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# The WMO Integrated Global Observing System – WIGOS

2015 Meeting of the Disaster Risk Reduction Focal Points of WMO Regional Associations, Technical Commissions and Programmes (DRR FP RA-TC-TP)

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# Outline

- What is WIGOS
- WIGOS vision at Global, Regional and National levels
- WIGOS key activity areas
- What does WIGOS mean at a National level?
- WIGOS Pre-operational Phase (WPP):
  - WIGOS: Integral part of NMHS;
  - WIGOS timeline;
  - Challenges of National implementation of WIGOS;
  - Requirements for WIGOS vision;
  - The work plan for the WPP
  - Conclusions

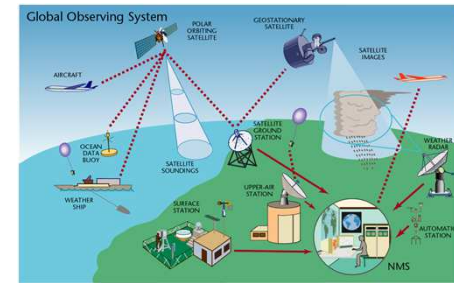


# What is WIGOS?

- A framework for enabling the integration, interoperability, optimized evolution and best-practice operation of:
  - WMO observing systems
  - contributions to co-sponsored observing systems
- WIGOS component observing systems:
  - Global Observing System (WWW/**GOS**)
  - Global Atmospheric Watch (**GAW**)
  - WMO Hydrological Observing Systems (**WHOS**)
  - Global Cryosphere Watch (**GCW**)

Including

- Surface-based and space-based components



# WIGOS: An integrated observing framework for WMO



# Working together to deliver WIGOS



# What does WIGOS mean at a National level?

- ***Demonstrating national leadership*** in observations to meet national needs:
  - Best practice observations;
  - Planning & designing networks and systems;
  - Sustainability, maintenance & operation;
  - Integration and interoperability;
- ***Compliance with*** WMO Technical Regs and WIGOS Manual
  - As an opportunity, more than an obligation;
- ***Culture change and change management;***
  - Observations Managers key to success for WIGOS
  - Supported by Regional/Sub-regional collaboration
- WIGOS benefits will ***only*** be delivered through commitment at a national level



