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Eidgenössisches Departement des Innern EDI
Bundesamt für Meteorologie und Klimatologie MeteoSchweiz



World Meteorological Organization
Organisation météorologique mondiale

RA VI Training on the registration of hydrological stations in OSCAR/Surface

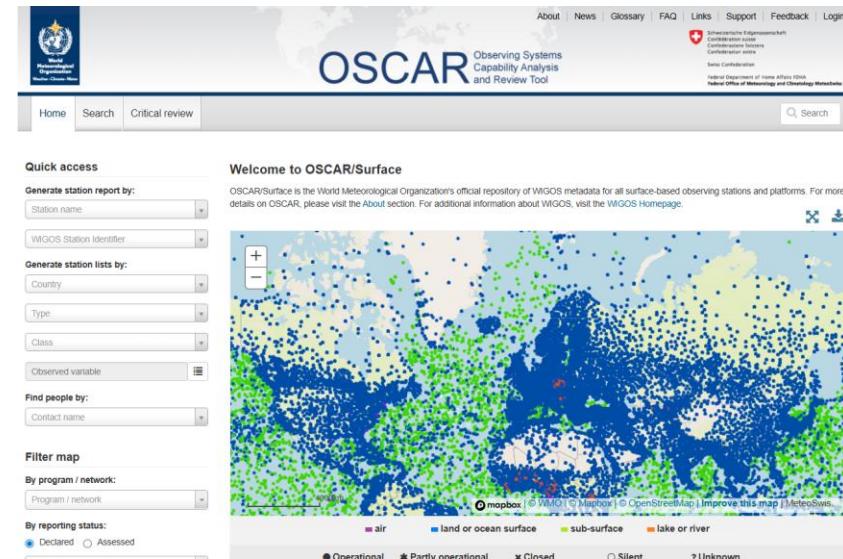
26th of November 2025, online



Agenda

1. Introduction to OSCAR/Surface workflow for station registration (Lucia) – 10 minutes
2. Demonstration
 - WSI allocation (Washington) - 5 minutes
 - Manual registration (Lucia) - 20 minutes
 - Bulk and automatic registration (Lucia) - 15 minutes
3. Questions and AoB (Lucia) – 10 minutes

- WMO Catalogue of surface-based observing stations worldwide
- Covers all WIGOS domains
- Metadata management tool
- Role-based access and privileges
- Allow to describe current and past status of stations
- WMDS for metadata description



How can the hydrological community contribute to OSCAR/Surface?

Station registration in OSCAR/Surface

Engagement event:

<https://wmo.int/events/workshop/ra-vi-webinar-registering-hydrological-stations-oscarsurface>

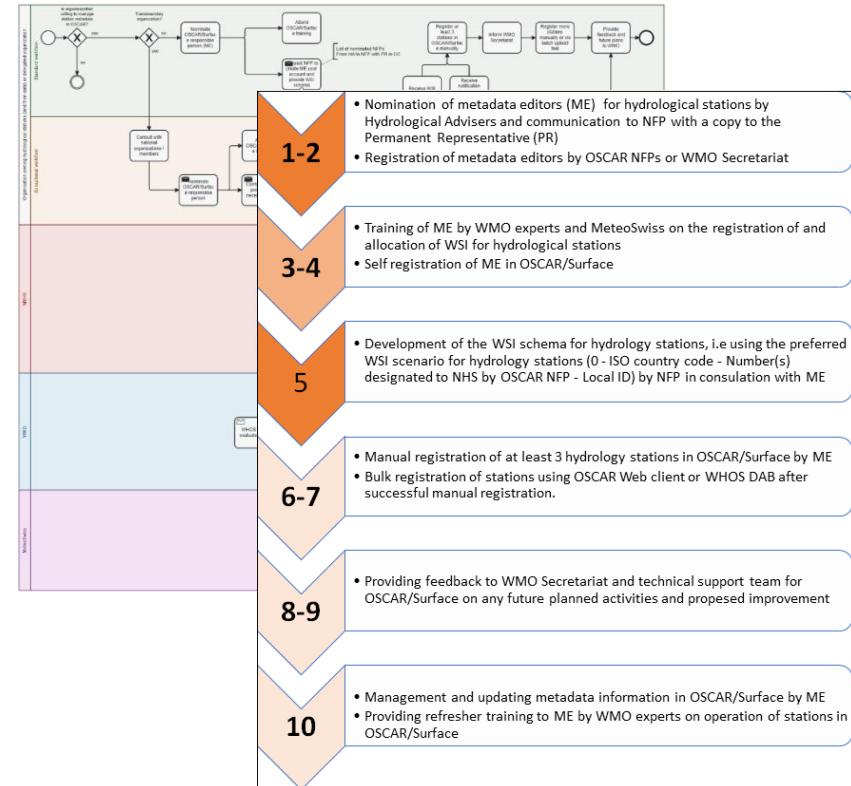
1- Nomination of responsible person(s) for metadata management in OSCAR/Surface,

2- Attendance of training on OSCAR/Surface and allocation of WSIs,

3- self-registration in OSCAR/Surface and discussion on WSI schema allocation with NMHS/WMO Secretariat,

4- Registration of hydrological stations in OSCAR/Surface,

5- Feedback to WMO Secretariat and further training.



