Training Workshop for Regional WIGOS Centres functions and tools in RA VI

Santander, Spain, 20-22 November 2023

WIGOS Data Quality Monitoring System (WDQMS)
Practical Session

WMO | IMO-WMO 1873 2023

WMO OMM

Outline

1. WDQMS to monitor national observing network(s) and to identify issues (examples)
    - Metadata issue
    - Upper-air data availability issue
    - Surface data availability issue
    - Upper-Air/Surface data quality issue
2. Exercises

Issues related to Metadata

1. Metadata issue (pink dots)

Observations / measurements

- Atmosphere > Humidity
- Atmosphere > Precipitation
- Atmosphere > Pressure
  - Atmospheric pressure - [Geometry: Point]

Variable:	Atmospheric pressure
Geometry:	Point
Programs / network affiliations:	GBON
Last updated:	On 2021-12-06 by NMHS HUN

Deployments

From 1998-09-11

Source of observation:	Instrumental automatic reading

Instrument characteristics

Data Generation

From: 1998-09-11

Sampling

Sampling strategy:	Continuous

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)

As a conclusion: An issue regarding metadata declared in OSCAR that should be updated (10 mn instead of 1H)

Station
Station cluster
Instrument
Contact
Bibliographic Reference

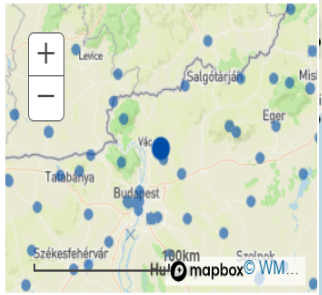
Penc Obszervatórium (Hungary)

in WMO Region VI - Europe

Last updated: 2022-09-13 by Szöllősi Imre

Station characteristics

Name:	Penc Obszervatórium
Station alias:	
Date established:	1998-09-11
Date closed:	
Regional WIGOS Center:	
Station class(es):	Automatic weather station (AWS), GBON Surface station, Precipitation station, Surface land meteorological station (SYNOP)
Declared reporting status:	Operational
Assessed reporting status:	Unknown
Station type:	Land (fixed)



WIGOS Station Identifier(s):

WIGOS Station Identifier	Primary
0-348-1-43613	☑

WMO region:	VI - Europe
Country / Territory:	Hungary
Coordinates:	47.7900°N, 19.28361°E, 241.9m
Time zone:	
Supervising organization:	
Station URL:	
Other link (URL):	
Site description:	
Climate zone:	
Predominant surface cover:	
Surface roughness:	
Topography or bathymetry:	
Population in 10km / 50km (in thousands):	18 / 2220
Station / platform event logbook:	

1. Metadata issue (pink dots)

Humidity

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:00
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	per cent (%)
Data policy:	WMOAdditio

Atmospheric Pressure

Reporting

Intended for international exchange:	Yes
Month:	January -
Day:	Monday - Sund
Time (UTC):	21:00 - 20:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	hectopascal (hPa)
Data policy:	WMOAdditional
Reference datum:	STATION

Temperature

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:00
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	degree Celsius (°C)
Data policy:	WMOAdditional

As a conclusion: An issue regarding metadata declared in OSCAR that should be updated (TIME: 00:00 to 23:59 instead of 00:00 to 23:00)

Humidity

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:00
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	per cent (%)
Data policy:	WMOAdditional

Atmospheric Pressure

rting

ded for international exchange:	Yes
	January - December
	Monday - Sunday
me (UTC):	00:00 - 23:00
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	hectopascal (hPa)
Data policy:	WMOAdditional
Reference datum:	925 HPA

Temperature

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:00
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	degree Celsius (°C)
Data policy:	WMOAdditional

1. Metadata issue (grey dots)

Data generations

Humidity

From 2018-06-15

Sampling

Sampling interval:	1 min (minute (time))

Reporting

Intended for international exchange:	No
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Reporting interval:	10 min (minute (time))
Measurement unit:	per cent (%)

Sampling

Precipitation

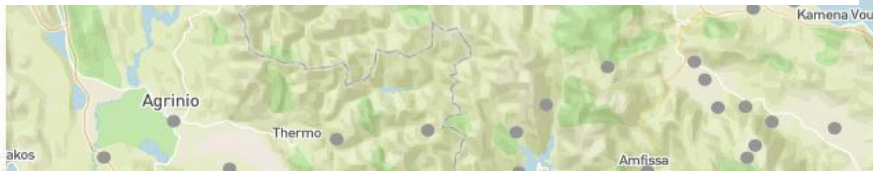
Sampling interval:	20 s (second)

Reporting

Intended for international exchange:	No
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Reporting interval:	10 min (minute (time))
Measurement unit:	millimetre (mm)

As a conclusion: An issue regarding metadata declared in OSCAR that should be updated

- Availability issues (≥ 30%)
- Availability issues (< 30%)
- Not received in period
- OSCAR schedule issue
- No match in OSCAR/Surface



Platykampos (Greece)

in WMO Region VI - Europe

Last updated: 2020-12-26 by KALAMARAS Nick

Station characteristics

Date established:	2018-06-15
Station class(es):	Automatic weather station (AWS), Precipitation station, Radiation station, Surface land meteorological station (SYNOP)
Declared reporting status:	Operational
Assessed reporting status:	Operational
Station type:	Land (fixed)
WIGOS Station Identifier(s):	0-300-1-platykampos (Primary)
Coordinates:	39.624316°N, 22.525066°E, 72m
Supervising organization:	National Observatory of Athens
e:	Steppe - Cold arid
ace cover:	Mosaic cropland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%) (Surface cover types (GlobCover2009))
or bathymetry:	(unknown) at low relative elevation within rises of middle altitude

