The WMO OSCAR/Surface and WSI webinar for RA VI

2 SEPTEMBER 2025 14:00– 16:00 CEST

Overview of WIGOS tools and Regional WIGOS Centers and their contributions to RBON/GBON, WIS2.0, WIPPS, etc

Tanja Kleinert, Chair ET-WTR

WORLD METEOROLOGICAL ORGANIZATION

1950-2025
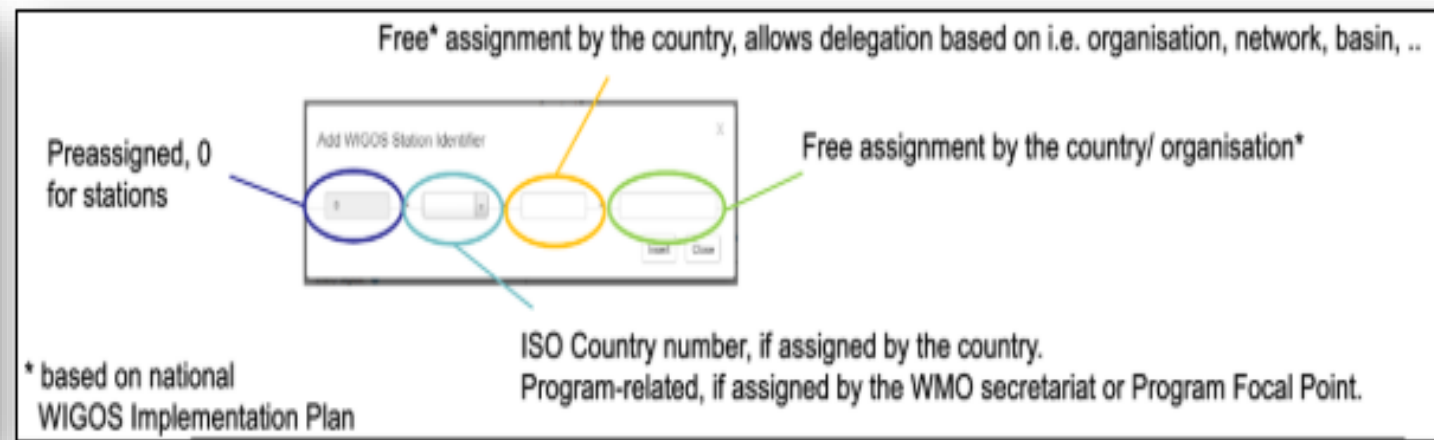SCIENCE for ACTION

Overview

❑WIGOS Station Identifier

❑WIGOS Tools
 ❑OSCAR/Surface
 ❑WIGOS Data Quality Monitoring System
 ❑Incident Management System

❑Regional WIGOS Centre (RWC)

