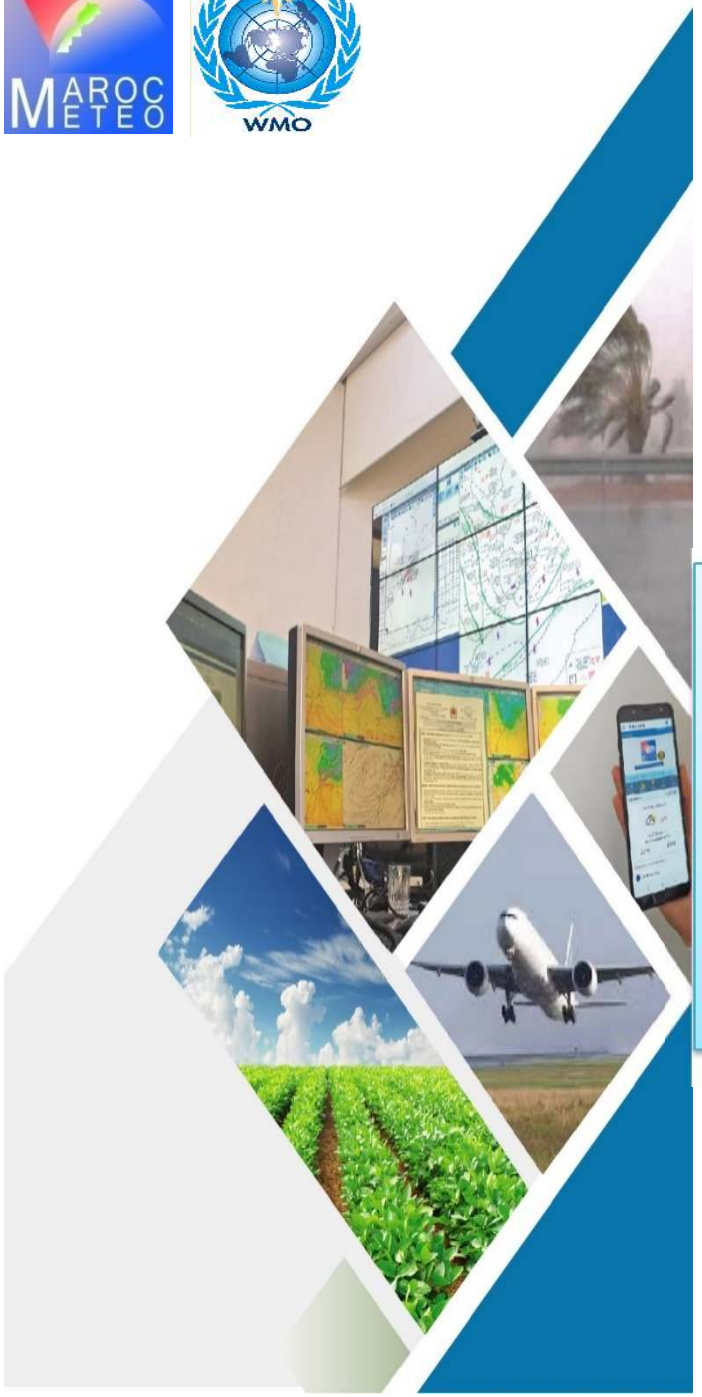

Workshop on climate data management, data sharing and exchange.

Cap-Vert, Gambie, Ghana, Guinée-Bissau, Liberia, Nigeria, Sierra Leone and Saõ Tomé et Principe.

08 novembre 2021

Activity 2 :
WIGOS metadata under OSCAR

OSCAR/Surface platform in a context of integrated global observing systems, Basic concepts and opportunities.

presented by: Mounir AZIZ

https://dgm-meteo.github.io/w-cdmse/index_en.html

Presentation plan

- What is WIGOS?
- What is OSCAR?
- Basic concepts
- Opportunities offered
- Roles of NFPs to benefit members from WIGOS

What is WIGOS ?

- Core activity of WMO
  - ✓ meet the observation needs of meteorological, climatological, hydrological and environmental services of its members

- A framework for the integration of all WMO observing systems and WMO contributions to co-sponsored observing systems
  - ✓ a common regulatory and management structure

- WIGOS does not replace or take over existing observation systems.
  - ✓ they will continue to be owned and operated by the wide range of organizations and programs, both national and international.

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What is WIGOS ?

World Weather Watch

Obs:

GOS

Forecast:

GDPFS

Trans:

GTS

WIGOS

GAW

GCW

Hydro OS

GCOS

Partners

Co-sponsors

WMO Information System -WIS

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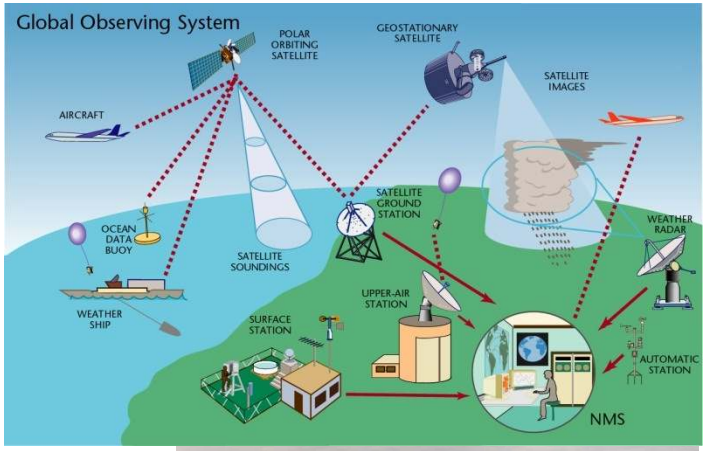
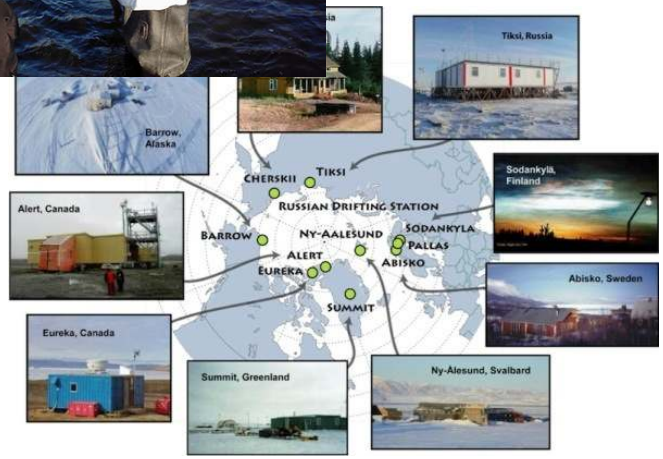
WIGOS component systems