Photo gallery

Programs / network affiliations

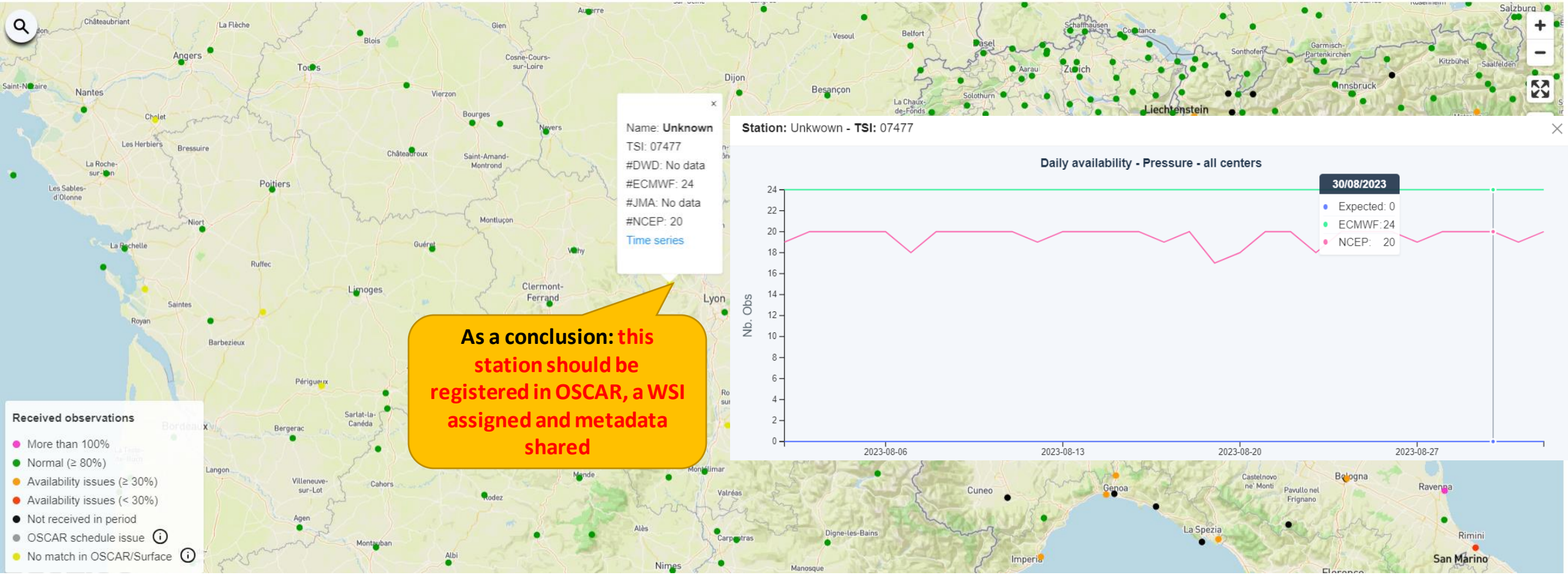
Note: OSCAR/Surface regularly receives from external systems the assessed status of certain programs. The validity of received assessment is shown in the expanded view. If a new assessment is not available after a certain time OSCAR/Surface shows the status *"unknown"*. For programs that are not assessed OSCAR/Surface displays the status "unknown".

Program / network affiliation	Program specific ID	Affiliation status	Declared status	Assessed status
Non-affiliated		Approved	Operational	Operational (2023-10-31)

1. Metadata issue (Yellow dots)

Availability of surface land observations (global NWP)

Type of Period: Daily | Monitoring category: Availability | Variable*: Surface pressi | Monitoring Centre: All | Date: 2023-09-01



As a conclusion: this station should be registered in OSCAR, a WSI assigned and metadata shared

1. Metadata issue (Red dots)

Data generations — **Clouds, present and past weather**

From 2016-04-29

Reporting

Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	30 min (minute (time))
Measurement unit:	(unknown) (unknown)

Reporting — **Humidity**

Intended for international exchange:	Yes
Month:	January - Dec
Day:	Monday - Sun
Time (UTC):	22:00 - 21
Diurnal base time:	00:00
Reporting interval:	30 min (minute (time))
Measurement unit:	(unknown) (unknown)

As a conclusion: An issue regarding metadata declared in OSCAR that should be updated

Data generations — **Atmospheric Pressure**

From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	30 min (minute (time))
Measurement unit:	(unknown) (unknown)
Reference datum:	mean sea level

RIMINI (Italy)

in WMO Region VI - Europe

Last updated: 2023-04-28 by Serra Piero

Station characteristics

Name:	RIMINI
Station alias:	
Date established:	1951-01-01
Date closed:	
Regional WIGOS Center:	
Station class(es):	Surface land meteorological station (SYNOP)
Declared reporting status:	Operational
Assessed reporting status:	Partly operational
Station type:	Land (fixed)

Identifier(s):

WIGOS Station Identifier	Primary
0-20000-0-16149	☑

	VI - Europe
Country / Territory:	Italy
Coordinates:	44.0244444444°N, 12.6127777778°E, 12m
Time zone:	
Supervising organization:	Servizio Meteorologico (Meteorological Service of the Italian Military Airforce)
Station URL:	
Other link (URL):	
Site description:	The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: A;METAR;PH (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: Phenological observations.
Climate zone:	
Predominant surface cover:	
Surface roughness:	
Topography or bathymetry:	
Population in 10km / 50km (in thousands):	

2. Upper-Air : Metadata issue (Pink dots)

Observations / measurements

- Atmosphere > Clouds
- Atmosphere > Humidity
- Atmosphere > Past weather
- Atmosphere > Present weather
- Atmosphere > Pressure
  - Atmospheric pressure - [Geometry: Point]
  - Atmospheric pressure profile - [Geometry: (inapplicable)]

Variable:	Atmospheric pressure profile
Geometry:	(inapplicable)
Programs / network affiliations:	GBON
Last updated:	On 2019-12-19 by Mendes Manuel

