

# 3<sup>rd</sup> Training Session – pressure obs accuracy WDQMS Demonstration Project RA I

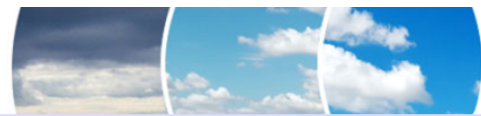
19<sup>th</sup> September 2016

EUMETNET OBS Programme Management  
Tanja Kleinert

How to use the  
WMO QMP to  
proceed with  
Phase 3 of the  
WDQMS  
Demonstration  
Project RA I




# Use of WMO QMP to monitor the accuracy of pressure obs.



WMO Quality Monitoring Portal ⏪ ⏩

Surface stations **Radioonde stations**

 Data availability, timeliness and NWP results for surface stations

Network: GCOS Format type: FM12 Country: KEN

24h monitoring →  
 Monthly statistics September 2016 All →

Obs against NWP of the last 5 days →  
 Monthly obs against NWP September 2016 →


← Use green arrow to go to ECWMF's O-B results



**Pressure: last 3 lines**  
 P count, daily avg P bias, daily avg P RMSE

**Please note:**  
*Daily averages of all pressure MSL obs received by ECMWF*  
 Gross errors are **NOT** removed!

Surface stations **Radioonde stations**

 GCOS Surface stations monthly obs against NWP selection (09/2016)  
country code KEN

← Back Legend

Export as CSV

13 stations found.

Identifier	01	02	03	04	05	06	07	08	09	10	Ø	
63612	4	3	4	4	4	4	4	3	1	0	3.1	
	0.0	0.5	0.3	0.8	0.4	0.5	0.9	0.9	1.3	-	0.6	
	1.0	0.8	0.9	1.3	0.5	0.8	1.0	1.1	1.3	-	1.0	
	4	3	4	4	4	4	4	3	1	0	3.1	
	2.5	3.6	1.5	2.7	3.1	3.3	3.4	3.3	2.0	-	2.8	
	2.9	3.9	1.9	2.9	3.1	3.5	3.9	3.5	2.0	-	3.1	
	4	3	4	4	4	4	4	3	1	0	3.1	
	-	-	-	-	-	-	-	-	8.4	5.1	-	6.8
	6.9	4.2	8.4	8.8	8.9	8.5	5.0	7.5	3.1	-	6.8	
	0	0	0	0	0	0	0	2	1	0	0.3	
	-	-	-	-	-	-	-	0.3	0.1	-	0.2	
	-	-	-	-	-	-	-	0.4	0.1	-	0.2	

# Use of WMO QMP to monitor the accuracy of pressure obs.

Surface stations    Radiosonde stations

GCOS Surface stations monthly obs against NWP selection country code KEN

Back

Export as CSV

13 stations found.

