



Schweizerische Eidgenossenschaft
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Eidgenössisches Departement des Innern EDI
Bundesamt für Meteorologie und Klimatologie MeteoSchweiz



World Meteorological Organization
Organisation météorologique mondiale

OSCAR/Surface and WSI

25-26 January 2024, online



Topics

1. OSCAR/Surface: overview
2. Management of observing network capabilities
 1. Role model
 2. Registration and login
 3. Search
 4. Management of stations and station clusters
3. Allocation of WIGOS Station Identifiers (WSIs)



OSCAR/Surface: Overview

- Surface-based Capabilities Tool for the **WIGOS** components and networks (i.e. GBON, GCW, **WHOS**, etc)
- Surface-based Capabilities Tool for **co-sponsored** and other networks (GCOS, GOOS, etc.)
- **Current as well as historical** documentation of stations
- **Integration** thanks to the WIGOS Metadata Standard (WMDS)
- Developed and operated by MeteoSwiss since 2016
- Version 2 of OSCAR/Surface (OSCAR nextGen) is work in progress

OSCAR Observing Systems Capability Analysis and Review Tool

Welcome to OSCAR/Surface

OSCAR/Surface is the World Meteorological Organization's official repository of WIGOS metadata for all surface-based observing stations and platforms. For more details on OSCAR, please visit the About section. For additional information about WIGOS, visit the WIGOS Homepage.

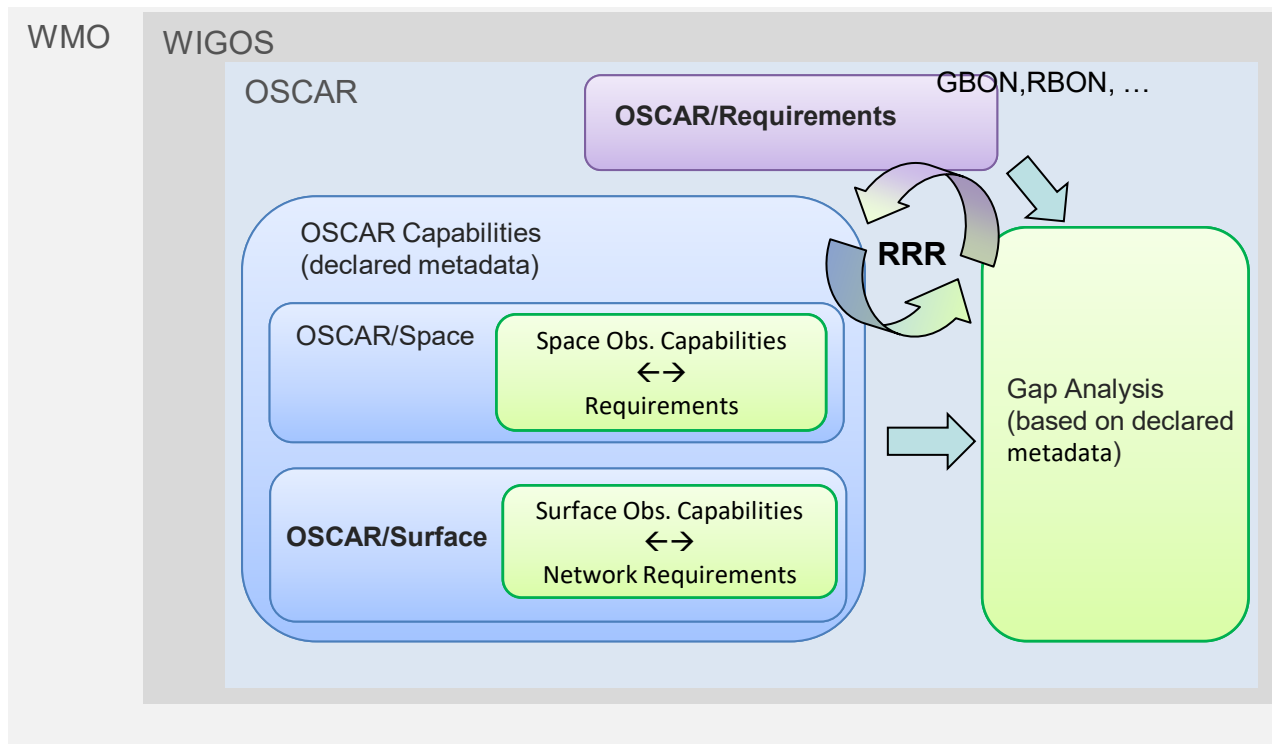
air land or ocean surface sub-surface lake or river