❑Looking ahead

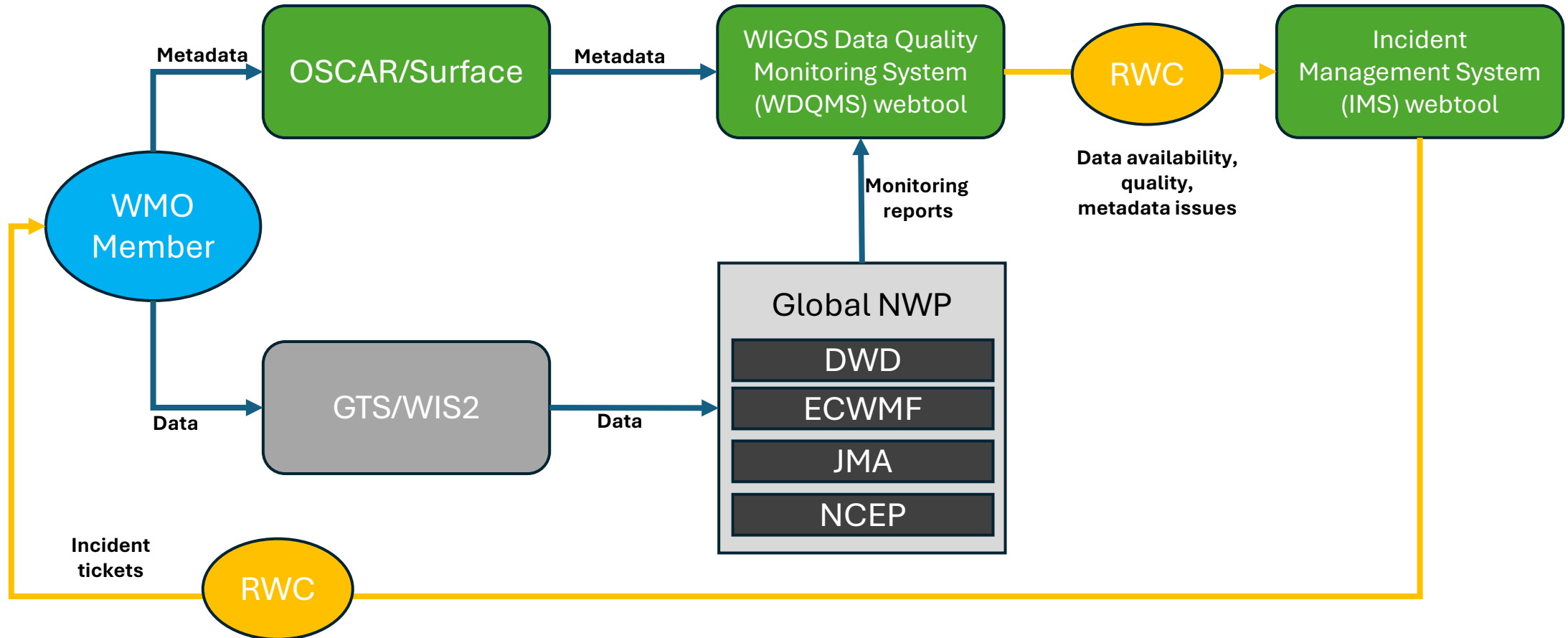# WIGOS Station Identifiers...

❑ Unique station identifier

❑ Integrates stations across WMO programmes and networks: GBON, RBON, WIS, WIPPS, and their contribution to WHOS, HydroSOS

❑ Integrates stations across WMO systems and tools

❑ Integrates stations across data products

Block (content type)	1st block (number)	2nd block (number)	3rd block (number)	4th block (character)
Description/ Name	WIGOS Identifier Series	Issuer of Identifier	Issue number	Local Identifier
Features	Allows future expansion	Allows to distinguish between identifiers issued by different organizations	Allows sub-delegation	Allocated to station
Range	0	0...65534	0...65534	16 characters
Example 1	0	20000	0	06700
Example 2	0	124	0	73033

…are foundational to WMO and must be assigned and maintained by Members.

WIGOS tools...

