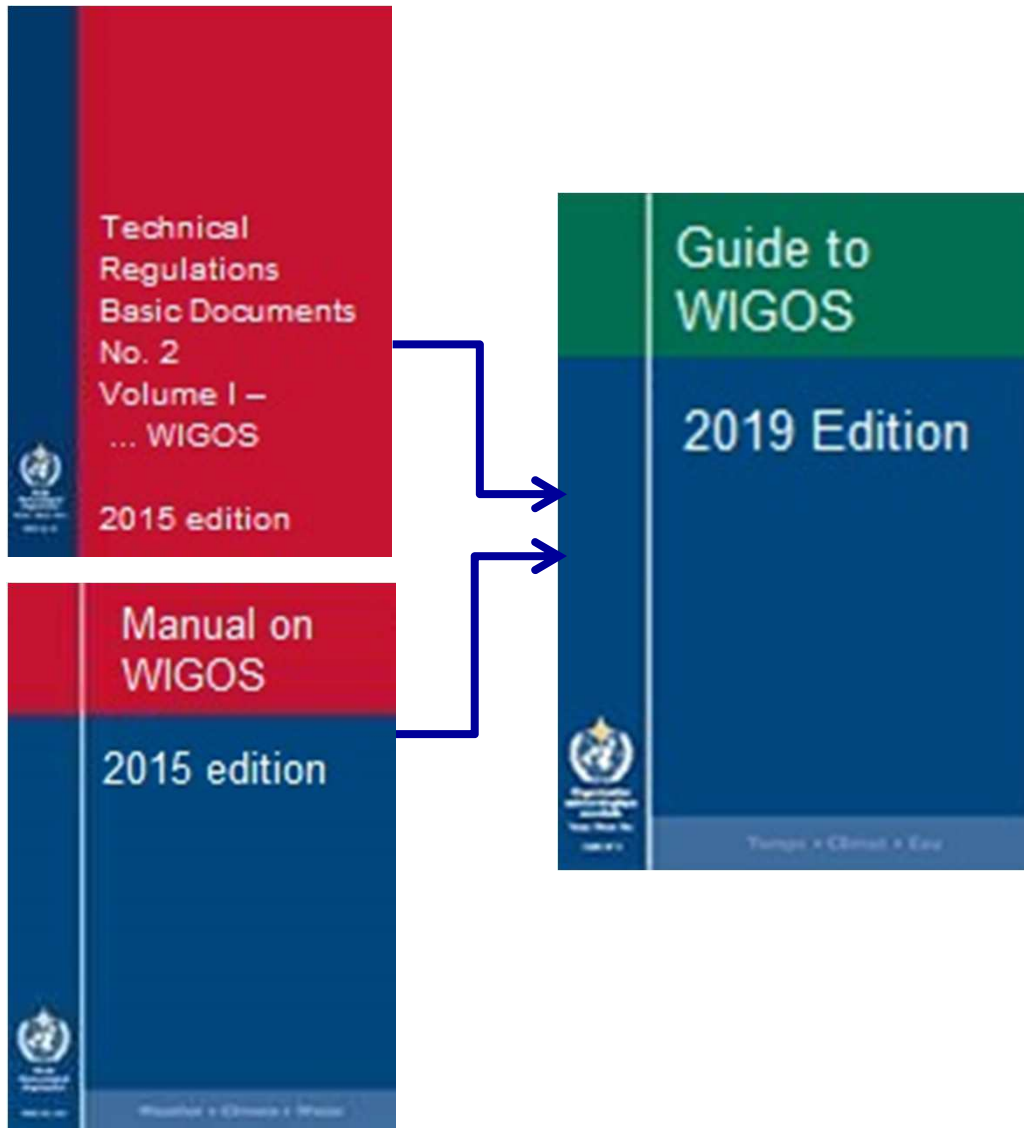
New WIGOS Regulatory Material



- ❖ Members **shall** implement and manage their national observing systems in accordance with the provisions of the *Technical Regulations*, Volume I, Part I, and the *Manual on WIGOS*
- ❖ Members **shall** continuously monitor the performance of their observing systems.
- ❖ Members **shall** implement quality control for all observations for which they are responsible.
- ❖ Members **shall** record, retain and make available internationally the observational metadata as specified in the *Manual on WIGOS*, section 2.5.