OSCAR/Surface: goals

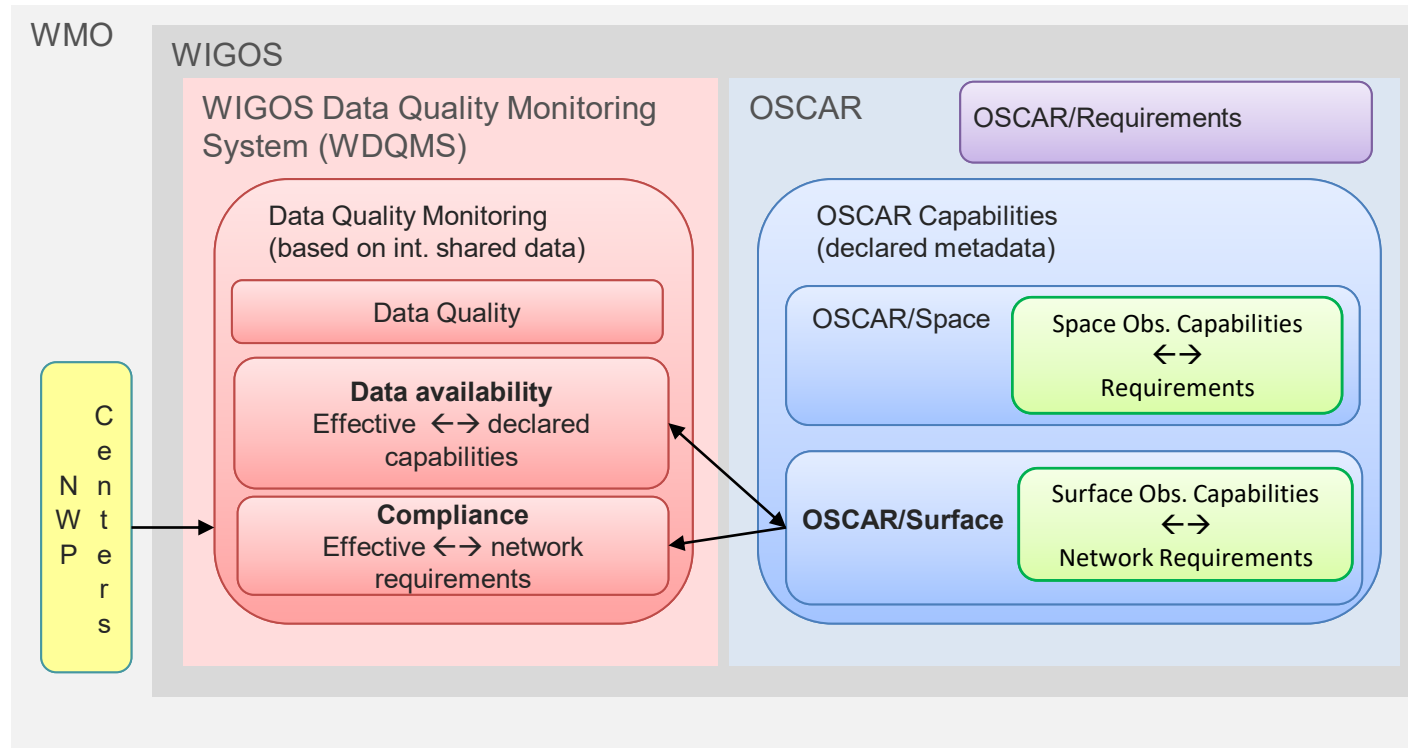
1/2

1. Station Metadata documentation:
 - Data discoverability
 - Better use of data
 - Support National metadata repositories
2. Network planning on a global, regional and national level:
 - Identify & close observational gaps (RRR)
 - Efficient use of resources



3. Monitoring:

- Increase quality and availability of exchanged data
- Compliance with WMO requirements (e.g. GBON, SOFF, ..)





Metadata sources

Int. Data Centers *

(OceanOps, GAW Data Center, Radar DB, etc.)