...provide an integrated platform to monitor and improve metadata, data availability and quality.
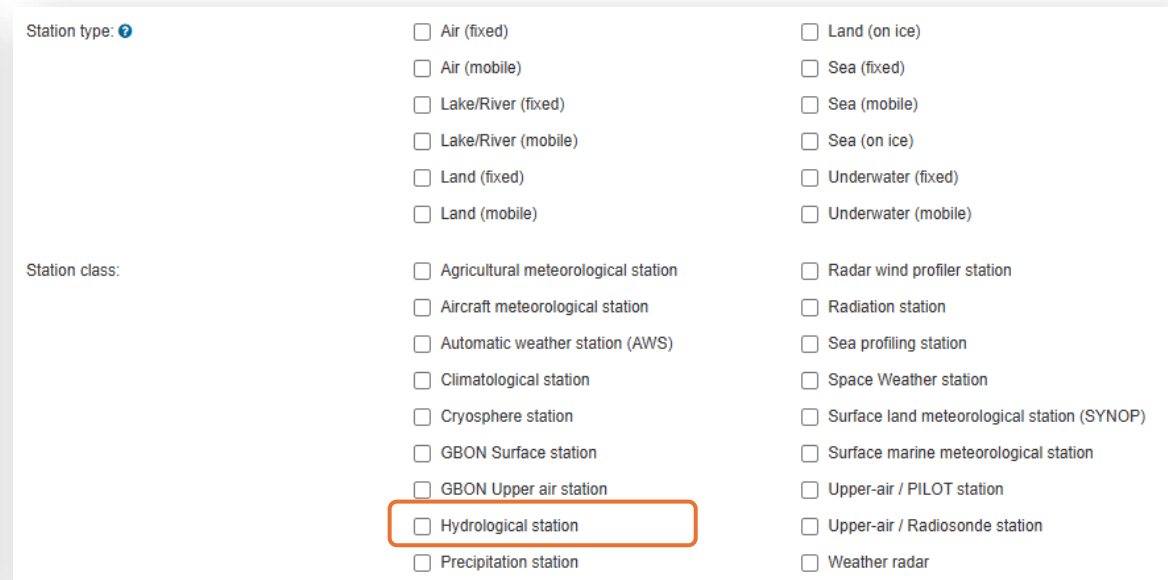
OSCAR/Surface…

❑ WMO's official repository of station and observation metadata:
https://oscar.wmo.int/surface

❑ Provides visibility to Member's observing capabilities (against requirements)

❑ Enables exchange and usage of data

…supports a large variety of observing platforms, including hydrological stations.
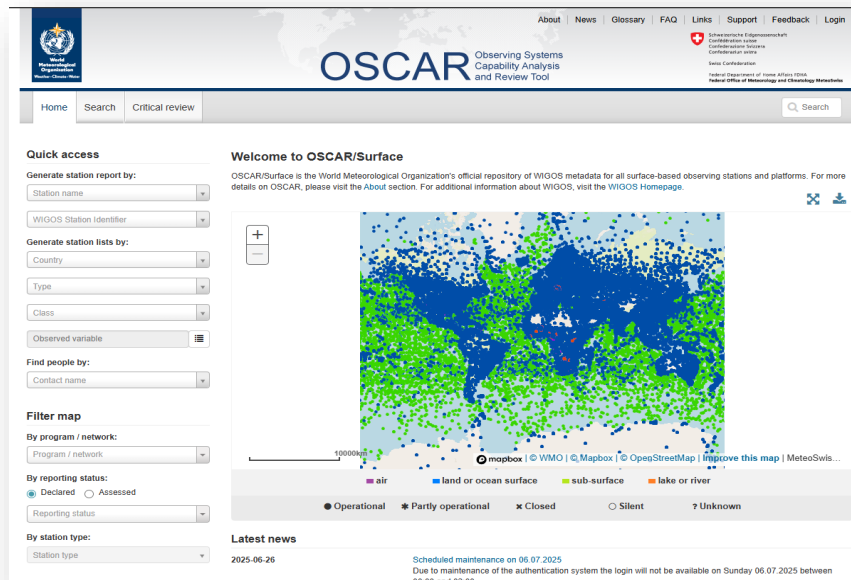
OSCAR/Surface…

❑ Stations are described using WIGOS metadata standard

❑ Members can register domestic organizations, users, stations, sensors, sampling and reporting metadata

