

# Station metadata in wis2box

# Data Plugins and wis2box station metadata

## Data plugins transforming data to BUFR rely on wis2box station metadata:

- Prevent publishing data for stations not pre-configured by the wis2box administrator
- Ensure WIGOS-station-identifier is encoded in all published data
- Add missing data and/or validate location for certain cases

## The “Universal” and “CAP-Alert” plugin do not require station metadata

- No need to configure stations in wis2box if only these plugins are in use

# Station metadata used in transformation to BUFR

## FM-12 to BUFR (synop2bufr):

- **Add the WIGOS-station-ID**, derived by matching with traditional station identifier in FM-12 input
- **Add the latitude, longitude**, altitude and barometer height above sea-level in the BUFR content

## CSV to BUFR (csv2bufr):

- Check **WIGOS-station-ID** in input data is in station-list for associated topic
- For fixed land stations: check input-data-location is less than 1km from station metadata location

## BUFR to BUFR (bufr2bufr):

- Splits by bulletin and **check WIGOS-station-ID** in station-list for associated topic
- If WIGOS-station-ID missing add it (by matching with traditional station identifier)
- if the location or station elevation are missing in the input BUFR use values from station metadata

# The wis2box station-collection

Station metadata is stored as a collection in the wis2box-backend (elasticsearch) and made available via the wis2box-api, see *<http://<wis2box-host-address>/oapi/collections>*

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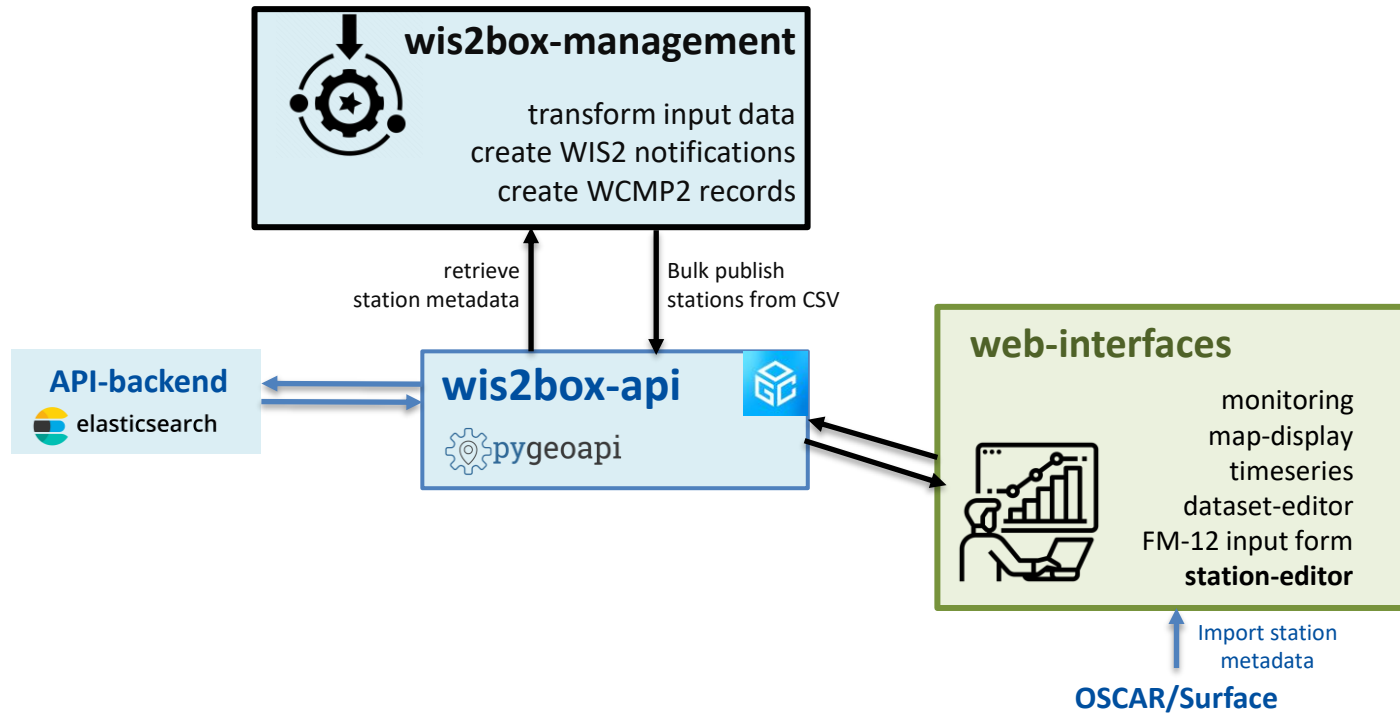
## Data collections in this service