- Global Observing System (WWW/**GOS**)
- Observing component of Global Atmospheric Watch (**GAW**)
- WMO Hydrological Observations (including **WHYCOS**)
- Observing component of Global Cryosphere Watch (**GCW**)





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Why WIGOS ?

I. The mandate of the NMHS is generally broader today than when the World Weather Watch and GOS was established, including eg.

- ✓ Climate monitoring, climate change, Mitigation
- ✓ Air quality, atmospheric composition from urban to planetary scale
- ✓ Oceans
- ✓ Cryosphere
- ✓ Water resources

II. Technical and scientific advances:

- ✓ Observation technology
- ✓ Telecommunications
- ✓ Numerical modeling and data assimilation
- ✓ Increased demand from users to access observations and use them in decision making

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Why WIGOS?

Economic realities

- **Budget constraint on many NMHSs, despite the continued increase in external demands for services**

- **Synergies / pooling of resources thanks to the integration between:**
  - ✓ **disciplines (for example, weather, agro, energy, marine ...)**
  - ✓ **organizations, (e.g. different national ministries / departments operating observing systems)**
  - ✓ **Technological systems, (e.g. between surface systems and space systems)**

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Why WIGOS?

WIGOS Opportunities

WIGOS (with WIS): basis for providing accurate and reliable data of observations and metadata for members, which will lead to improved services.

Thus, NMHSs will be able to:

- Help decision-makers protect populations and prevent natural risks from evolving into disasters;
- Assist the government in the strategic planning process.

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WIGOS Opportunities

Improving Members' Observing Capabilities

at Low Cost (taking advantages of existing observing systems of partners networks)

To:

- ✓ efficiently deliver a wide range of high quality data, products and services;
- ✓ better respond to natural hazards;
- ✓ improve weather, climate, water, ocean, and environmental monitoring;
- ✓ adapt to climate change and mitigate its impact;

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Let's try to synthesize
the advantages of WIGOS

- Increased opportunities for members to pool resources
- broaden the scope of action of NMHSs with other environment-related agencies;
- framework for better cooperation and coordination between NMHSs and relevant national and regional organizations;

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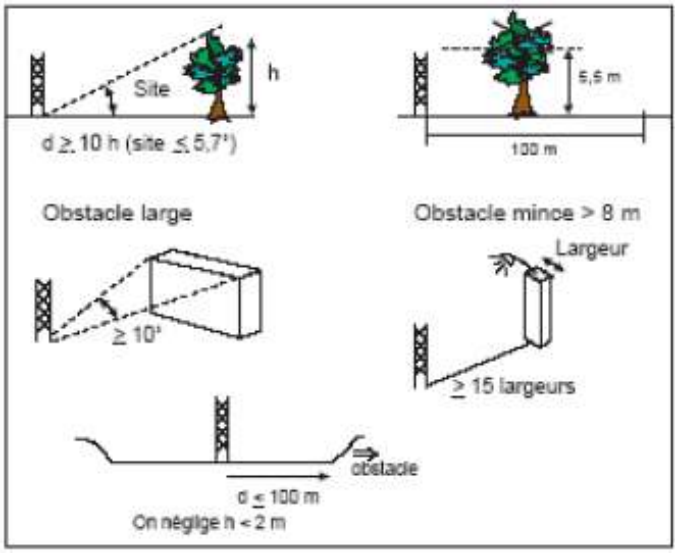
Metadata: Tools for WIGOS Success

A **metadata** (from the Greek prefix meta, indicating self-reference: means "data from / about data")

is a **data used to define or describe another data** whatever its medium (paper or electronic).



Typical examples_ associate with a data:

- the date on which it was measured,
- the GPS coordinates of the place where it is measured,
- measurement technique, unit of measurement …
- …… ..

The main tool for exchanging metadata is currently the OSCAR system

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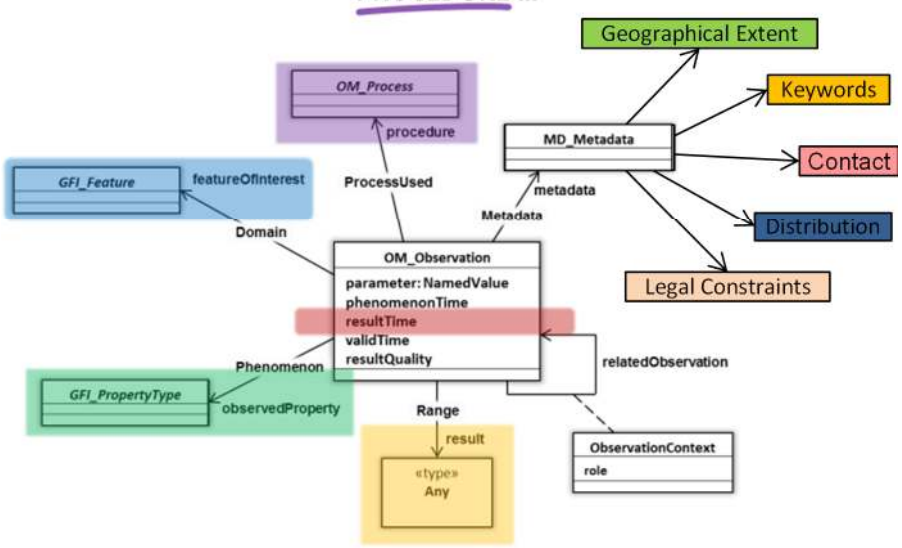
Metadata (WIS vs WIGOS)