❑ Interact with OSCAR via Web-UI, API, Web-client/bulk
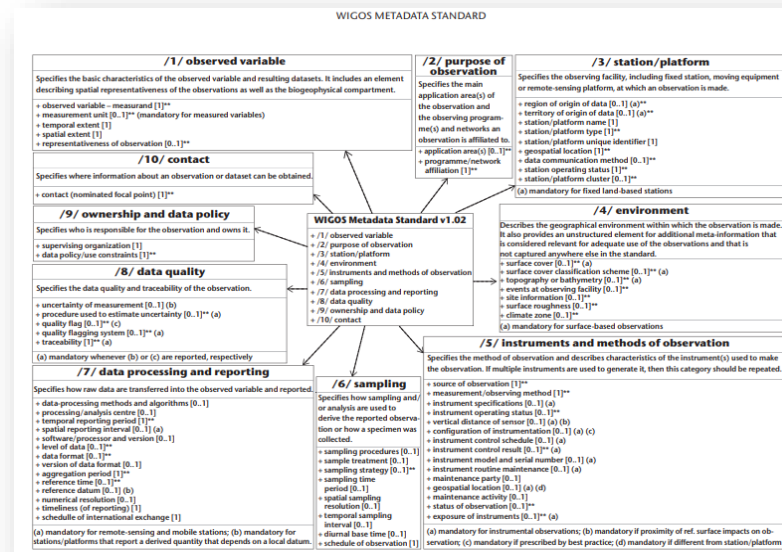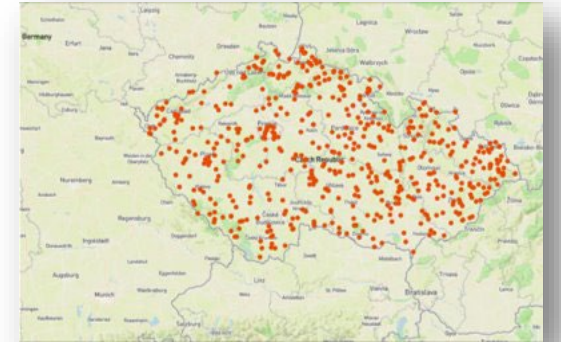
WIGOS station identifier, type, name, coordinates, operational date, status, supervising organization, relevant RWC

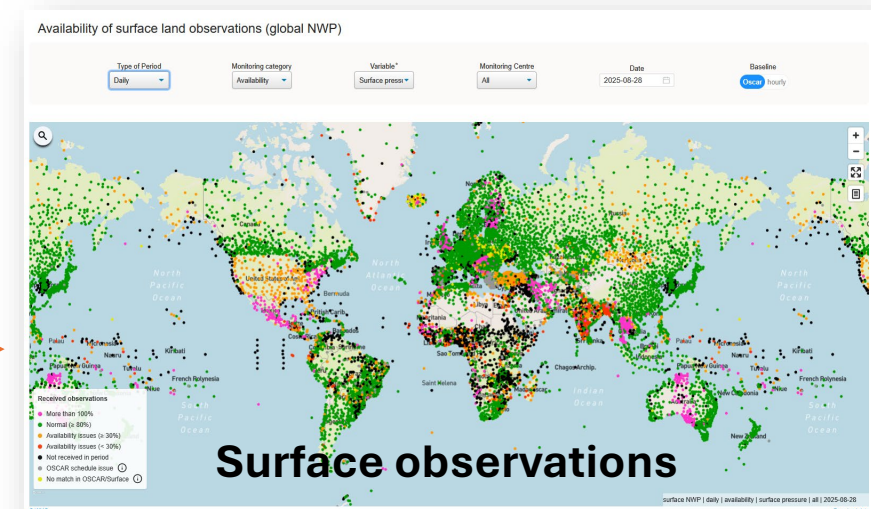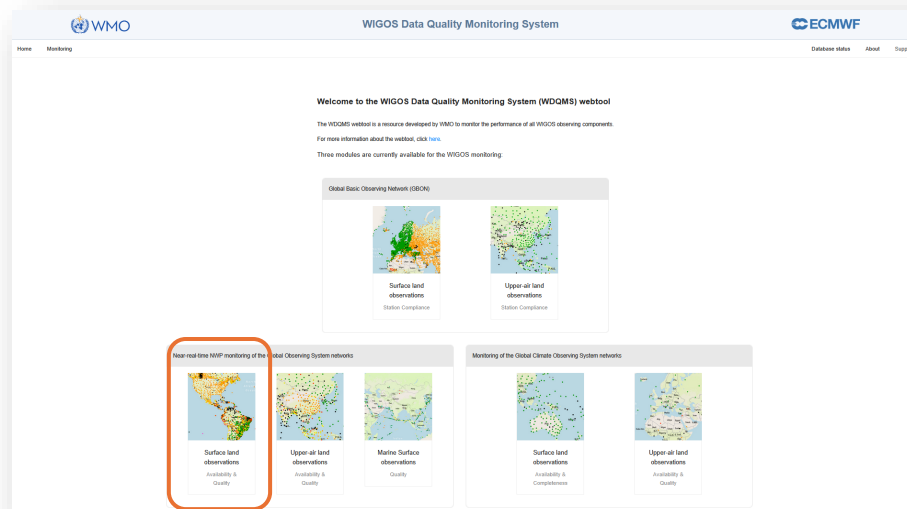**WMO programme affiliation, observation variable, instrument, deployment, sampling, reporting**