New WIGOS *Guidance Material*



- WIGOS Information Resource - **WIR**, including **OSCAR**
- WIGOS *Metadata* and WIGOS *Station Identifier*,
- OND Principles,
- Performance monitoring, quality control, incident management;
- ...



3. WIGOS Information Resource



WIGOS Information Resource

- Completion and implementation of the Portal, OSCAR
- Development and implementation of SORT
- Priority focus on [OSCAR/Surface](#)
 - **Electronic, searchable inventory** of all observing assets (stations/platforms) under the WIGOS umbrella
 - Developed jointly by WMO & MeteoSwiss, with **MeteoSwiss** providing majority funding
 - It will **replace Volume A** and will include information from similar inventories for other (non-GOS) components of WIGOS
- **Training** activities for Members in populating, editing and using OSCAR/Surface



4. WIGOS Data Quality Monitoring System (WDQMS)

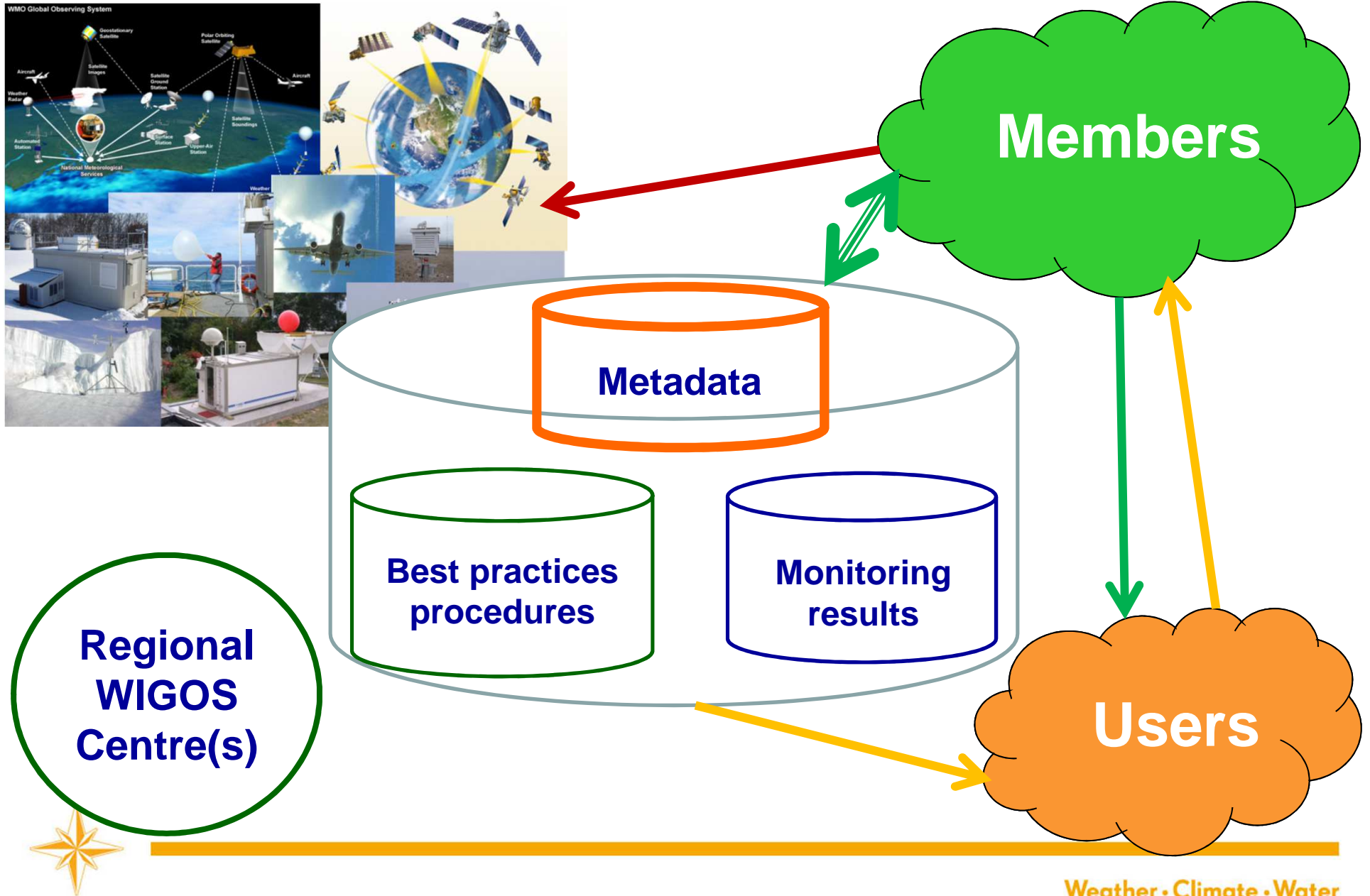


WDQMS

- **Objective:** To monitor performance of all WIGOS components at the regional & national levels and to analyse trends over time
- ***Real-time performance monitoring*** of all WIGOS components, to station-level (timeliness, data availability, data quality)
- ***Non-real time monitoring*** (data quality)
- ***Incident/Fault management system*** for tracking and mitigation of performance issues



Regional Portal (RA VI Quality Monitoring)



5. Regional WIGOS Centres



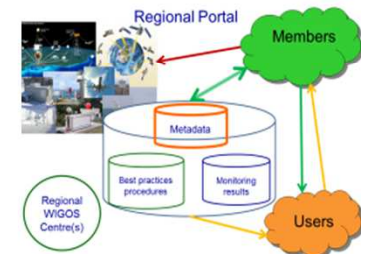
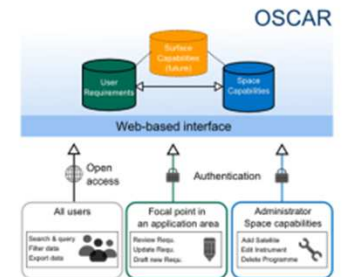
Regional WIGOS Centres – *Basic function*

- Provision of regional ***oversight, coordination and support*** for WIGOS implementation and operational activities at regional/national level;
- Each RA:
 - building on the existing facilities and