Deployments

From 2019-12-20 to 2022-06-30

Instrument characteristics

Manufacturer:	Vaisala Oyj
Model:	RS41-SGP
Observing method:	Radiosonde with NAVAID

Coordinates:

Latitude	Longitude	Elevation	Geopositioning method	From
38.77604°N	9.12557°W	121.15m	GPS	2019-12-20

Data Generation

From: 2019-12-20 to 2022-06-30

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	pascal (Pa)
Data policy:	WMOEssential

From 2017-09-07

Source of observation:	Instrumental automatic reading
Exposure of instrument:	(unknown)
Representativeness of observation:	(inapplicable)
Organization(s):	German Meteorological Service
Near Real Time:	Yes
Near Real Time URL:	https://opendata.dwd.de/
Data communication method:	Data/landline
Comments:	The Vaisala autosonde systems used at DWD consist of a container with an integrated fully automatic radiosonde ascent system. Through the balloon ascent, air pressure measurements are taken at different altitudes and continuously sent by radio to the receiver during the ascent.

ristics

As a conclusion:

A metadata issue with regards to the specification of the reporting interval

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	23:50
Reporting interval:	12 h (hour)
Number of observations in reporting period:	2
Measurement unit:	hectopascal (hPa)
Data format:	FM 94 - BUFR
Is the observation traceable to a standard?	Yes
Traceability:	Traceable to international standard
Primary observation:	Yes

Further analysis that could be conducted by the WDQMS NFP at the national Level

Reach out the head of the synoptic station, the observation network manager, the OSCAR NFP and/or the maintenance/IT staff to Verify-Check-Confirm:

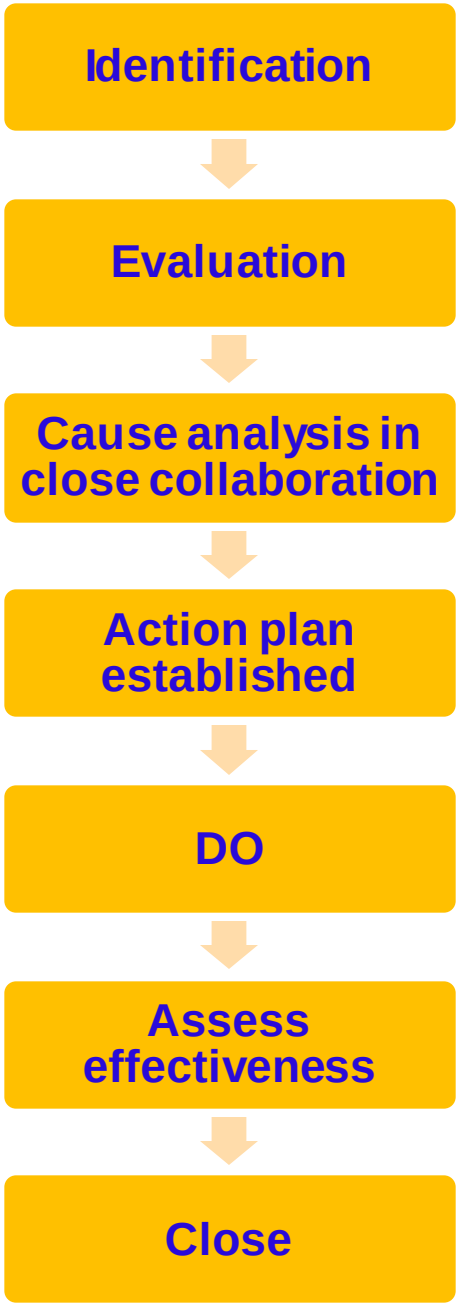
- Station coordinates (lat, lon, alt)
- Station schedule (opening hours, reporting interval)
- International exchange
- Measured and reported variables (Time and reporting interval)
- Instrument status (operational/ non operational)
- ....etc

RWC may use other tools to confirm data availability issues

- The automatic message switching system (AMSS)
- Public web application (Ogimet,...etc)
- Eumetnet operational tools
- .. ...

Identifying and addressing a metadata Issues using other Tools (NOAA-BCT)

The process here presented is in line with the automated process in Jira (IMS) as it will be demonstrated



General Description - NCO received a report that the lat/lon reported for Cayman Islands (MWCR) was incorrect and that the observation was showing up in the middle of India based on real-time plots of the observations.

Root cause - The site needed to make a software modification to convert from TAC to BUFR and correct the sign (+/-) of the longitude.

1. One of my DOD partners noted that observations for Cayman Islands (78384) were showing up in India. WMO headers are: ISME01 MWCR, ISNE01 MWCR, ISIE01 MWCR

Further diagnose : My team pulled data for those headers to confirm/reproduce the problem. I have attached a file from June 30th where we confirmed the longitude has the incorrect sign. We confirmed this by uploading this file into a couple of different online BUFR decoders. https://kunden.dwd.de/bufrviewer is one we used.

Solution: Once we confirmed the problem we reached out via email to one contact we had for Cayman Islands, but that contact was only in charge of upper air data. Luckily, they knew who we should contact and the site was able to make the appropriate change.