- Describe products
- Discovery, access & retrieval

- Describe stations & observations
- Enable adequate use
- Support rational evolution of observing systems

OM_Observation: an EVENT whose RESULT is an estimate of a value of some PROPERTY of some THING obtained using a specified PROCEDURE …



MD_Metadata: Something somewhere that can be accessed under certain conditions and about which someone knows more.

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Context:
impact of accelerated digital migration

Minamata Convention on Mercury

✓ Under the Minamata Convention, imports and exports of mercury are no longer permitted.

In this context, the production, import and export of mercury-added products such as thermometers are stopped in 2020.

✓ Important consequences for Members

- Who to prepare for the Transition?
- Modern alternatives
- Automation that becomes a concrete reality

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OSCAR/Surface

OSCAR Observing Systems Capability Analysis and Review Tool

O.S.C.A.R.

Observing Systems Capacity Analysis and Review Tool

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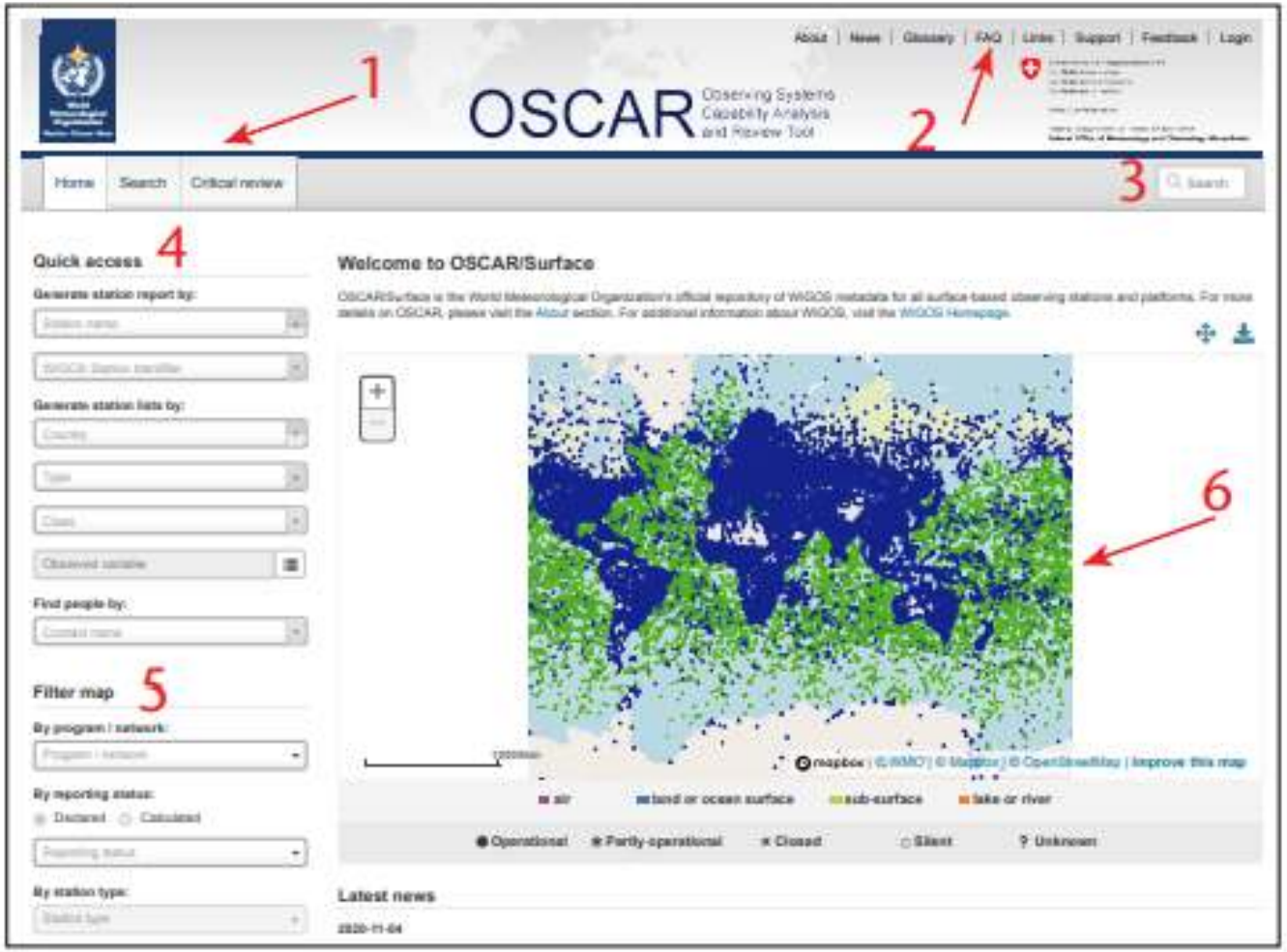
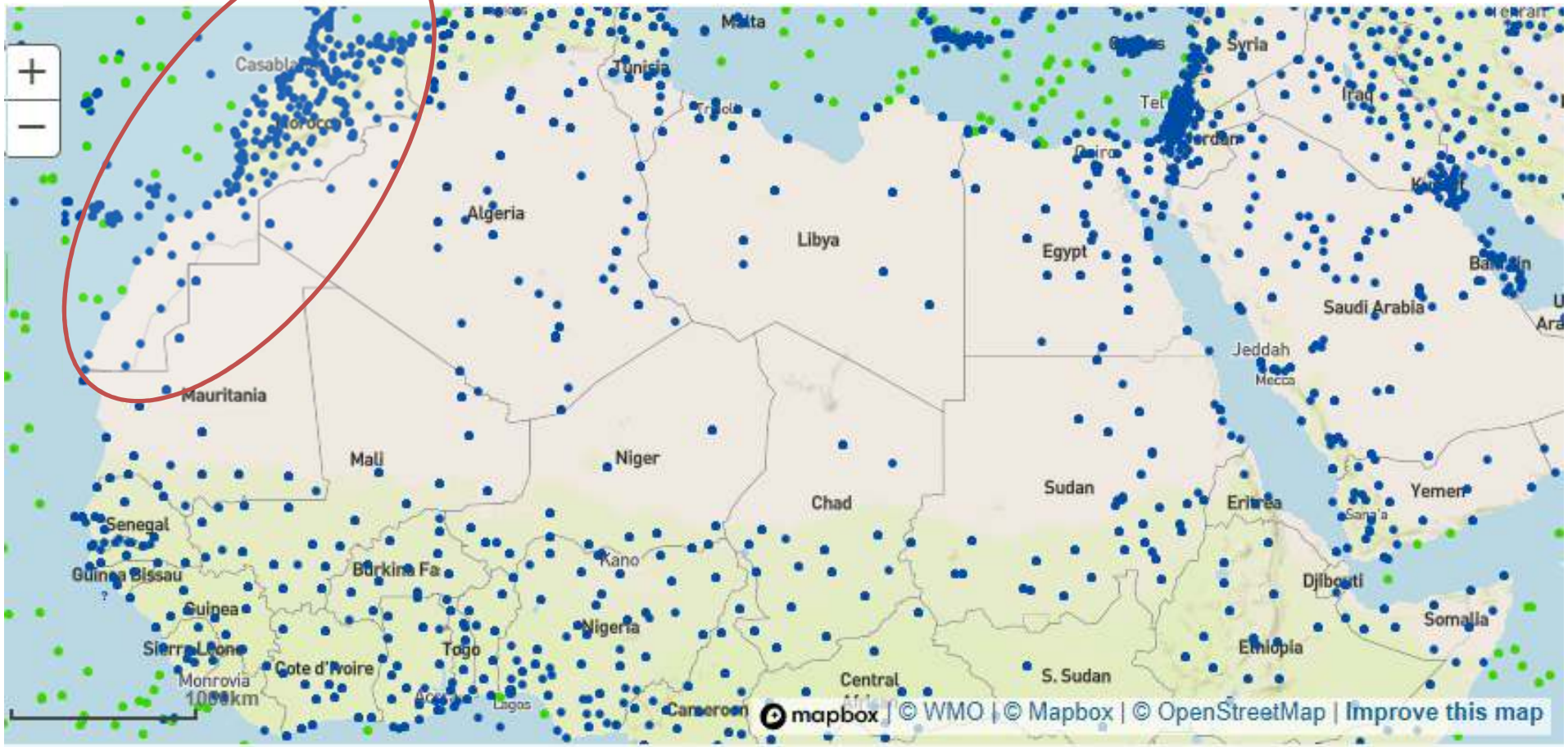
OSCAR / Surface ….Global platform