# WIGOS Framework: Key activity areas

Management of WIGOS  
Implementation / operation

Collaboration with co-sponsors and partners

*To oversee, guide and coordinate WIGOS*



*To ensure supply of and access to WIGOS observations*

*To plan, implement and evolve WIGOS component systems*

*To facilitate and support the operation of WIGOS*

Data discovery, delivery & archival

*Focus on Metadata*

Observing system operation & maintenance

Design, planning and optimised evolution

Quality Management

*Focus on Monitoring and Incident Management*

Communications and outreach

*WIGOS Newsletter, webpage, etc*

Operational Information Resource

*Focus on OSCAR*

Standardization, interoperability & compatibility

Capacity Development

*WIGOS Workshops*

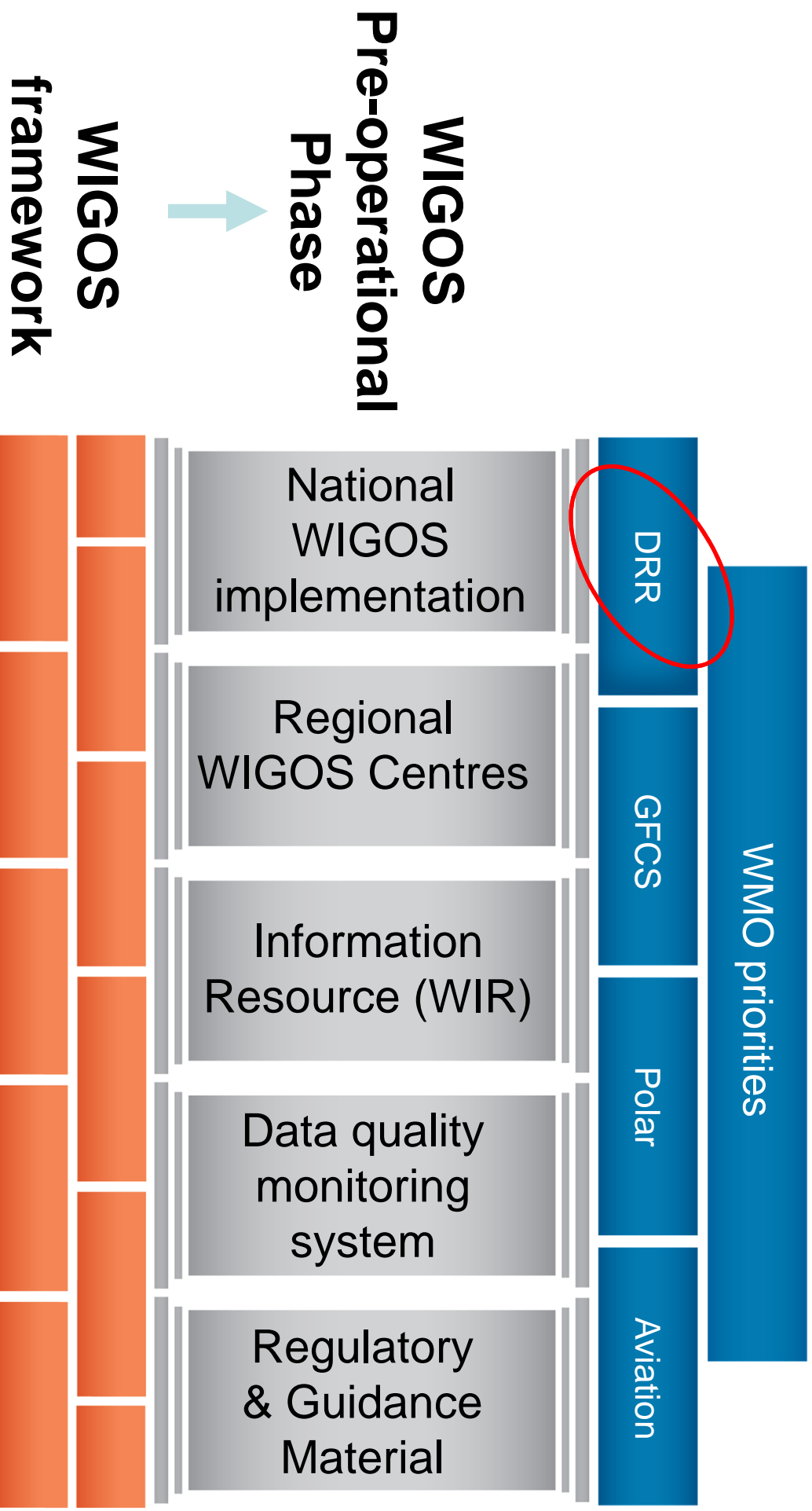
# WIGOS Framework is the foundation

**WIGOS  
framework**



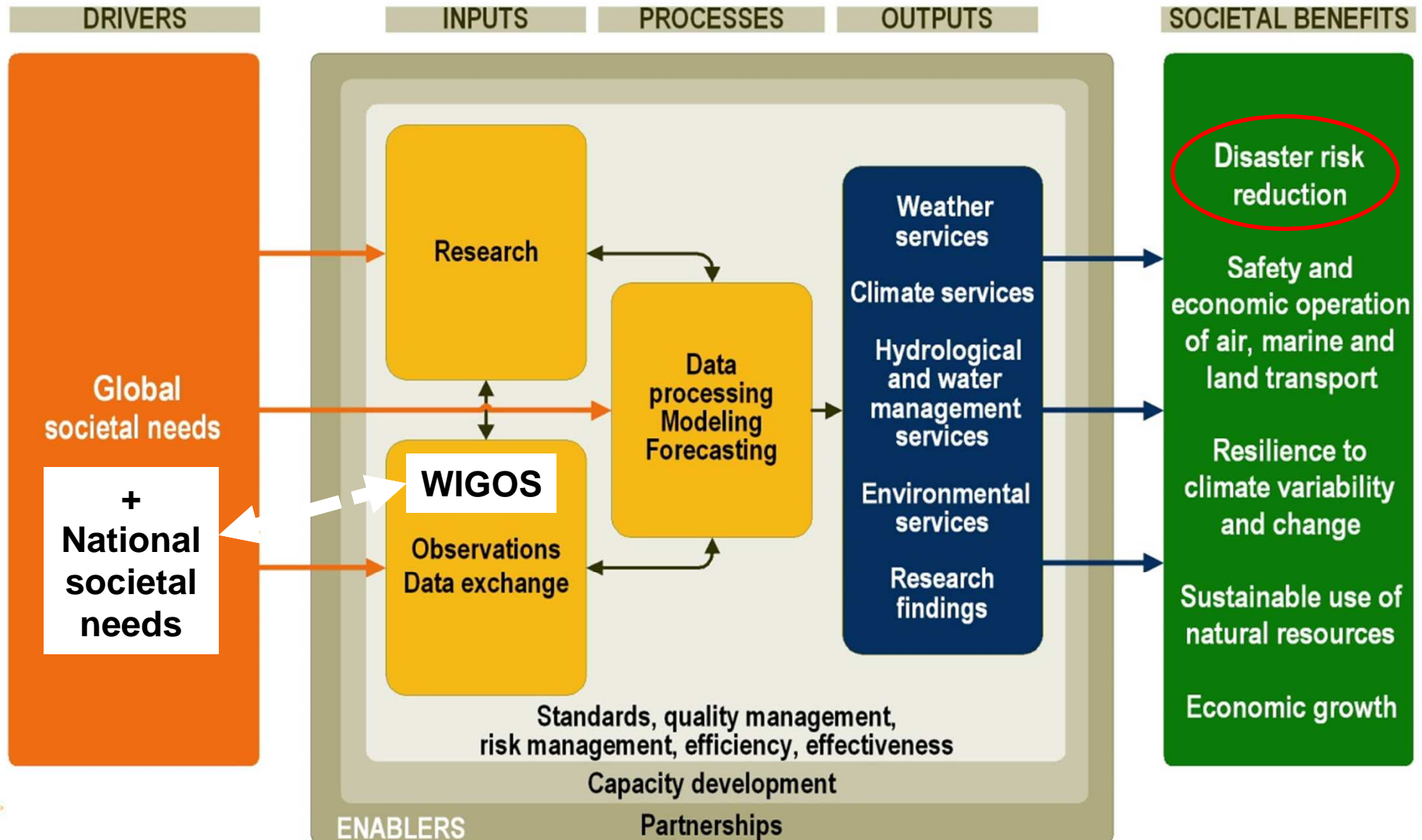


# Next step: WIGOS Pre-operational Phase



# 1) What are your RAs/TCs/TPs the mandates and priorities in DRR?

## WIGOS: Integral part of NMHS and key enabler of their value proposition



2) What priority projects & activities related to DRR is your RA/TC/TP working on?

## WIGOS Timeline

### WIGOS Pre-operational Phase



## 2) What priority projects & activities related to DRR is your RA/TC/TP working on?

Just an example:

- The RA II/V Workshop on WIGOS for DRR:
  - 12-14 October 2015, Jakarta, Indonesia
- Major outcome = Jakarta declaration:
  - to developed two WIGOS regional projects involving 18 Member countries from RAs II and V, coordinated by joint coordinating groups;
    - a) A “Satellite Data Project” aimed at (i) strengthening the capabilities of all Members to use geostationary satellite images and derived products in support of Disaster Risk Reduction, and (ii) developing a protocol for the NMHSs in the project countries to request event-driven rapid-scan imagery for their respective national areas of interest,
    - b) A “Radar Data Project” aiming at (i) improvement of data quality of existing radars, (ii) development and expansion of national radar networks, (iii) near real time international exchange of radar data, and (iv) development of «sub-regional» radar data centre(s);



3) What guidelines, manuals, and standards related to DRR is your RA/TC/TP developing?