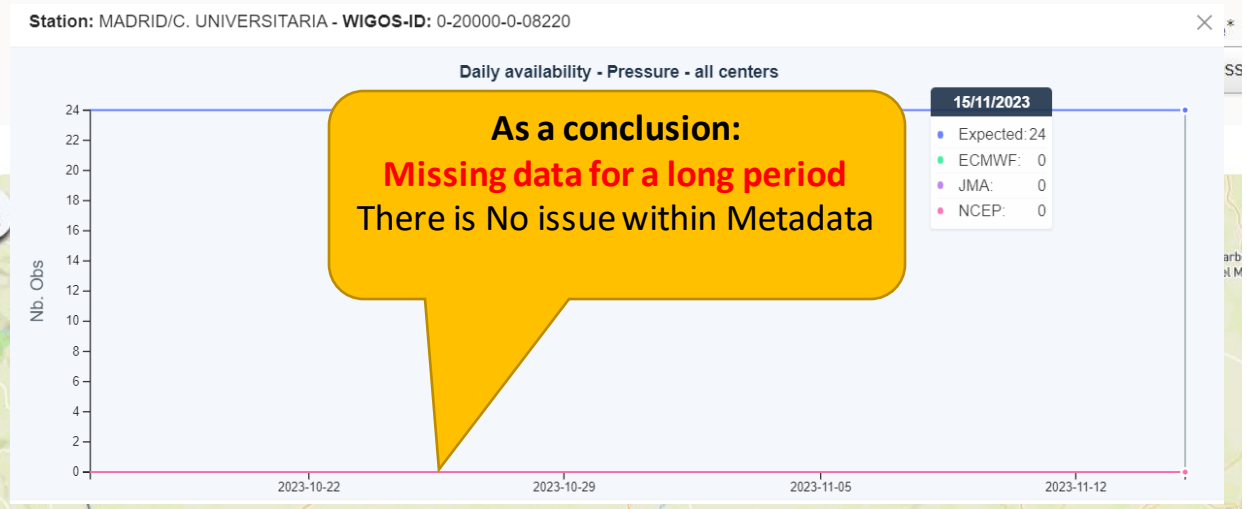
After the fix was in place we were able to repeat the same procedure from above where we pulled down data and put it in the online decoder confirming the change.

Closing action: Once confirmed, we were able to close out this item and let our customer know the issue had been addressed.

Issues related to the data Availability

2. Surface data availability issue (Black dots)

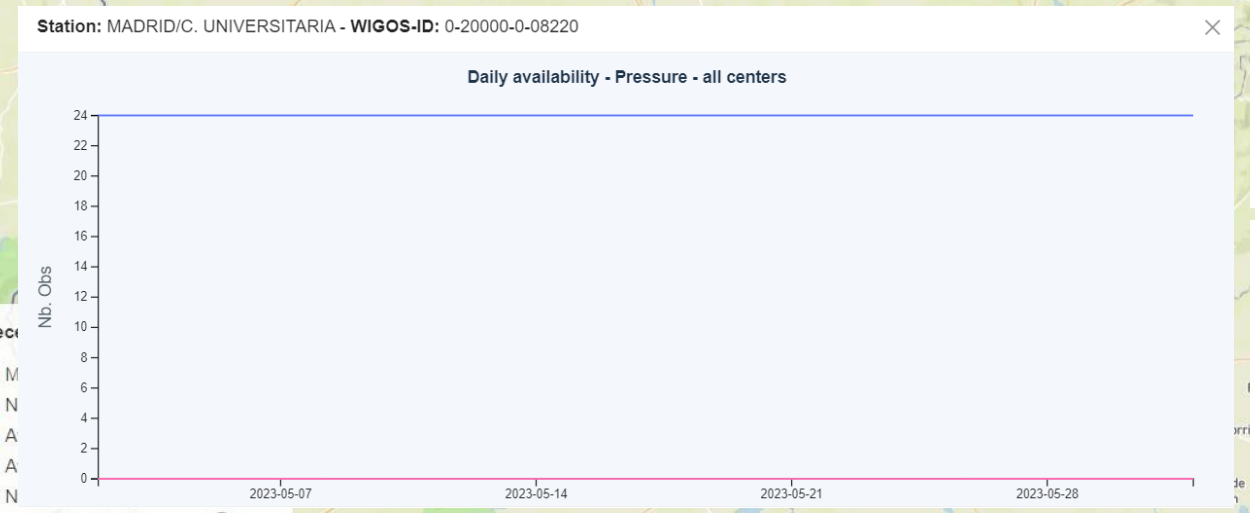
Availability of surface land observations (global NWP)



As a conclusion:

Missing data for a long period

There is No issue within Metadata



MADRID/C. UNIVERSITARIA (Spain)

in WMO Region VI - Europe

Last updated: 2016-04-28

Station characteristics

Station class(es):	Surface land meteorological station (SYNOP)
Declared reporting status:	Operational
Assessed reporting status:	Partly operational
Station type:	Land (fixed)
WIGOS Station Identifier(s):	0-20000-0-08220 (Primary)
Coordinates:	40.4516666667°N, 3.7241666667°W, 664m
Supervising organization:	Agencia Estatal de Meteorología (National Meteorological Agency of Spain)
Site description:	The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: SOLRA;SUNDUR (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: Solar radiation measurements.

Programs / network affiliations

Note: OSCAR/Surface regularly receives from external systems the assessed status of certain programs. The validity of received assessment is shown in the expanded view. If a new assessment is not available after a certain time OSCAR/Surface shows the status *"unknown"*. For programs that are not assessed OSCAR/Surface displays the status "unknown".

Program / network affiliation	Program specific ID	Affiliation status	Declared status	Assessed status
GOS General		Approved	Operational	Partly operational (2023-10-31)