The OSCAR/Surface home page

Regional Association-I Africa
OSCAR / Surface



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OSCAR/Surface

Part of the WMO/ WIGOS information resources,

is the key source of information on WIGOS metadata.

The surface component (and OSCAR spatial component) are used to:

- ✓ record metadata from observing platforms / stations in accordance with the WIGOS Metadata Standard, described in the WMO Integrated Global Observing Systems System Manual (WMO-No.1160) and in the publication titled WIGOS Metadata Standard (WMO-No.1192),
- ✓ and maintain & update records WIGOS metadata.

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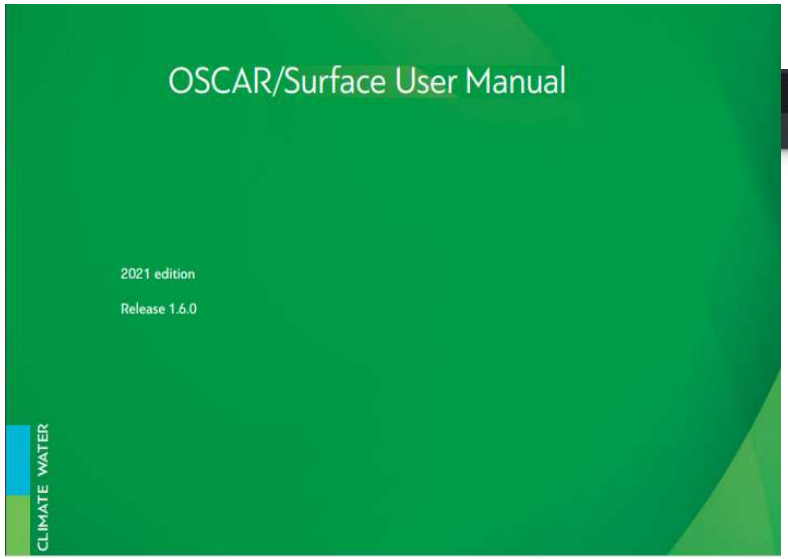
Documentation

This manual explains how to use OSCAR / Surface, as a **metadata editor** or **administrator** registered with an account



5 / 85 — 93% +

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https://library.wmo.int/doc_num.php?explnum_id=10603