## Plan for WIGOS Pre-operational Phase

- Objective of the WIGOS Pre-operational Phase
    - To build on and strengthen the WIGOS framework to deliver a fully operational WIGOS in 2020;
    - To place increased emphasis on regional and national activities.
  - Five priority areas:
    1. National WIGOS implementation
    2. Regional WIGOS Centers
    3. WIGOS Information Resource
    4. WIGOS Data Quality Monitoring System
    5. WIGOS Regulatory and Guidance Material:
      - **Technical Regulations (WMO-No. 49), Volume I, Part I – WIGOS\***
      - **Manual on WIGOS\***
      - **Guide to WIGOS\*\***
- \*Approved by Cg-17; \*\*Under development



4) How are projects and activities of other RAs/TCs/TPs leveraged to ensure holistic DRR outcomes of your RA/TC/TPs projects and activities?

## WIGOS Vision

- **Coordinated, comprehensive, reliable & trusted** observations for WMO and co-sponsors;
- Addressing, in a **cost-effective** and **sustained** manner, the evolving observing requirements of Members in delivering their weather, climate, water and related environmental services;
- **Enhanced coordination & cooperation** at regional, sub-regional and national levels for the benefit of society.

## Requires ...

- Cultivate & support a **culture of compliance**
- Align with **WMO priorities and national mandates** such as DRR, GFCS and service outcomes
- Coordinate & **build alliances** for interoperable systems & shared data



5) What challenges does your RA/TC/TP face to ensure holistic DRR outcomes of its projects and activities?

## Why a WIGOS Pre-operational Phase?

- Enabling regional and national implementation mechanisms
- Tools, guidance, governance, capacity development
- Staged approach – from WIGOS concept to framework to operational
- Regulatory material + guidance → into use
- Build culture of compliance
- Integrate observations from non-NMHS sources
- Both a partnering and integration challenge
- Data challenges
- Lifecycle data management and extracting value
- Full operation is an ongoing task
- Needs commitment and resources at all levels



5) What challenges does your RA/TC/TP face to ensure holistic DRR outcomes of its projects and activities? (CONT.)

## **WIGOS Pre-operational Phase – the goal**

- Goal is for all Members to be 'WIGOS Ready' by Cg18 (2019)
- So, the challenges for each Member are to become 'WIGOS Ready', meaning that (as a minimum):
  - WIGOS Metadata – should be implemented
  - WIGOS Station Identifiers – should be implemented
  - OSCAR – should be implemented
  - Data Quality Management – national process in place
  - Embracing NMHS-operated observing systems, at least
- Progressively integrating partner-systems
- Members supported by Regional WIGOS Centres/facilities