| Name                                                                                           | Description                                                                    |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <a href="#">Stations</a>                                                                       | Stations                                                                       |
| <a href="#">Observations in json format for urn:wmo:md:cg-met:surface-weather-observations</a> | Observations in json format for urn:wmo:md:cg-met:surface-weather-observations |
| <a href="#">Data notifications</a>                                                             | Data notifications                                                             |

## Record collections in this service

| Name                               | Description        |
|------------------------------------|--------------------|
| <a href="#">Discovery metadata</a> | Discovery metadata |

# Station metadata in the wis2box



**“stations” collection in wis2box-api can be populated in multiple ways:**

- Provide station list as CSV and use command line inside wis2box-management container
- Interactively using the station editor inside the wis2box-webapp

# Importing stations from the command line

Bulk-import stations from CSV to quickly configure a large number of stations:

<https://docs.wis2box.wis.wmo.int/en/latest/user/setup.html#bulk-inserting-stations-from-csv>

Edit `metadata/station/station_list.csv` in `$WIS2BOX_HOST_DATADIR`

Specify one line per station:

```
station_name,wigos_station_identifier,traditional_station_identifier,facility_type,latitude,longitude,elevation,barometer_height
,territory_name,wmo_region
BALAKA,0-454-2-AWSBALAKA,AWSBALAKA,landFixed,-14.983333,34.966666,618,,MWI,africa
MALOMO,0-454-2-AWSMALOMO,AWSMALOMO,landFixed,-13.14202,33.83727,1088,,MWI,africa
BENI-ABBES,0-20000-0-60602,60602,landFixed,30.12846,-2.14953,510,505.0,DZA,africa
IN-GUEZZAM,0-20000-0-60690,60690,landFixed,19.56388,5.74887,399,403.0,DZA,africa
```

Then login to the `wis2box`-container and run the command:

```
wis2box metadata station publish-collection --path /data/wis2box/metadata/station/station_list.csv
```

# Station editor in wis2box webapp

You can update the wis2box station-list using the station editor in the wis2box webapp, importing data from OSCAR  
<http://<wis2box-host-url>/wis2box-webapp/station>

### Import station from OSCAR/Surface

WIGOS Station Identifier

0-20000-0-15015

Enter WIGOS Station Identifier

SEARCH

Station name

OCNA SUGATAG

Enter name of station

WIGOS station identifier

0-20000-0-15015

Enter the WIGOS station identifier

Traditional station identifier

15015

Enter the traditional (5 or 7 digit) station identifier

Longitude (decimal degrees E), -180 to 180

23.9404602638

Enter the station longitude (degrees E)

Latitude (decimal degrees N), -90 to 90

47.7770616258

Enter the station latitude (degrees N)

Station elevation above sea level (metres)

503

Station elevation above sea level (metres)

# Summary: station metadata in wis2box

**Station metadata is used in wis2box by plugins transforming data to BUFR**

**Station metadata** is stored in the **station-collection** accessible via the wis2box-api :

- Data can be imported via **OSCAR/Surface** in the wis2box-webapp station editor
- ..or imported from a CSV via the command line



# Thank you

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