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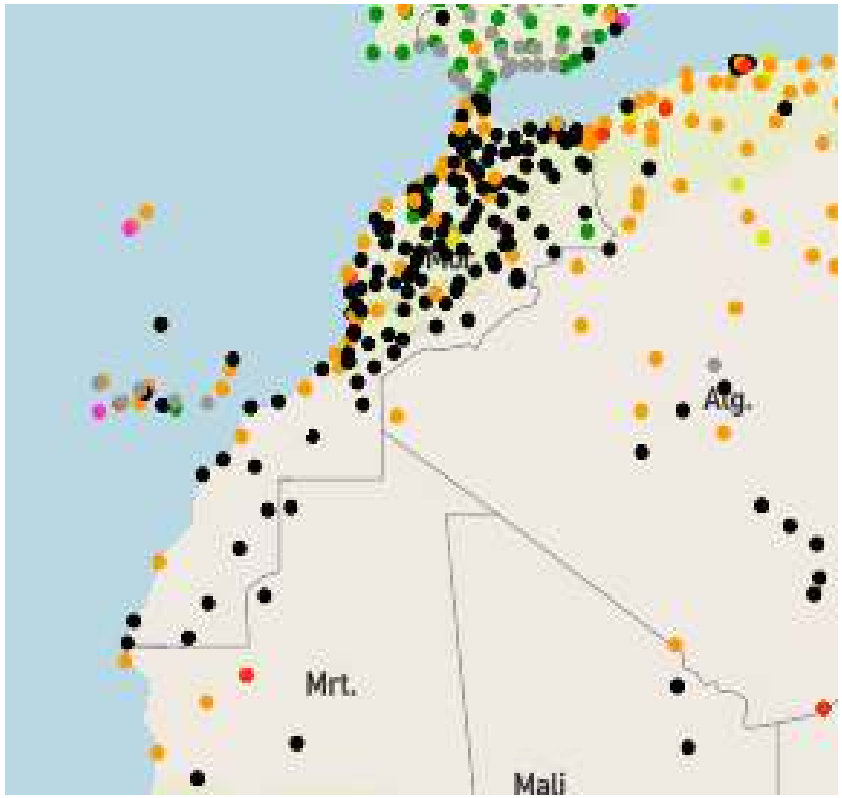
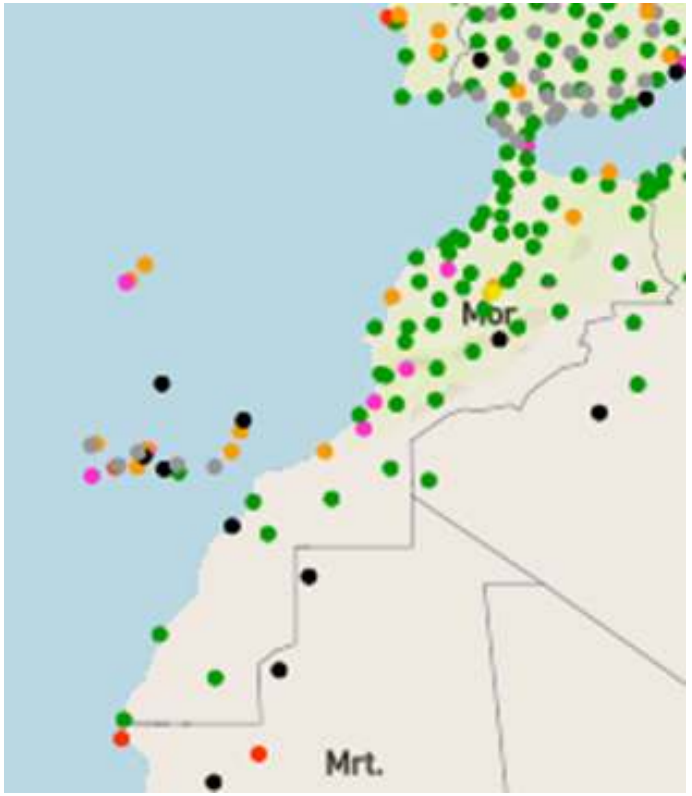
Role of the OSCAR focal point

- ✓ **declaration**
- ✓ **identification of stations and correction of metadata**