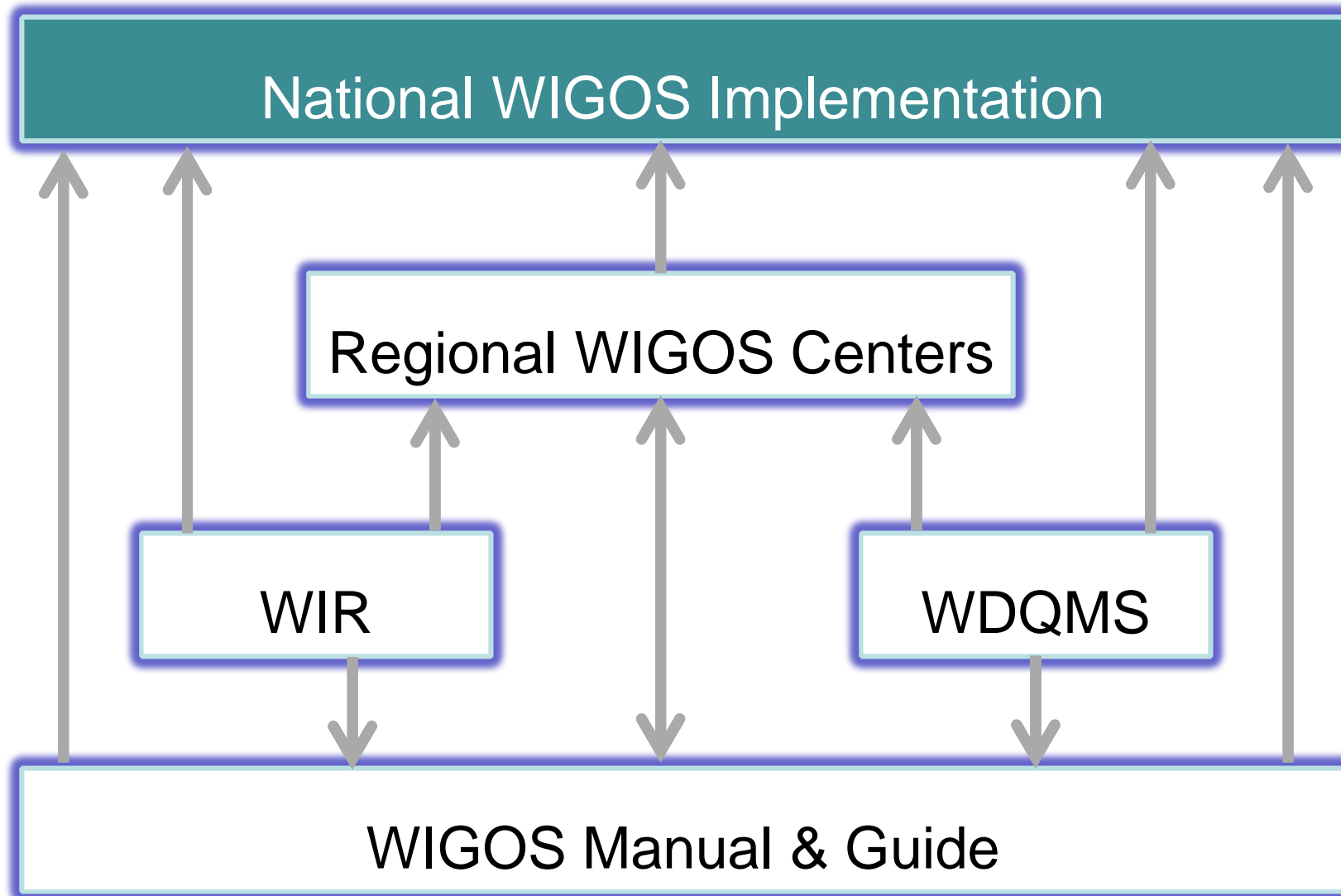


# WIGOS Pre-operational Phase – the work plan

- Task Team met in Sept. to plan the pre-operational phase
- To achieve the 'WIGOS Ready' target, early priorities are:
  - High quality **communications material**, tailored for different audiences including PRs and Ministers, with Observations Managers of special importance;
  - Progressive development of **e-learning materials**;
  - Completion and implementation of **OSCAR/Surface**;
  - Implementing **new Station IDs** and **WIGOS metadata**;
  - Drafting **technical guidance** to complement the WIGOS Manual; and
  - Development of **partnering** and **data management principles**.



# WPP Priority Areas – inter-dependent



# Conclusions

- WIGOS Ready by Cg18
  - But achieving full operation and compliance will be ongoing
- WIGOS Pre-operational Phase will:
  - Build on strong foundation of Regulatory Material (Phase 1), WIGOS Metadata, WIR/[OSCAR](#) and other building blocks;
  - Enable WMO to assist and guide Members, in context of all WMO priorities (DRR, GFCS, etc);
  - Enable RAs to monitor data quality & availability, and evolve observing and service capacities within their region;
  - Empower Members:
    - To be 'WIGOS Ready'
    - To design, evolve and sustain integrated observing systems that meet national needs; and
    - To reinforce their national mandate and leadership, through WIGOS, WIS and WMO compliance and opportunity.





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Thank you for your attention

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