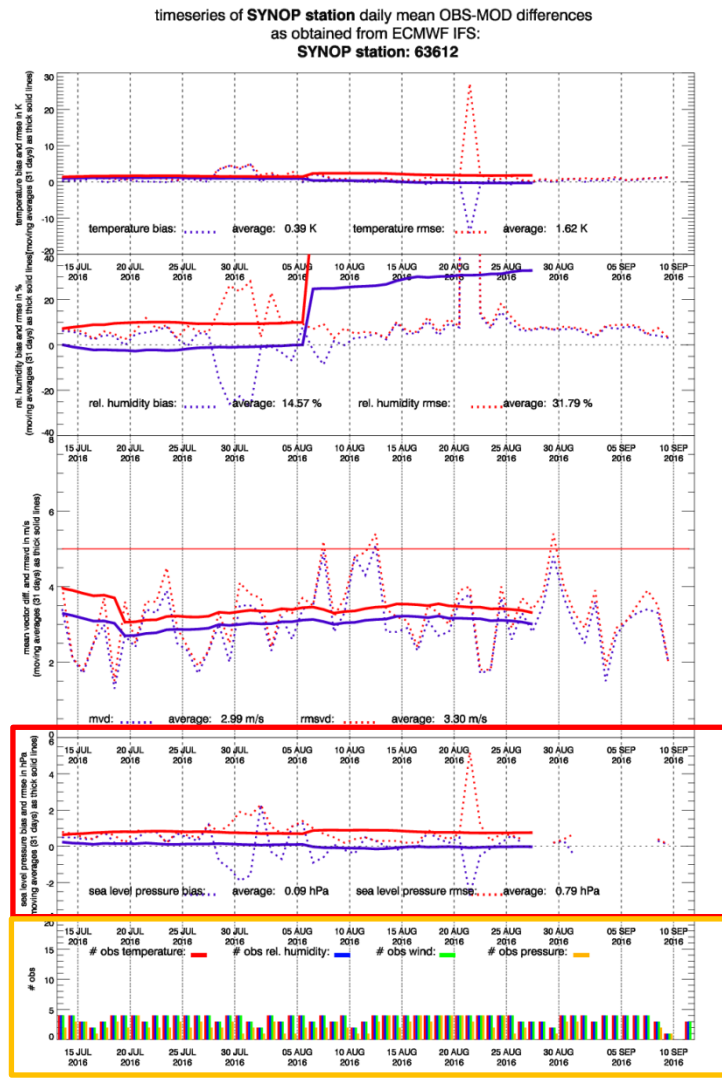
Identifier	01	02	03	04	05	06
4	3	4	4	4	4	4
0.0	0.5	0.3	0.8	0.4	0.5	0.5
1.0	0.8	0.9	1.3	0.5	0.8	0.8
4	3	4	4	4	4	4
2.5	3.6	1.5	2.7	3.1	3.3	3.3
2.9	3.9	1.9	2.9	3.1	3.5	3.5
4	3	4	4	4	4	4
-	-	-	-	-	-	-
6.9	4.2	8.4	8.8	8.9	8.5	8.5
0	0	0	0	0	0	0
-	-	-	-	-	-	-
-	-	-	-	-	-	-

63612 ↑

Click onto station ID to get a 6 weeks timeseries displayed in a separate browser window

Pressure O-B results last line chart

Pressure obs totals Orange bars



Potential  
issues KMD  
and TMA will  
face during  
Phase 3



## Potential issues KMD and TMA will face during Phase 3

- Lack of pressure observations although temperature, wind and humidity observations have been provided
  - Data availability issue (Phase 2)
  - Potential causes: sensor not working, transmission problem (manual/automated input missing)
- Constant pressure biases in O-B results due to incorrect station metadata information (barometer height, position)
- (Occasional) large pressure biases in O-B results due to
  - incorrect measurements, sensor malfunctions
  - Incorrect barometer readings
  - Incorrect entries in FM12/BUFR decimal point misplacements