Before we start...

Key information and links

- OSCAR/surface productive environment: <https://oscar.wmo.int/surface>,
- OSCAR/surface test environment: <https://oscardepl.wmo.int/surface> (sand box, content overwritten weekly)
- OSCAR/Surface web-client: <https://oscar.tools.wmo.int/web-client/> (production and test)
- [FAQs](#) → [PDF with self-registration steps](#)
- [Useful links](#)
 - OSCAR/Surface user manual
 - WIGOS learning portal
 - ...
- [WMDS](#) and [Code lists](#)
- To request support or provide feedback:
 - <https://oscar.wmo.int/surface/#/support>
 - <https://oscar.wmo.int/surface/#/feedback>

Keywords

- Wigos Station Identifier (WSI): unique ID for stations in OSCAR/Surface
- National Focal Point (NFP): OSCAR/Surface role, user responsible for all stations in the country of responsibility
- Metadata Editor (ME): OSCAR/Surface role, user delegated by the NFP to manage stations in the country of responsibility



Demonstration

- WSI Allocation for Hydrology Stations
- Manual registration
- Batch and automatic registration

Manual registration

1/2

<https://oscardepl.wmo.int/surface>

1. Management console

- My stations → all editable stations or drafts
- Register new station

2. Generic form / templates

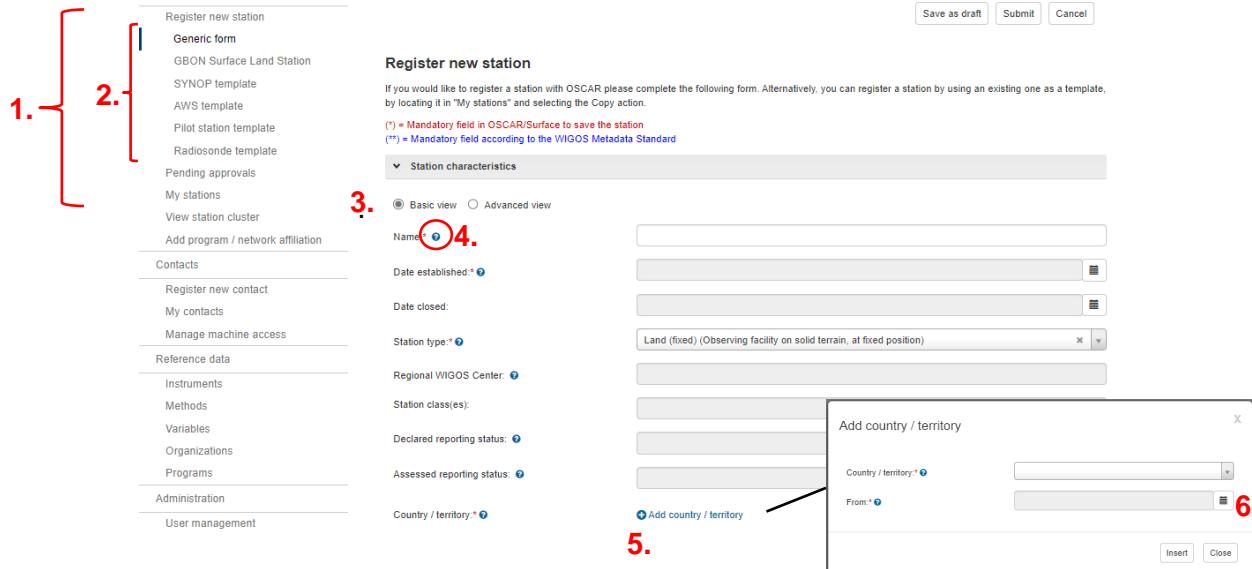
3. Basic / advanced form

4. Tooltips

5. Historization

- From
- From/to

6. Date picker



1. [2. [3. [4.] 5.] 6.]

Register new station

If you would like to register a station with OSCAR please complete the following form. Alternatively, you can register a station by using an existing one as a template, by locating it in "My stations" and selecting the Copy action.

(*) = Mandatory field in OSCAR/Surface to save the station
 (**) = Mandatory field according to the WIGOS Metadata Standard

Station characteristics

Basic view Advanced view

Name * 4.

Date established: *

Date closed:

Station type: * Land (fixed) (Observing facility on solid terrain, at fixed position)

Regional WIGOS Center: *

Station class(es):

Declared reporting status: *

Assessed reporting status: *

Country / territory: *

Add country / territory

Country / territory: *

From: *

Insert Close

1. Red /blue mandatory elements, based on WMDS
2. Upload of photos, documents, bibliographic references
3. Draft / submitted stations

Date closed:

Station type: *

Regional WIGOS Center: *

Station class(es):

Declared reporting status: *

Assessed reporting status: *

Country / territory: * Add country / territory

WIGOS Station Identifier(s): * Add WIGOS Station Identifier

Coordinates: * Add latitude / longitude / elevation / geopositioning method

1. WMO region: * Add WMO region

Time zone: ** Add time zone

Supervising organization: ** Add supervising organization

Climate zone: * Add climate zone

Predominant surface cover: * Add predominant surface cover

Topography or bathymetry: * Add topography or bathymetry

Population in 10km / 50km (in thousands): * Add population

Programs / network affiliations ?