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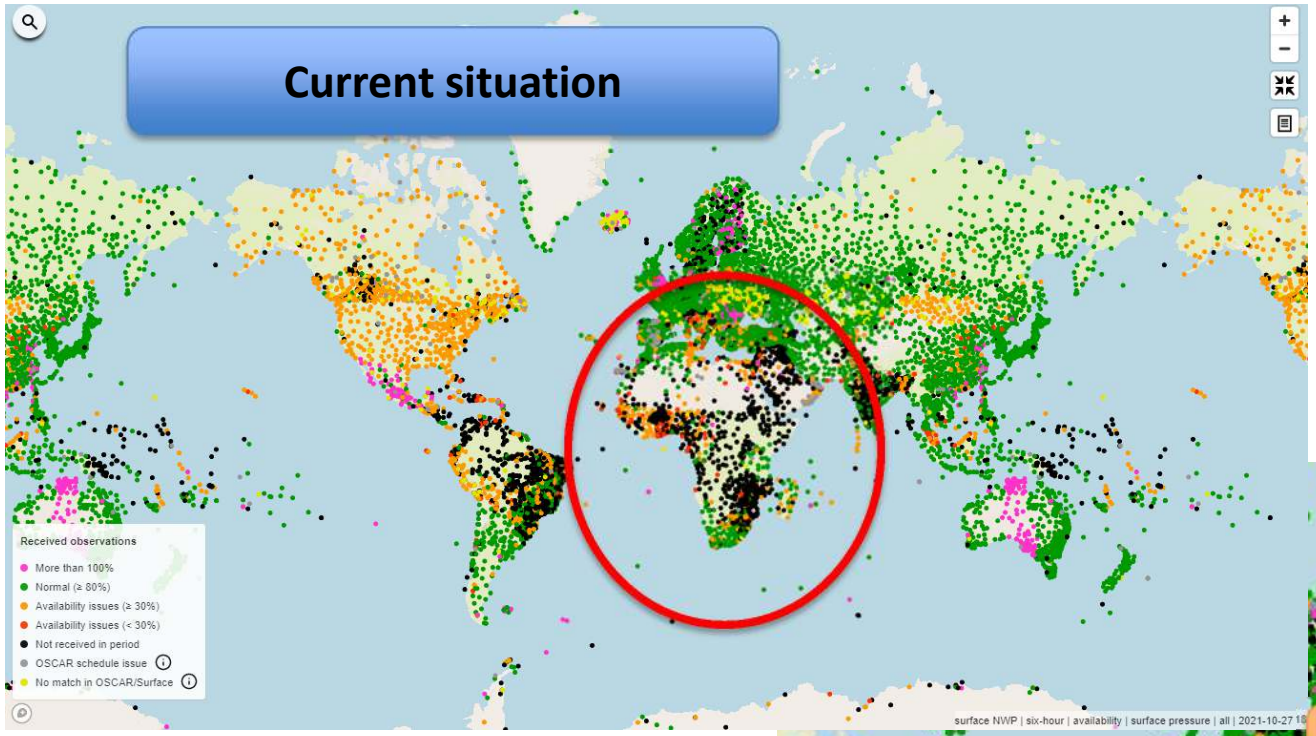
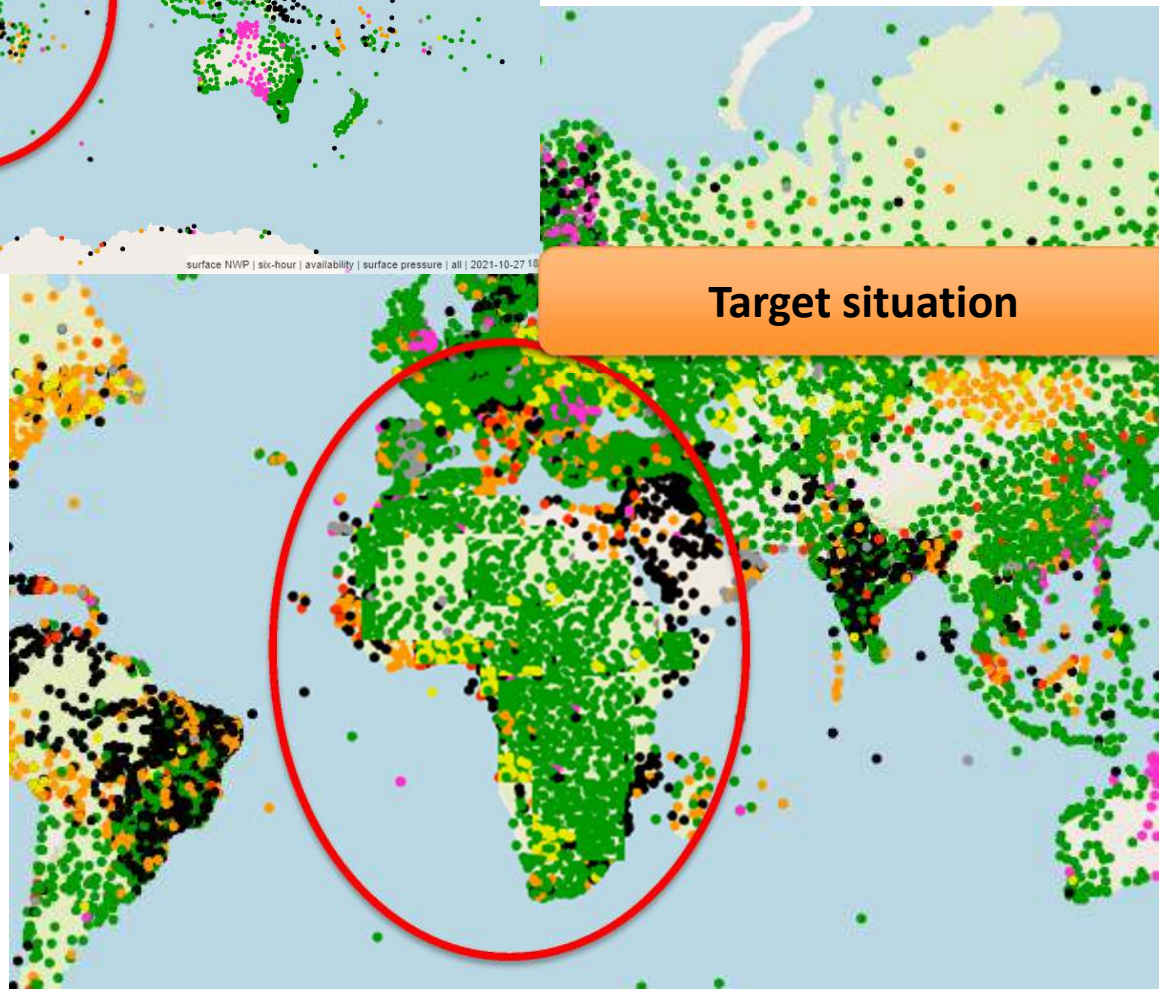

Current situation
Received observations
More than 100%
Normal (≥ 80%)
Availability issues (≥ 30%)
Availability issues (< 30%)
Not received in period
OSCAR schedule issue
No match in OSCAR/Surface
surface NWP | six-hour | availability | surface pressure | all | 2021-10-27 18