Data generations

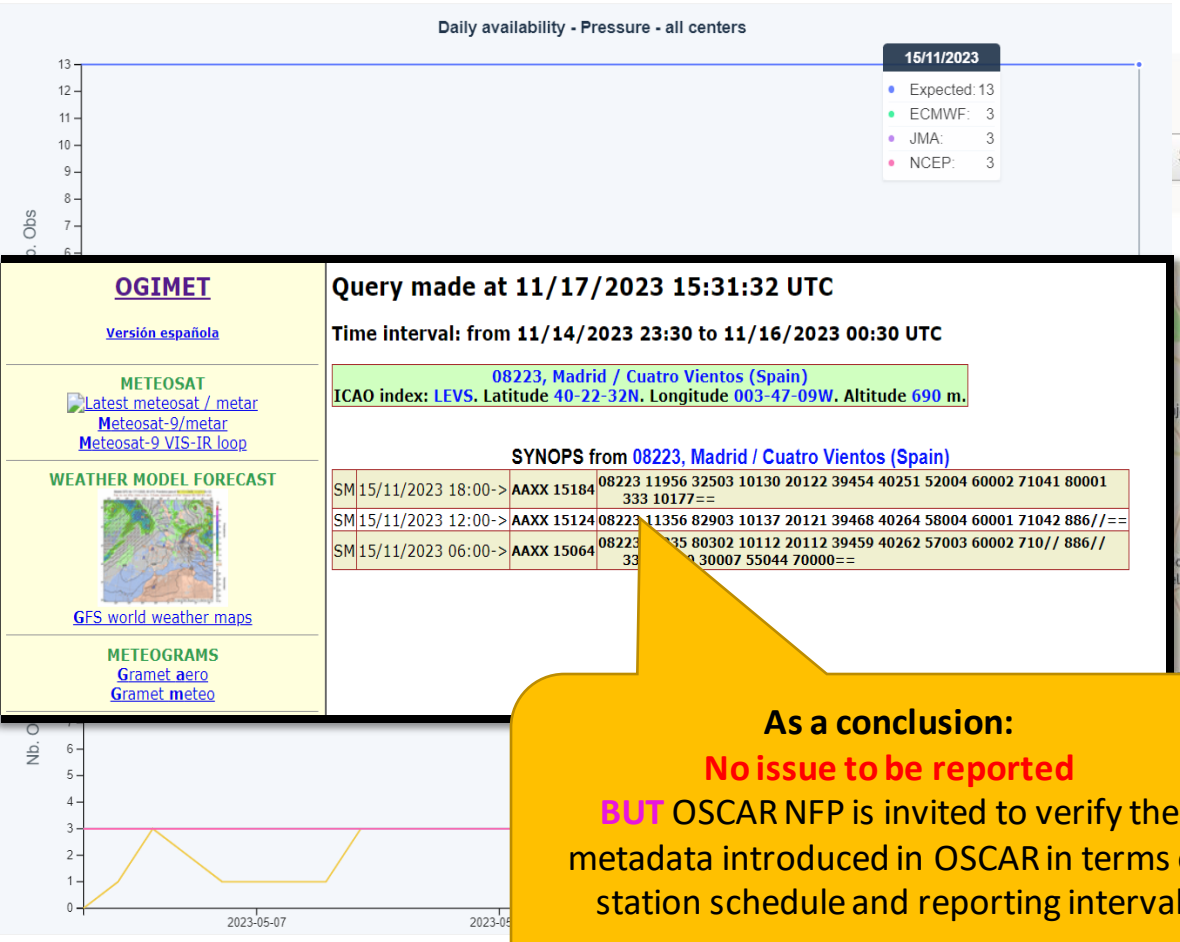
From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	(unknown) (unknown)

2. Surface data availability issue (Red dots)

Station: MADRID/CUATRO VIENTOS - **WIGOS-ID:** 0-20000-0-08223



OGIMET

Versión española

METEOSAT
Latest meteosat / metar
Meteosat-9/metar
Meteosat-9 VIS-IR loop

WEATHER MODEL FORECAST
GFS world weather maps

METEOGRAMS
Gramet aero
Gramet meteo

Query made at 11/17/2023 15:31:32 UTC

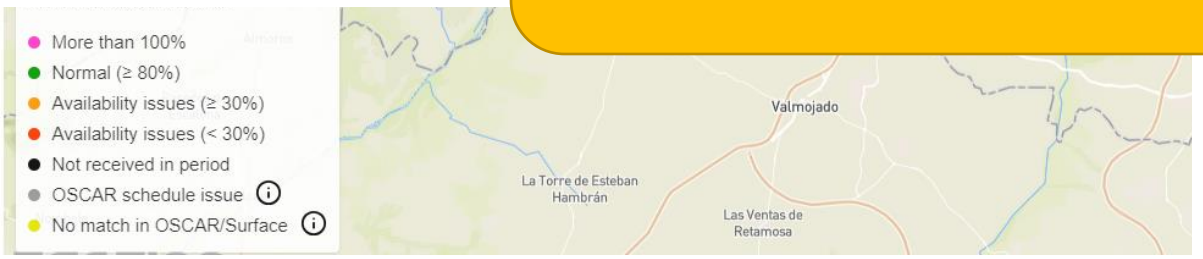
Time interval: from 11/14/2023 23:30 to 11/16/2023 00:30 UTC

08223, Madrid / Cuatro Vientos (Spain)
ICAO index: LEVS. Latitude 40-22-32N. Longitude 003-47-09W. Altitude 690 m.

SYNOPS from 08223, Madrid / Cuatro Vientos (Spain)

SM	15/11/2023 18:00->	AAXX 15184	08223 11956 32503 10130 20122 39454 40251 52004 60002 71041 80001 333 10177==
SM	15/11/2023 12:00->	AAXX 15124	08223 11356 82903 10137 20121 39468 40264 58004 60001 71042 886//==
SM	15/11/2023 06:00->	AAXX 15064	08223 [illegible] 80302 10112 20112 39459 40262 57003 60002 710// 886// 33 [illegible] 30007 55044 70000==

As a conclusion:
No issue to be reported
BUT OSCAR NFP is invited to verify the metadata introduced in OSCAR in terms of station schedule and reporting interval



Data generations

From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	18:00 - 18:59
Diurnal base time:	00:00
Measurement unit:	(unknown) (unknown)

From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	06:00 - 06:59
Diurnal base time:	00:00
Measurement unit:	(unknown) (unknown)

From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	06:00 - 18:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	(unknown) (unknown)