# Potential issue: no pressure obs (63612)

No pressure observations  
01.-07.09.2016 available

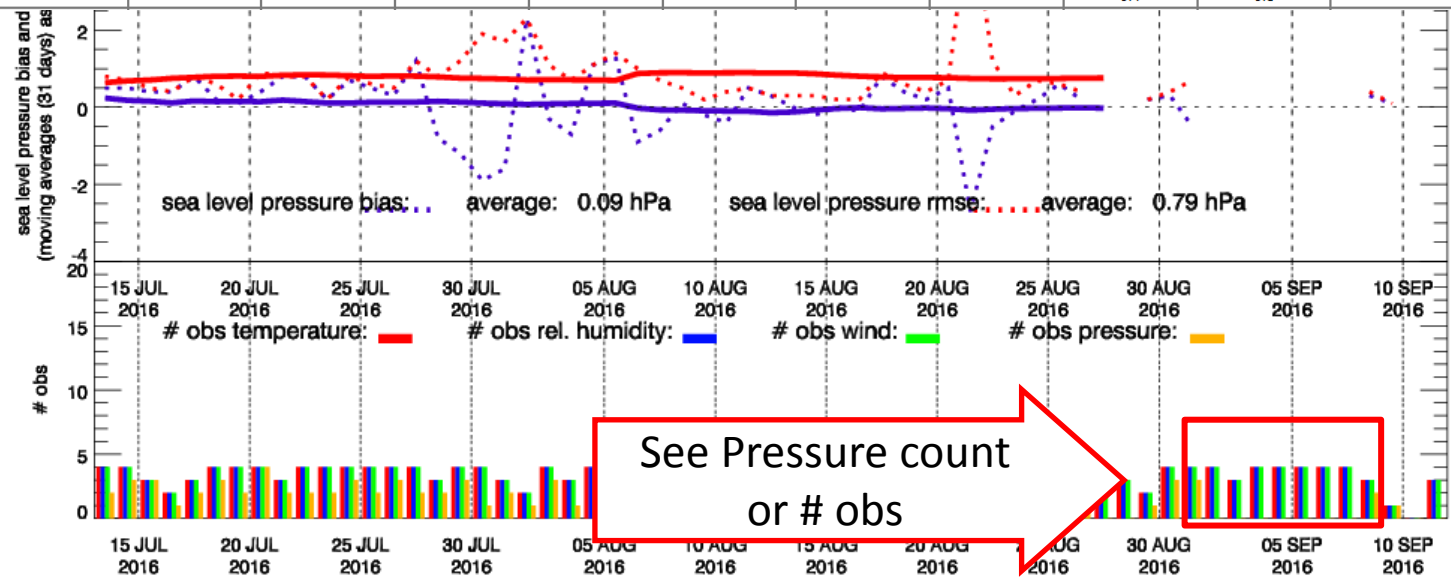
Surface stations | Radiosonde stations

Back

Export as CSV

13 stations found.

Identifier	01	02	03	04	05	06	07	08	09	10	Ø
63612 LODWAR, KMD	4	3	4	4	4	4	4	3	1	0	3.1
	0.0	0.5	0.3	0.8	0.4	0.5	0.9	0.9	1.3	-	0.6
	1.0	0.8	0.9	1.3	0.5	0.8	1.0	1.1	1.3	-	1.0
	4	3	4	4	4	4	4	3	1	0	3.1
	2.5	3.6	1.5	2.7	3.1	3.3	3.4	3.3	2.0	-	2.8
	2.9	3.9	1.9	2.9	3.1	3.5	3.9	3.5	2.0	-	3.1
	4	3	4	4	4	4	4	3	1	0	3.1
	-	-	-	-	-	-	-	8.4	5.1	-	6.8
	6.9	4.2	8.4	8.8	8.9	8.5	5.0	7.5	3.1	-	6.8
	0	0	0	0	0	0	0	2	1	0	0.3
	-	-	-	-	-	-	-	0.3	0.1	-	0.2
	-	-	-	-	-	-	-	0.4	0.1	-	0.2



# Potential issue: incorrect measurement/reading (63801)

Surface stations | Radiosonde stations

GCOS Surface stations monthly obs against NWP selection (09/2016)  
country code TZA