Target situation

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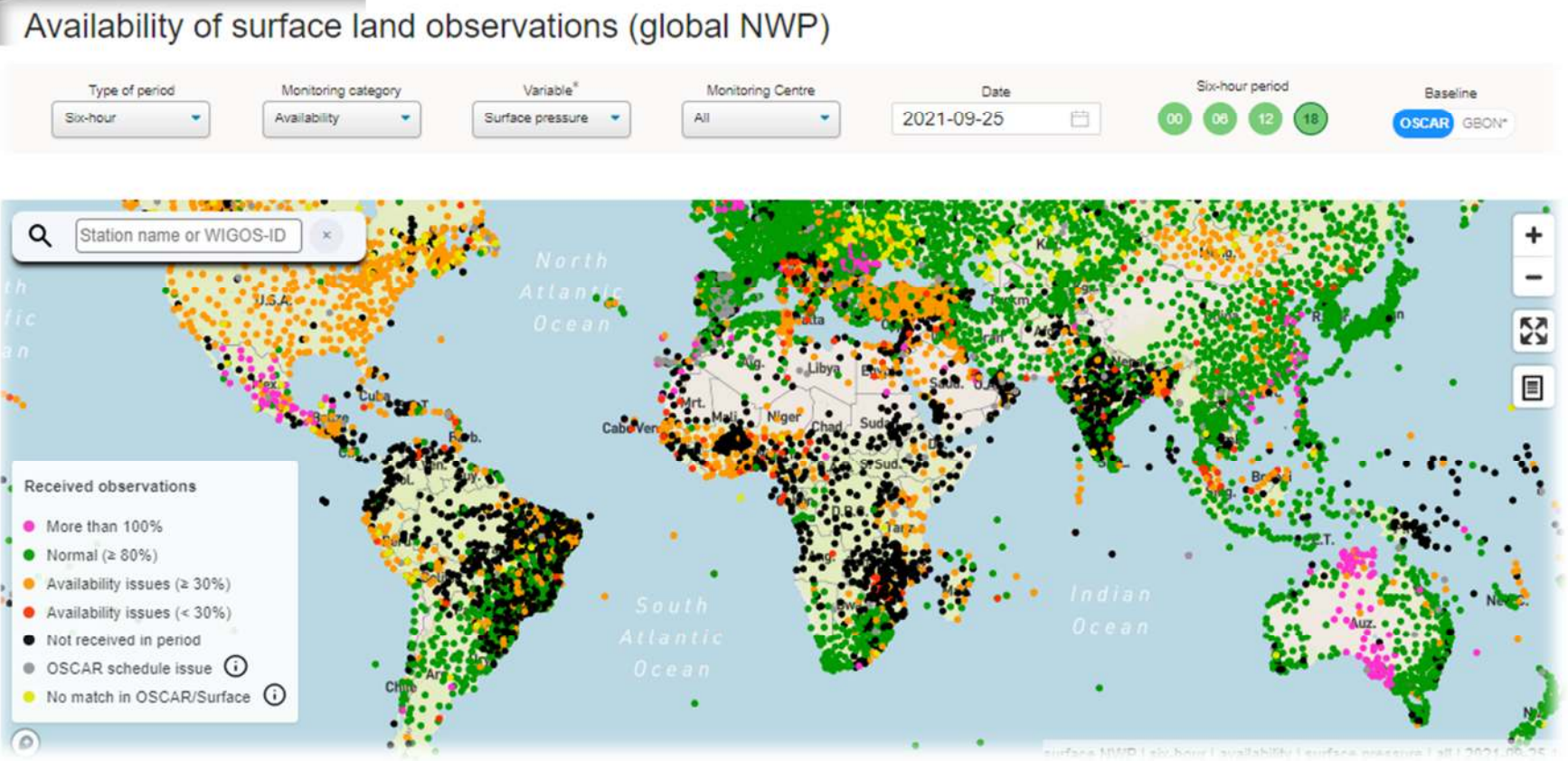
WDQMS platform

supervise the availability of data exchanged from stations declared under OSCAR



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National Focal Point for OSCAR/Surface, Terms of Reference

- The NFP on the OSCAR/Surface **shall provide linkages between the Member country/territory and the WMO Secretariat** to ensure that all **WIGOS metadata required** for the OSCAR database regarding the observing systems operated and maintained by the country/territory are recorded, **entered into OSCAR and updated as needed.**

1. Liaise with the National WIGOS FP in the country/territory to ensure that all the operatorsof the relevant observing systems in the country/territory are aware of OSCAR and readyto make the required metadata routinely available to OSCAR;
2. Coordinate user account creation in OSCAR for the people accredited, to manage withinOSCAR the relevant metadata from the country/territory;
3. Promulgate the WMO Technical Regulations relevant to OSCAR, as well as the guidanceand training materials for an adequate use of OSCAR;
4. Make all efforts to ensure that all accredited users of OSCAR are well trained to make theright use of the editing tools available in OSCAR;

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TdRs du PFN OSCAR/Surface

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.