From 2016-04-29

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	12:00 - 12:59
Diurnal base time:	00:00
Measurement unit:	(unknown) (unknown)

2. Upper-Air data availability issue (Black dots)

> Atmospheric pressure - [Geometry: Point]

Ava

v Atmospheric pressure profile - [Geometry: Vertical profile]

Variable: Atmospheric pressure profile

Geometry

Programs

Last upda

v Deplo

v Fr

N

D

v From: unspecified

Reporting

Measurement unit: (unknown) (unknown)

OGIMET

Versión española

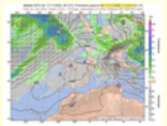
METEOSAT

Latest meteosat / metar

Meteosat-9/metar

Meteosat-9 VIS-IR loop

WEATHER MODEL FORECAST



GFS world weather maps

Query made at 11/17/2023 16:23:17 UTC

Time interval: from 10/16/2023 23:30 to 11/15/2023 00:30 UTC

07618, Toulouse Rw (France)
ICAO index: ----. Latitude 43-34-36N. Longitude 001-22-27E. Altitude 158 m.

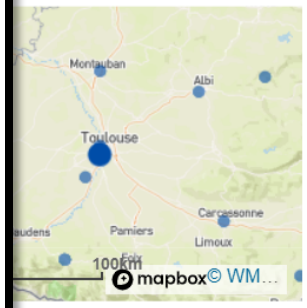
There are no SYNOPS from 07618 during solicited interval in the database.
Check the solicited index or interval.

Note that a WMO index is a five digit index.You can find out if a common name city/place has an observatory with WMO index here

TOULOUSE RW (France)

in WMO Region VI - Europe

Last updated: 2018-07-19 by AUBAGNAC Jean-Pierre



on: TOUL(

WIGOS Station Identifier(s):

WIGOS Station Identifier	Primary
0-20000-0-07618	☑

As a conclusion:

An issue to be considered: Missing data for a long period

VI - Europe

> France

> 43.5769444444°N, 1.3744444444°E, 158m

> Météo France

Station URL:

Other link (URL):

Site description:

> The station was originally registered based on WMO Pub 9 Vol A information containing these observation remarks: IRREGULAR (see code table A for explanations). These remarks imply the following additional observations that could not be registered automatically: none.

Climate zone:

Predominant surface cover:

Surface roughness:

Topography or bathymetry:

Population in 10km / 50km (in thousands):

Station / platform event logbook:

v Atmosphere > Temperature

> Air temperature (at specified distance from reference surface) - [Geom

v Temperature profile - [Geometry: Vertical profile]

Variable: Temperature profile

Geometry: Vertical profile

Programs / network affiliations: GOS General

Last updated: On 2016-05-31

v Deployments

v From unspecified

Near Real Time: No

> Instrument characteristics

Data Generation

v From: unspecified

Reporting

Measurement unit: (unknown) (unknown)

Receiv

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No i

Con

Ava

Not

No r

Issues related to the data Quality

2. Surface data quality issue (Red dots)

- **Atmosphere > Pressure**
  - **Atmospheric pressure - [Geometry: Point]**

Variable:	Atmospheric pressure
Geometry:	Point
Programs / network affiliations:	Non-affiliated
Last updated:	On 2020-11-30 by KALAM

  - **Deployments**
    - **From 2012-10-25**

Source of observation:	Instrumental auto
Distance from reference surface (m):	765m from sea su

    - **Instrument characteristics**
    - **Data Generation**
    - **From: 2012-10-25**
      - **Sampling**

Sampling interval:	1 min (minute

      - **Reporting**

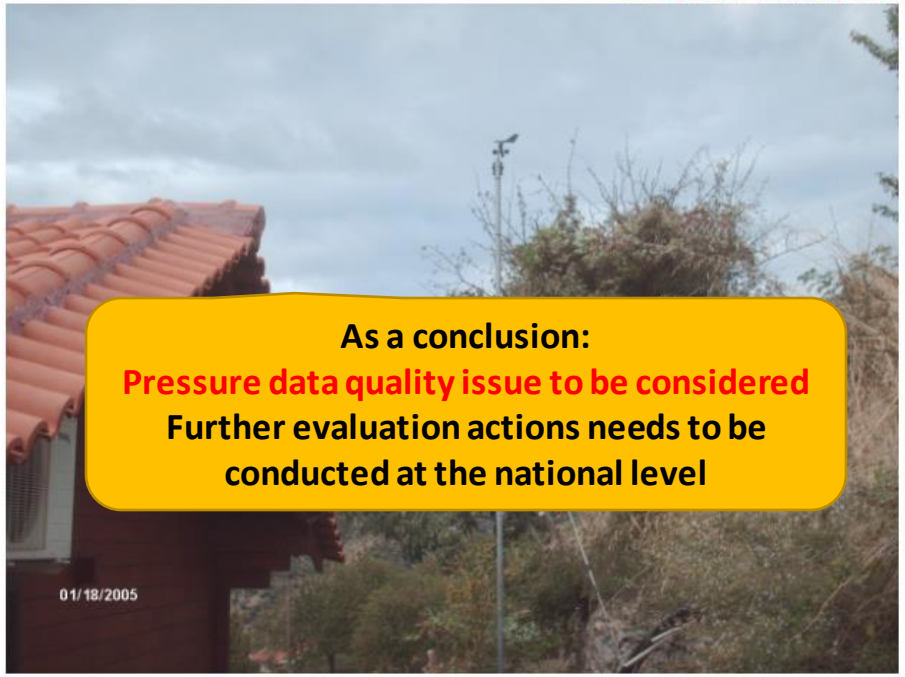
Intended for international exchange:	No
Month:	January - Dec
Day:	Monday - Sur
Time (UTC):	00:00 - 23:59
Reporting interval:	10 min (minut
Measurement unit:	hectopascal (