 - reflecting its specifics, needs, priorities, and political compositionwill decide on its regional WIGOS working structure and mechanisms.



RWCs – mandatory functions

- Work with data providers to facilitate WIGOS metadata collection and transmission (***WMD input to OSCAR/Surface***),
- Regional ***performance monitoring*** of WIGOS networks (data availability, timeliness, quality)
- ***Feedback*** to data providers, i.e. follow-up with data providers in case of data availability/data quality problems.



Role WIGOS Centres – optional functions

- *Assistance in the coordination of regional and sub-regional WIGOS projects*
- *Provision of advice to Members on the requirements for the regional network design*
- *... Anything else to meet specific regional needs ...*



Regional WIGOS Centres (RWC)

- RWC must be a ***win-win solution*** for Members,



- RWC(s) must provide(s) ***right solutions*** to regional problems;



Role of Regional Associations (RA MG & working bodies)



Role of Regional Associations

- Update their ***R-WIP*** accordingly;
- ***Coordinate*** WIGOS implementation with the implementation of WIS and other WMO key priorities in their operating plans and work programmes;
- Collaborate on the development of the concept, and establishment of the ***Regional WIGOS Centres***;
- Implement ***Regional Basic Observing Network*** based on OND Principles;



Role of Regional Associations

- ***Provide*** regional support to Members in accordance with the Regional WIGOS Implementation Plan and in a response to their requests;
- Continue to ***promote*** capacity development, communications and outreach activities to assist Members in the implementation of WIGOS;



Conclusions





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Thank you for your attention

www.wmo.int/wigos