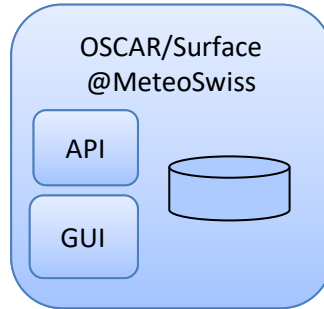
National organisations

- NMHSs
- Via NMHS: other national organisations (Research, other Partner institutions, private sector)

WMO Information System*

*integrated or planned for integration

WMDS/
WMDR



Stations (incl. docs and photos)
 Station clusters
 Contacts
 Instruments
 Organisations

Station registration form

OSCAR Observing Systems Capacity Analysis and Review Tool

Home » Management » Stations » Register new station » Generic form

Register new station

Generic form

GDCH Surface Land Station

SYNOP template

ARIS template

1943 station template

Refractometer template

Pending approvals

My station

View station cluster

Add program / network affiliation

Contacts

Register new contact

My contacts

Manage machine access

Reference data

Instruments

Methods

Variables

Organisations

Programs

Administration

User management

Audit logs

Template management

WMOI

XML submission

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 clicking in the 'No station' row and selecting the 'Copy' action.
 (*) = Mandatory field in OSCAR/Surface to save the station
 (**) = Mandatory field according to the WMOIS Metadata Standard

Station characteristics

Basic view | Advanced view

Name*

Date established*

Date closed

Station type*

Regional WMOIS Center*

Station class*

Decided reporting status*

Assessed reporting status*

Country / territory*

WMOIS Station identifier*

Coordinates*

WMO region*

Time zone**

Supervising organization**

Climate zone*

Predominant surface cover*

Topography or bathymetry*

Population in 100m / 500m (in thousands)*

Add country / territory

Add WMOIS Station identifier

Add latitude / longitude / elevation (geopositing method)

Add time zone

Add supervising organization

Add climate zone

Add predominant surface cover

Add topography or bathymetry

Add population

Programs / network affiliations

Add program / network affiliation*

Observations / measurements

Station contacts

Biographic reference

Documents

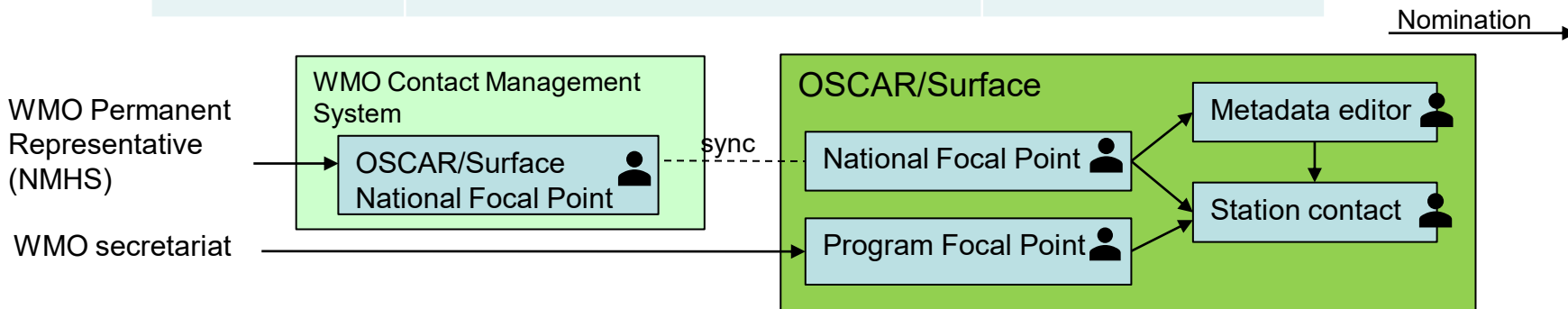
Save as draft | Submit | Cancel



Governance

- WMO members are required to manage their observing network capabilities in OSCAR/Surface

Rights	User Role	Machine user role
By country	National Focal Point, Metadata editor	NMHS
By program	Program Focal Point	Data Center
By station	Station contact	-





Registration and login

- eIAM system for authorisation of users
- Registration:
 - 2-steps workflow:
 1. Assignment of role/rights in OSCAR/Surface
 2. Self registration ([step-by-step registration process](#))
- Login
- Registration and login are environment-specific