Alagonia

Alagonia (Greece)

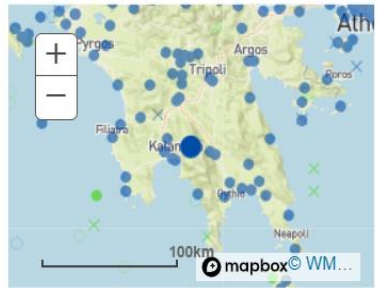
Last updated: 2020-12-23 by KALAMARAS Nick

View full-size/download



Alagonia
Date of capture: 2005-01-18
Photographer/owner: K. Lagouvardos
Direction of view: Pointing towards (unknown)

As a conclusion:
Pressure data quality issue to be considered
Further evaluation actions needs to be conducted at the national level



weather station (AWS), Precipitation
face land meteorological station

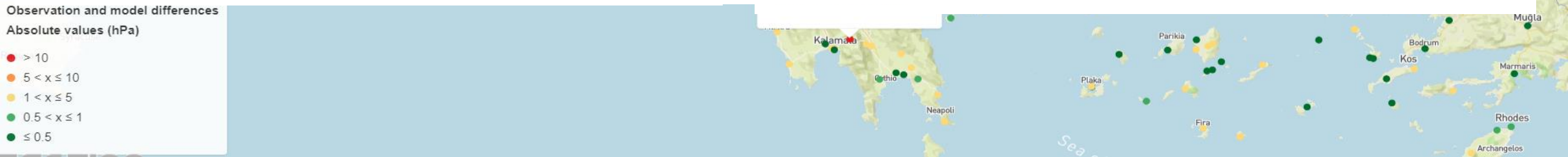
Station Identifier	Primary
-alagonia	☑

N, 22.244228°E, 765m

Observatory of Athens

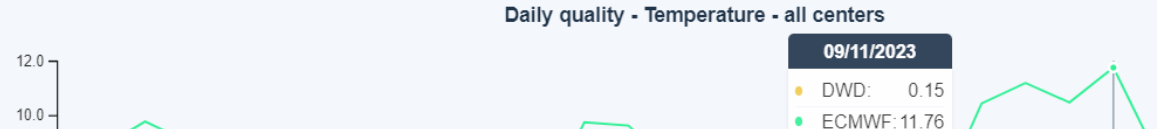
opland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%) (Surface cover types 2009))

) at low relative elevation within valleys of very low altitude



2. Surface data quality issue (Orange dots)

Station: BERGUEN / LATSCH - **WIGOS-ID:** 0-20000-0-06642



Atmosphere > Temperature

Air temperature (at specified distance from reference surface) - [Geometry: Point]

Variable:	Air temperature (at specified distance from reference surface)
Geometry:	Point
Programs / network affiliations:	GOS General
Last updated:	On 2019-06-04 by NMHS CHE

Deployments

From 2015-03-20

Source of observation:	Instrumental automatic reading
Distance from reference surface (m):	2m from local ground (deprecated)

Instrument characteristics

Manufacturer:	(unknown)
Model:	unknown
Serial number:	id-metch-sn-00007139
Observing method:	(unknown)

Coordinates:

Latitude	Longitude	Elevation	Geopositioning method	From
46.627278°N	9.753694°E	1407.85m	GPS	2015-03-20

Data Generation

From: 2015-03-20

Reporting

Intended for international exchange:	Yes
Month:	January - December
Day:	Monday - Sunday
Time (UTC):	00:00 - 23:59
Diurnal base time:	00:00
Reporting interval:	1 h (hour)
Measurement unit:	(unknown) (unknown)

As a conclusion:
data quality issue to be considered
Further evaluation actions needs to be conducted at the national level

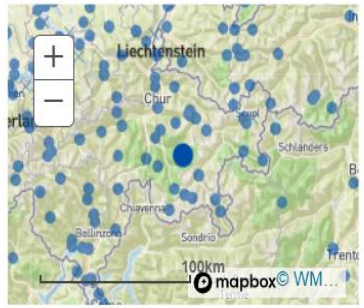
BERGUEN / LATSCH (Switzerland)

in WMO Region VI - Europe

Last updated: 2019-06-04 by NMHS CHE

Station characteristics

Name:	BERGUEN / LATSCH
Station alias:	
Date established:	1892-01-14
Date closed:	
	Automatic weather station (AWS), Cryosphere station, Precipitation station
	Operational
	Operational
	Land (fixed)



WIGOS Station Identifier	Primary
0-20000-0-06642	☑

WMO region:	VI - Europe
Country / Territory:	Switzerland
Coordinates:	46.627278°N, 9.753694°E, 1407.85m, GPS
Time zone:	
Supervising organization:	Federal Office of Meteorology and Climatology MeteoSwiss
Station URL:	https://www.meteoschweiz.admin.ch/home/messwerte.html?param=messnetz-automatisch&station=LAT
Other link (URL):	
Site description:	
Climate zone:	
Predominant surface cover:	
Surface roughness:	
Topography or bathymetry:	
Population in 10km / 50km (in thousands):	2 / 150
Station / platform event logbook:	