…provides a rich set of fields for a comprehensive description of stations, sensors, variables and observations.

WIGOS Data Quality Monitoring System webtool…

❑ Monitor performance of GBON, GOS and GCOS networks: https://wdqms.wmo.int/

❑ Covers surface, upper-air, buoys and ship observations

❑ Monitor surface pressure, 2m temperature, 10m windspeed, 10m wind direction, 2m rel. humidity

❑ Color codes stations based on their data availability, quality, timeliness, completeness and metadata in OSCAR or GBON requirements in different aggregation levels

Surface observations

…provides near-real time monitoring of data being exchanged internationally to ensure timely availability of good quality data.

Incident management system webtool…

❏ Used to initiate incident tickets, to track and resolve tickets on station performance or metadata issues

❏ Jira platform hosted by WMO: jira.wmo.int

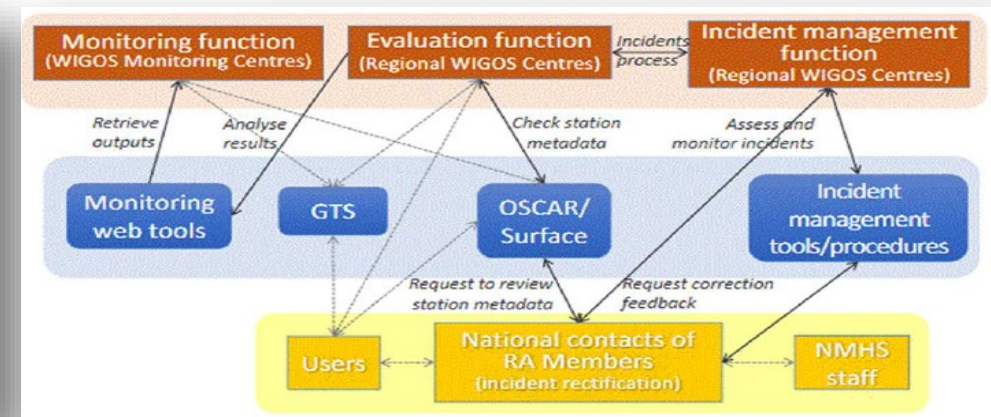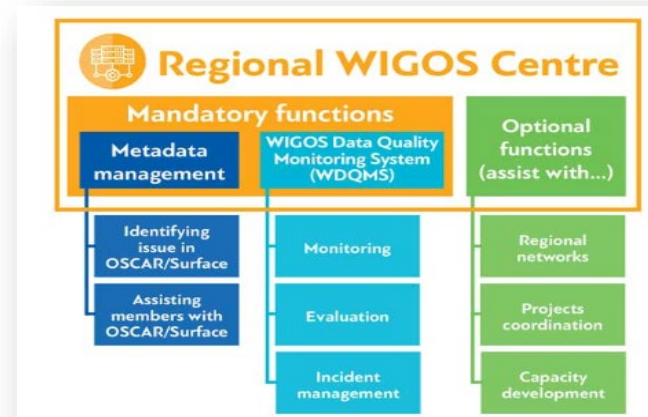**…allows Regional WGOS Centres and countries to collaborate on incidents and their rectification.**
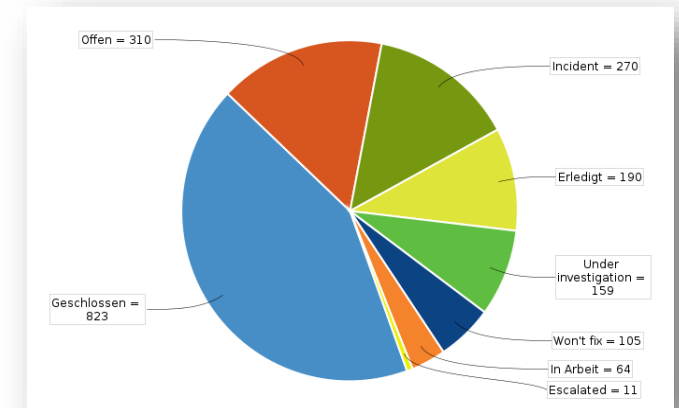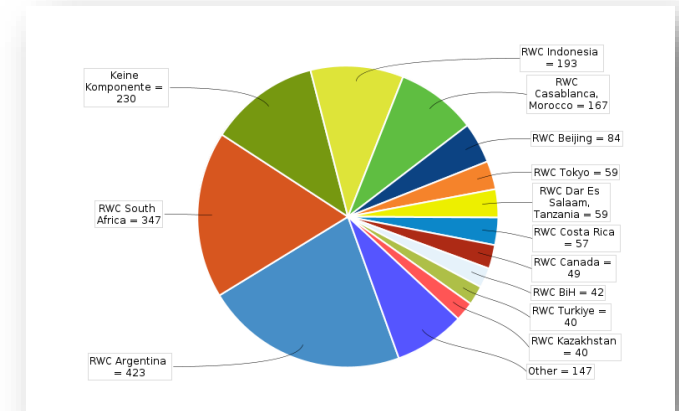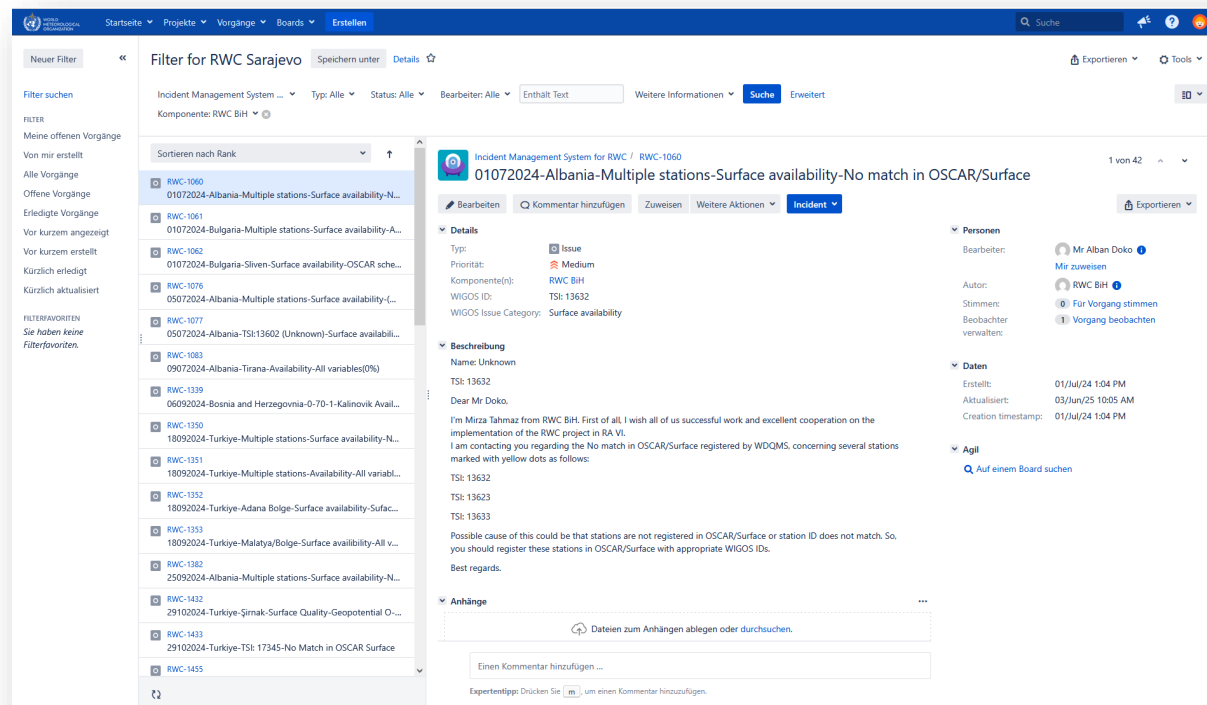
Regional WIGOS Centres…