Add program / network affiliation *

2. > Observations / measurements

> Station contacts

> Bibliographic references

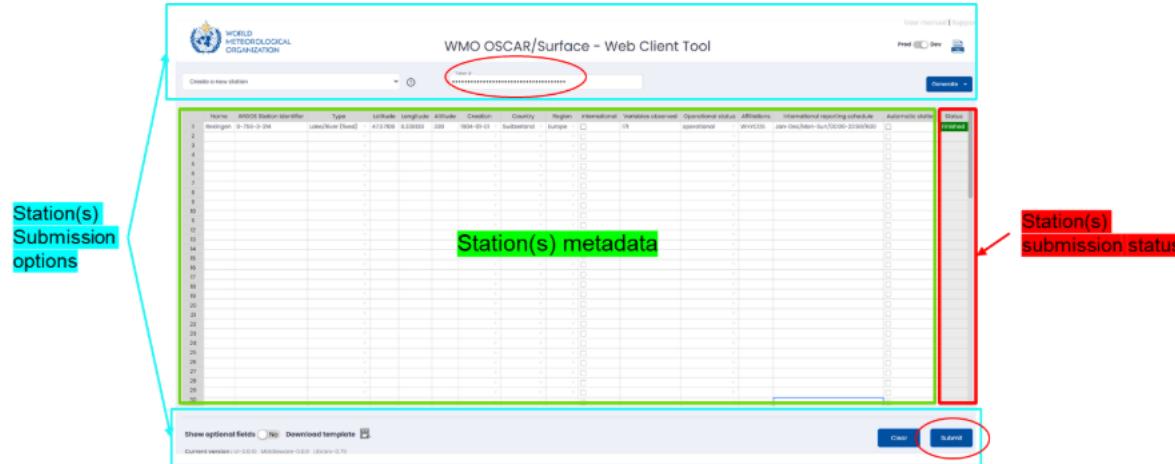
> Documents

3. Save as draft Submit Cancel

Batch registration: OSCAR/Surface Web client

- Scope: batch registration and updates of stations for a limited number of metadata
- Prerequisite: machine2machine token

<https://oscar.tools.wmo.int/web-client/>



WMO OSCAR/Surface - Web Client Tool

Create or view station

Station ID	WMO Station Identifier	Type	Latitude	Longitude	Altitude	Created	Country	Region	International	Latitude/Altitude	Operational status	Attributed	Intermediate reporting schedule	Automatic status
1	station-0-750-0-204	Land/Coast (land)	47.3769	8.30368	300	1904-01-01	Switzerland	Europe	<input type="checkbox"/>	US	operational	WMO100	join-obs-100-200-300-400-500	<input type="checkbox"/>
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Station(s) Submission options

Station(s) metadata

Station(s) submission status

Submit

- How to get a machine2machine token:
 - Login into oscar/surface (oscardepl.wmo.int/surface)
 - Go to the management tab and click on "manage machine access" and generate a token
- How to upload stations:
 - Copy the token into the tool
 - Fill out each column of the table. For "variable", "schedule" and "program" use the "generate" button to fill out the column.
 - Click on "submit"

Note: This is a test environment, use OSCAR for the operational environment.

Stations	Homepage > Management > Contacts > Manage machine access
Register new station	<input checked="" type="checkbox"/> I accept the conditions for use of security tokens as specified in the [General conditions for use of this application]
Generic form	<input type="checkbox"/> Generate
GBON Surface Land Station	
SYNOP template	
AWS template	
Plot station template	
Radiosonde template	
GBON Upper-air Station	
Test off	
Pending approvals	
My stations	
View station cluster	
...	

Generate security token for Cappelletti

I accept the conditions for use of security tokens as specified in the [General conditions for use of this application]

Generate

Security token

[Hidden content]

This token is only displayed once, immediately after generation. Please copy the token and embed it in your scripts. The token needs to be sent in the HTTP header "X-WMO-WMDR-Token" with each request.

Expiration date: 2025-11-26

Revoke existing security token

The screenshot shows the WMO OSCAR/Surface - Web Client Tool interface. At the top, there are two main sections: "Dropdowns" and "Special content/ format required". The "Dropdowns" section points to a dropdown menu on the left. The "Special content/ format required" section points to a reporting interface on the right. A large green box highlights the "checkboxes" section in the center, with the text "Checkboxes - Click twice for «no»".

Dropdowns

Special content/ format required

Checkboxes - Click twice for «no»

1. **Reporting interface**

2. **checkboxes**



Automatic registration

- REST API endpoint for machine to machine exchange
- WMDR XML upload
- Authentication via token (same as for batch upload)

Available options

- Create your own WMDR XML and upload tool
- Expose your station metadata via an already existing WHOS compliant service and let the WHOS DAB broker handle the WMDR XML generation and submission



Questions and AoB