2. Surface data quality issue (Orange dots)

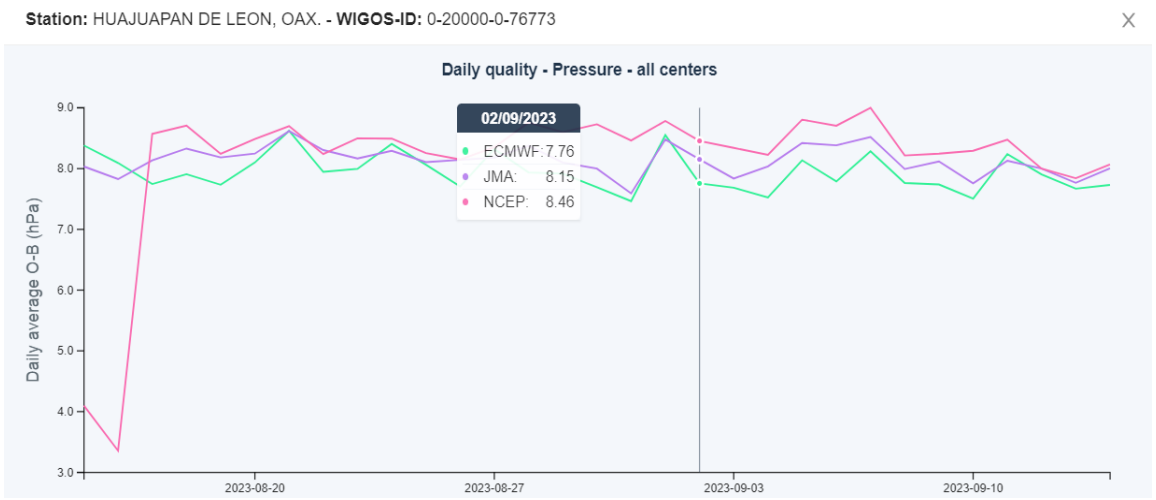
Quality of surface land observations (global NWP)

Time interval: from 09/13/2023 23:30 to 09/14/2023 23:30 UTC

76773, Huajuapan De Leon, Oax. (Mexico)
ICAO index: ----. Latitude 17-47-20N. Longitude 097-46-18W. Altitude 1603 m.

SYNOPS from 76773, Huajuapan De Leon, Oax. (Mexico)

SN	14/09/2023 22:50->	AAXX 14230	76773 31570 51201 10314 20171 38377 40032 702// 85500 92250 333 30/// 56200 85620=
SN	14/09/2023 21:50->	AAXX 14220	76773 32570 51201 10318 20173 38380 40043 85500 92150 333 30/// 56200 85620=
SI	14/09/2023 20:50->	AAXX 14210	76773 32570 33101 10306 20171 38393 40065 57030 83500 92050 333 30/// 56200 59002 83620=
SN	14/09/2023 18:50->	AAXX 14190	76773 32570 30901 10288 20169 38413 40100 83200 91850 333 30/// 56200 83820=
SM	14/09/2023 17:50->	AAXX 14180	76773 32570 30302 10280 20166 38423 40117 57009 83200 91750 333 10285 20154 30/// 56200 58002 83820=
SN	14/09/2023 16:50->	AAXX 14170	76773 32570 20601 10272 20167 38426 40125 82100 91650 333 30/// 56200 82820=
SN	14/09/2023 15:50->	AAXX 14160	76773 32570 23601 10240 20159 38433 40136 81101 91550 333 30/// 56202 81820=
SI	14/09/2023 14:50->	AAXX 14150	76773 32570 20901 10219 20156 38432 40137 52010 81101 91450 333 30/// 56202 59010 81820=
SN	14/09/2023 13:50->	AAXX 14140	76773 32570 30000 10188 20149 38431 40135 81501 91350 333 30/// 56202 81620=
SN	14/09/2023 12:48->	AAXX 14130	76773 32570 60000 10160 20145 38429 40131 81501 91248 333 30/// 56202 81620 85067=
SM	14/09/2023 11:50->	AAXX 14120	76773 32556 20000 10166 20142 38422 40118 52009 81501 91150 333 10328 20154 30014 55082 56202 59012 70000 81620=
SN	14/09/2023 03:50->	AAXX 14040	76773 31530 41501 10214 20177 38420 40076 702// 84400 90350 333 30/// 56200 84620=
SI	14/09/2023 02:50->	AAXX 14030	76773 31530 41501 10216 20173 38405 40057 52020 70222 84400 90250 333 30/// 56200 59003 84620=
SN	14/09/2023 01:50->	AAXX 14020	76773 31540 41801 10224 20166 38407 40060 702// 84400 90150 333 30/// 56200 84620=
SN	14/09/2023 00:50->	AAXX 14010	76773 31556 71501 10254 20169 38385 40036 702// 87400 90050 333 30/// 56200 87620=
SM	13/09/2023 23:50->	AAXX 14000	76773 31570 71501 10274 20169 38385 40041 57010 70222 87400 92350 333 10328 20131 30/// 50511 56200 59010 70000 87620=



Coordinates

Latitude	Longitude	Elevation	Geopositioning method	From
17.8000°N	97.7666666667°W	1680m		

from OSCAR

1594 m = 5229 ft

Geographic coordinates of Ciudad de Huajuapan de Leon, Mexico Latitude: 17°48'28" N Longitude: 97°46'46" W Elevation above sea level: **1594 m = 5229 ft**

from google

It could be a serious issue here !

Further analysis that could be conducted by the WDQMS NFP at the national Level

Reach out the head of the synoptic station, the observation network manager, the head of climatological department, the OSCAR NFP and/or the maintenance/IT staff to Verify-Check-Confirm:

- Station coordinates (lat, lon, alt)
- To compare with other sensors installed in the same location
- To check with climatological dept. if any quality issue reported for the stations
- To request for on-site calibration using travelling calibration kit or traceable sensors
- To request for laboratory calibration/replacement of the sensor
- ....etc

Exercise (20 minutes)

Regional WIGOS Centre

- Identify 02 metadata issues within the RWC Area of Responsibility (AoR)
- Identify 02 Surface data availability issues in the AoR
- Identify one Upper-Air data availability issues in the AoR
- Identify one quality issue in the AoR

WDQMS NFP

- Identify 02 metadata issues within the national observing network
- Identify one Surface data availability issues
- Identify one Upper-Air data availability issue
- Identify one quality issue in the AoR

NB: you can use anterior dates

Thank you
Gracias
Merci

WORLD METEOROLOGICAL ORGANIZATION

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