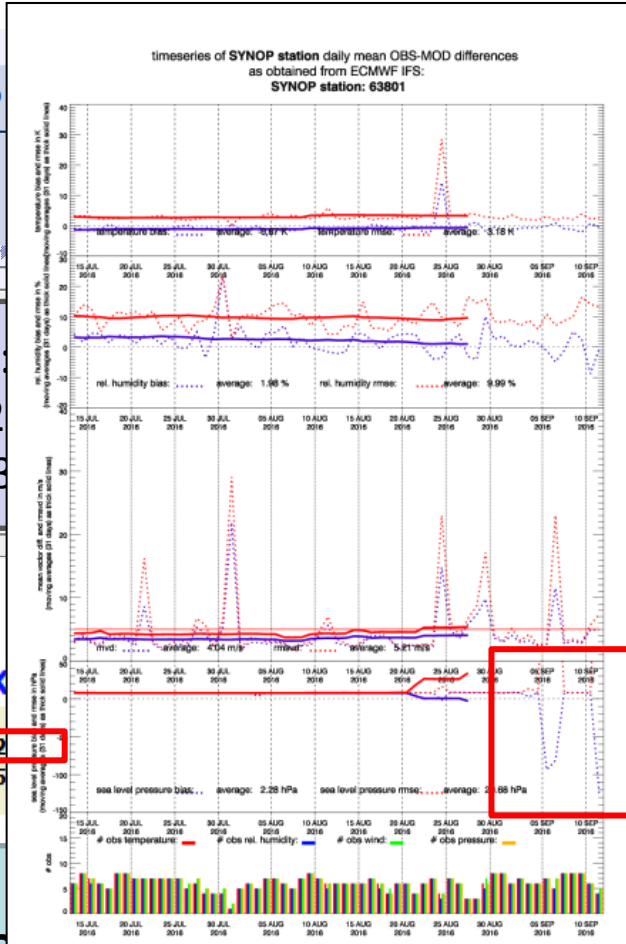
Back

Export as CSV

14 stations found.

Identifier	11	12	13	14	15	16	17
63801	4	-	-	-	-	-	-
Kigoma,	-0.4	-	-	-	-	-	-
TZA	2.5	-	-	-	-	-	-
	5	-	-	-	-	-	-
	4.9	-	-	-	-	-	-
	7.4	-	-	-	-	-	-
	4	-	-	-	-	-	-
	6.7	-	-	-	-	-	-
	13.3	-	-	-	-	-	-
	5	-	-	-	-	-	-
	-124.7	-	-	-	-	-	-
	293.1	-	-	-	-	-	-

Daily average 11.09.16: pressure bias -12  
Pressure RMSE 293



Index	Deskriptor	Wert	Einheit
4	0 01 001	63	Numeric
5	0 01 002	801	Numeric
6	0 01 015	KIGOMA	STRING
9	0 04 001	2016	a
10	0 04 002	9	mon
11	0 04 003	11	d
13	0 04 004	18	h
14	0 04 005	0	min
22	0 10 004	25800	Pa
23	0 10 051	MISSING	Pa

SYNOPSIS from 63801, K

SM 11/09/2016 18:00-> AAXX 11184 63801 63832 63832 32 333 10318 55300 5

Access to observed data transmitted via GTS essential!



# Potential issue: incorrect metadata? (63881)

Surface stations | Radiosonde stations

GCOS Surface stations monthly obs against NWP selection (09/2016) country\_code TZA

Back | Export as CSV

14 stations found.

Identifier	01							
	6							
	1.1							
	1.5							
	6							
	2.3							
	2.7							
	6							
	5.2	4.7	5.5	4.7	4.5	5.0	5.0	5.0
	7.0	4.9	6.4	4.5	7.3	6.1	6.1	6.1
	6	8	7	7	9	8	8	8
	10.1	9.7	9.8	9.6	9.6	9.8	9.8	9.8
	10.1	9.7	9.8	9.6	9.6	9.8	9.8	9.8