Productive system: oscar.wmo.int/surface

Test system: oscardepl.wmo.int/surface



Search

- Browse for a station or contact
- Search for:
 - Stations
 - Station clusters
 - Contacts
 - Bibliographic references
- Exportable results (including maps) in various formats
- on GUI and via API
- Open to the public

OSCAR Observing Systems Capability Analysis and Review Tool

Home Search Critical review

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

Station cluster
Instrument
Contact
Bibliographic Reference

Station name:

WMO Station Identifier:

Search using advanced criteria

Criteria matching: All Any

Search term:

Near Real Time only:

Station type: Air (fixed) Air (mobile) Lakes/River (fixed) Lakes/River (mobile) Land (fixed) Land (mobile) Radiation Sea puffing Space Weather Surface land Surface marine Upper air / Fla Upper air / Radar Weather radar

Station class: Agricultural meteorological station Aircraft meteorological station Automatic weather station (AWS) Climatological station Cryosphere station GBON Surface station GBON Upper air station Precipitation station Radar wind profiler station

Program / network affiliation:

Station reporting status: declared: and met:

WMO Region / Country:

Organization:

Variable:

Climate zone:

Geographic coordinates: Latitude from Longitude from

Search results: 230 stations / platforms found.

The results shown on the map refer to the station declared status.

Region	Country	Station	Coordinates	WMO ID	Actions
Subswitzerland	ANDORRA	ENNEBON	47.078°N 1.804°E	9-20000-0-0079	
Europe	Switzerland	ACQUAROSSA / COMPIEGNE			
Europe	Switzerland	AZELBODEN			
Europe	Switzerland	AGLE			
Europe	Switzerland	ALBIS			
Europe	Switzerland	ALPNACH			
Europe	Switzerland	ALTDORF			
Europe	Switzerland	ALTDORF			
Europe	Switzerland	ALTEMBERG			
Europe	Switzerland	ANDER			

PAYERNE (6410-0) (Switzerland)
Part of Station Cluster Payerne (Payerne) in WMO Region VI - Europe

Station characteristics

Name: PAYERNE (6410-0)
Station alias: PAYERNE
Date established: 1940-03-26
Date closed:
Regional WMO Center
Station details:
Automatic weather station (AWS), Climatological station, Cryosphere station, GBON Surface station, GBON Upper air station, Precipitation station, Radar wind profiler station, Radiation station, Surface soil meteorological station (S17MOP), Upper air / Radiosonde station
Operational:
Declared meeting status: Operational
Accessed reporting status:
Station type: WMO3000 Station (weather)
Station ID:
WMO Station Identifier: 9-20000-0-00610
Primary

WMO region: VI - Europe
Country / Territory: Switzerland
Coordinates: 46.841613°N, 4.842472°E, 465m, 0m
Time zone:
Sponsoring organization:
Station URL:
Other IDs (URL):
File description:
Climate zone:
Hydrological surface cover:
Surface roughness:
Longitude and latitude:
Population or class: Other (in thousands):
Station / platform event logbook: > 231/800



Management of stations

1. Management of single stations:

1. GUI: station registration/edit form
2. GUI: WMDR XML upload

2. Batch registration and edit of stations:

1. GUI: [Web client](#)
2. Machine to machine: WMDR XML API

The screenshot displays the OSCAR (Observing Systems Capability Analysis and Review Tool) web interface. The header includes navigation links (About, News, Glossary, FAQ, Links, Support, Feedback, Lucia Cappelletti) and logos for the Swiss State Secretariat for Education, Research and Innovation, the Swiss Confederation, and the Federal Department of Home Affairs (EDA). The main navigation bar contains 'Home', 'Search', 'Critical review', and 'Management'. A red notification banner states: "Note: This is a test environment, use OSCAR for the operational environment." The left sidebar lists various management options: Stations (Register new station, Generic form, GBON Surface Land Station, SYNOP template, AWS template, Pilot station template, Radiosonde template, Pending approvals, My stations, View station cluster, Add program / network affiliation), Contacts (Register new contact, My contacts, Manage machine access), Reference data (Instruments, Methods, Variables, Organizations, Programs), and Administration (User management). The main content area shows the breadcrumb "Homepage > Management > Stations > Register new station > Generic form" and buttons for "Save as draft", "Submit", and "Cancel". The "Register new station" section includes instructions and a legend: "(*) = Mandatory field in OSCAR/Surface to save the station" and "(**) = Mandatory field according to the WIGOS Metadata Standard". The "Station characteristics" section is expanded, showing "Basic view" selected and "Advanced view" as an option. The form fields include: "Name" (text input), "Date established" (calendar icon), "Date closed" (calendar icon), "Station type" (dropdown menu with "Land (fixed) (Observing facility on solid terrain, at fixed position)" selected), "Regional WIGOS Center" (text input), "Station class(es)" (text input), "Declared reporting status" (text input), "Assessed reporting status" (text input), and "Country / territory" (text input with a blue plus icon and a link "Add country / territory").