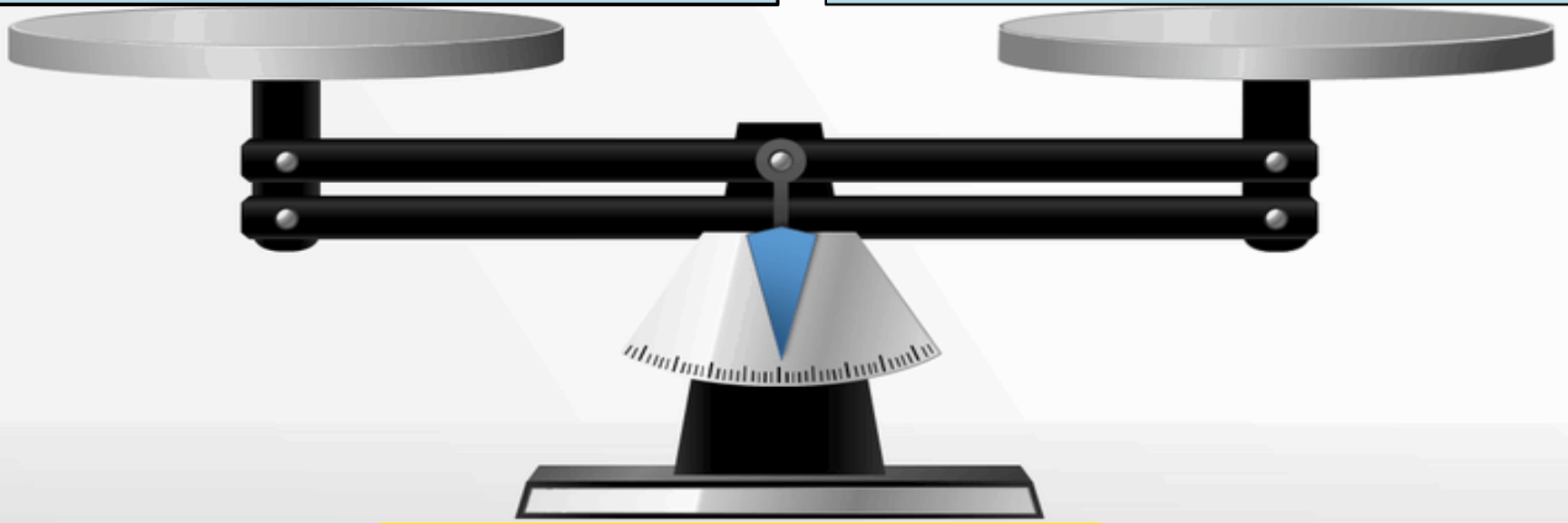
Support for improving WIGOS metadata under OSCAR

Theoretical aspects

-Principles,
-Concepts,
-Structures,
-Reference documents

Practical aspects

-The learning by example approach
-Analyze an ideally updated station on OSCAR
-Update of a typical station, by category (Synoptic, aeronautics, marine, Agrometeo ...)
-Know how to find information
-Supervision on WDQMS



Group support / personalized support

Steps of job expect from the national focal point

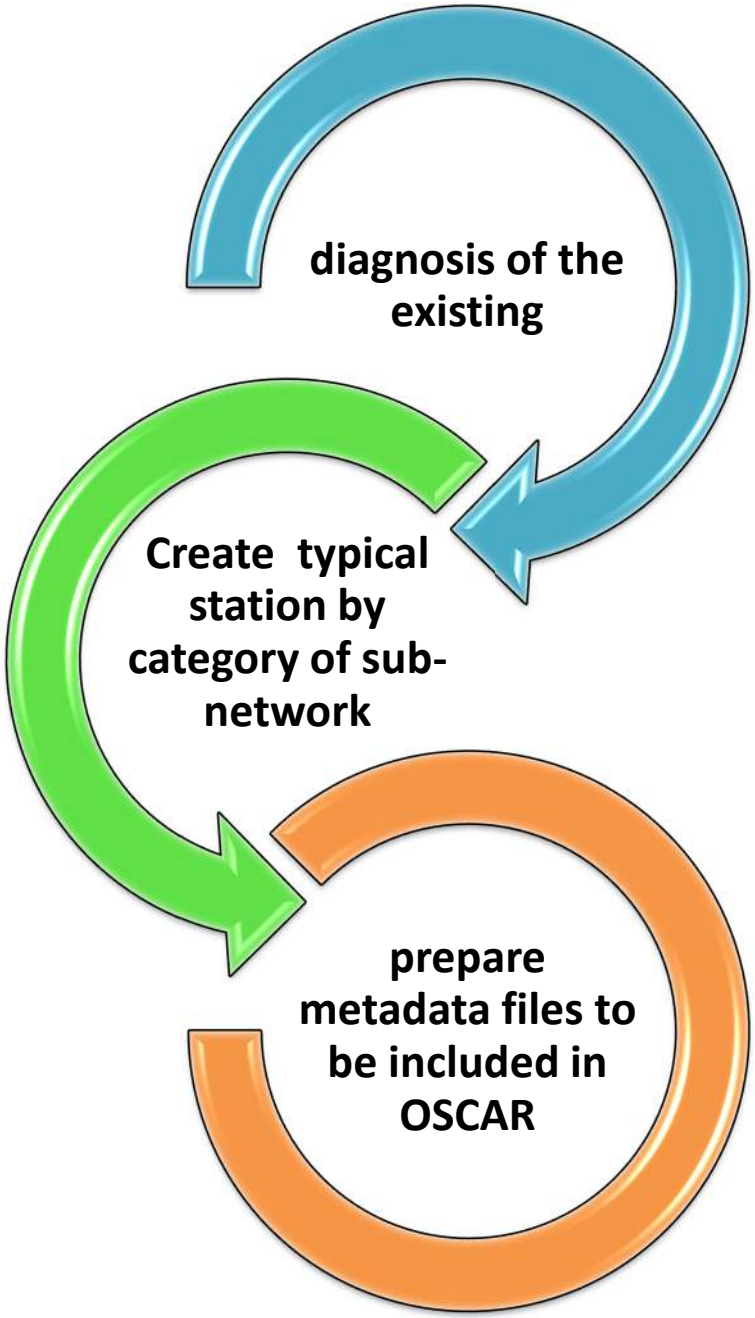
1
- **expression of needs, expectations and presentation of constraints**

2
- diagnosis of the real observing network Vs analysis of the network under OSCAR

3
- Prepare metadata files and update OSCAR (individual or machine to machine)

4
- Monitoring the availability/quality of data on WDQMS

WORK PLAN



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