❑One or more per each region (5 RWCs in RA VI)

❑RWCs and countries support each other sustaining high availability and quality of data

❑WIGOS tools are essential for RWC operations

- ☐ OSCAR/Surface is used for identifying issues in metadata management
- ☐ WDQMS webtool is used for the performance monitoring and evaluation to detect availability, quality or metadata issues
- ☐ IMS webtool is used to initiate incident tickets and to keep track on tickets together with Members.
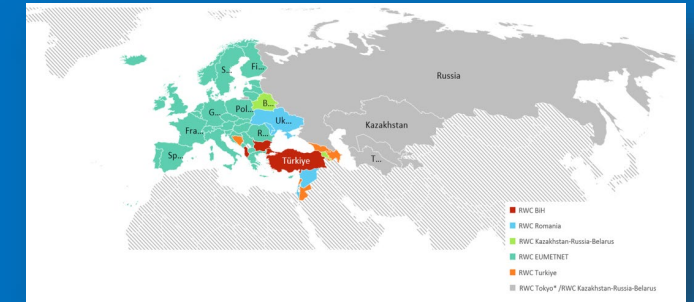
RWCs in Regional Association VI Europe
❑ RWC Bosnia and Herzegovina
❑ RWC EUMETNET
❑ RWC Romania
❑ RWC Türkiye
❑ RWC Belarus- Kazakhstan - Russian Federation

1950-2025
SCIENCE for ACTION

…support various WMO programmes, global and regional networks and WMO Members.

Evolution of WIGOS tools and RWCs…

❑**OSCAR/Surface**
- Major renewal underway
- Usability and workflow improvements
- Change in underlying infrastructure and host
- Integration of additional WMO programmes such as hydrological stations

❑**WDQMS webtool**
- Addition of new modules/functionalities for timeliness, snow depth and other obs. types
- Precipitation monitoring

❑**IMS webtool**
- Filtering by country, assignment and tracking
- Tickets related to GBON stations
- Ticket automation

❑**WIGOS Components**
- ❑ GOS stations are already part of the WDQMS webtool and monitored by RWCs
- All WIGOS components to be included in WDQMS webtool or a similar tool
- Each component will have tailored monitoring and evaluation processes
- Observation programs will have evaluation processes tailored to their specific needs

❑**RWCs**
- Operationalized in all regions including Antarctica
- Potential extension of RWCs scope or establishment of 'thematic' RWCs.

… to ensure they continue to meet future needs of Members and WMO.

WORLD METEOROLOGICAL ORGANIZATION

1950-2025
SCIENCE for ACTION

Thank you