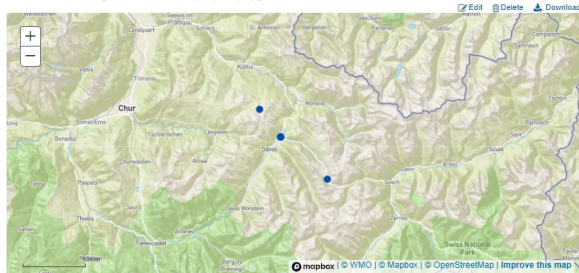


Management of station clusters

- Group together stations with a geographical link (i.e. due to history, part of the same geographical feature, ...)
- Edit /delete by role which created the cluster

Davos Integrated CryoNet Cluster

The Davos Cluster stretches from Klosters (1100 m) to the Verstaendlahorn (3288 m a.s.l.) and covers ~ 300 sqKm, with various micro-climates. Measurements include permafrost temperature, active layer depth, albedo, snow surface temperature, measured over several decades and to continue, long-term measurements of temperature, precipitation and snow (end of the 19th century) in Davos, and the longest series of daily snow measurements at high elevation (Wassfallloch Versuchsfeld, 2536 m a.s.l.). It encompasses the Silvretta glacier (~ 3000 m a.s.l.) with the second-longest mass-balance series worldwide (Huss et al., 2015), a reference glacier of IWGMS. Dischma valley, known for studies on snow hydrology, snow-vegetation interactions (Zillberg) and on accumulation and ablation patterns, lies within the cluster. A weather radar (Goleto/Oberlin) on Vieschah (2332 m a.s.l.) and a planned Swiss Alpine Remote Sensing station (1513 m a.s.l.) will allow for new research, monitoring, and calival activities; map: <http://bit.ly/1qEgXRJ>



Members

Station	Country	WMO Region	WIGOS ID
Davos observer station (SLF)	Switzerland	Europe	0-756-1-601286
Kreuzweg	Switzerland	Europe	0-756-1-605310
Flietla permafrost	Switzerland	Europe	0-756-1-307493
Davos SIBI (SLF)	Switzerland	Europe	0-756-1-927792
Davos ASRB (SLF)	Switzerland	Europe	0-756-1-798649

Home Search Critical review Management Search

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

Homepage > Management > Stations > View station cluster > Station Cluster

Stations

- Register new station
 - Generic form
 - GBON Surface Land Station
 - SYNOP template
 - AWS template
 - Pilot station template
 - Radiosonde template
- Pending approvals
- My stations
- View station cluster
- Add program / network affiliation

Contacts

- Register new contact
- My contacts
- Manage machine access

Members

Name*

Description

+ Add station

Save Cancel



Allocation of WIGOS Station Identifiers

- Unique Identifier of a station in the WIGOS context.
- OSCAR/Surface as the official catalogue of WSI.
- Allocation of more than one possible but not recommended.
- Format: 4 blocks with numbers and characters.

Block (content type)	1 st block (number)	2 nd block (number)	3 rd block (number)	4 th 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

Free* assignment by the country, allows sub-delegation based on i.e. organisation, network, ...

Preassigned, 0 for stations

Free assignment by the country

ISO Country number, if assigned by the country.

Program-related, if assigned by the WMO secretariat or Program Focal Point.

* based on national WIGOS Implementation Plan



Next OSCAR/Surface sessions

- OSCAR/Surface demonstration
 - how to use OSCAR/Surface
- Pilot registration of stations
 - hands-on training on the DEPL system: register yourself on the OSCAR/Surface test environment and have one/two examples of stations and observations metadata from your country available.