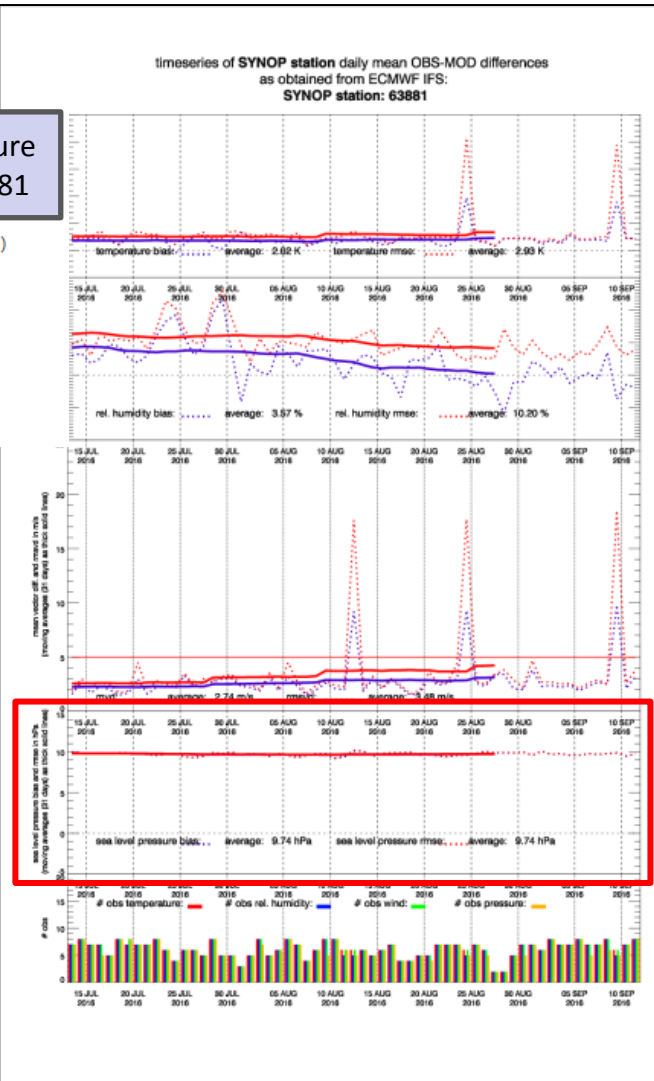
**63881**  
SUMBAWANGA,  
TZA

Instruments

- (unknown / unspecified) (unknown)

Instrument: (unknown / unspecified) (unknown)  
 Serial number: (unknown)  
 Use since: 2016-04-29  
 Latitude: 7.966666667°S  
 Longitude: 31.633333333°E  
 Elevation: 1923m

OSCAR entry for pressure measurements at 63881



## METAR/Synop Information for HTSU (63881) in Sumbawanga Airport, Tanzania <http://weather.gladstonefa>

The following information is known about HTSU. If you think that any information is incorrect, then please follow the instructions for correcting that data item. It is possible that this page will report a problem where no problem exists. If you believe that this has happened, then please contact me (address at the bottom of this page) and explain clearly why you think this page is in error. Note that any changes you make may take a few days to show up here, so please give it a week before commenting.

Registered Location

Latitude: 7° 58' 0" S (deg min sec), -7.9667° (decimal), 0758.00S (LORAN)  
 Longitude: 31° 38' 0" E (deg min sec), 31.6333° (decimal), 03138.00E (LORAN)  
 Elevation: 1923 metres (6309 feet)  
 WMO Id: 63881  
 Location: Sumbawanga Airport, Tanzania

The elevation does not correspond with the estimated elevation (1856 metres (6088 feet) -- source Google) both are almost certain to be incorrect. Please use the 'send the updated information' link below to update t

The location information for this site was gathered from 7 data sources. The possible locations for this site are up to 1.4 kilometres away. This makes it possible that the location chosen is incorrect. The source which most closely matches the consensus is chosen. Many of these sources only report the location to the nearest minute (or hundredth of degree). This can lead to the marker being placed noticeably incorrectly. Please see Discussion of Location Errors for more information. [Show location history](#).



Required.

# Potential issue: no pressure obs/incorrect reading (63932)

Surface stations | Radiosonde stations

GCOS Surface stations monthly obs against NWP selection (09/2016)  
country code TZA

← Back | Export as CSV | Legend

14 stations found.

Rarely pressure observations available (01.-10.09.2016)

Identifier	01	02	03	04	05	06	07	08	09	10	Ø	
63932 MBEYA, TZA	2.1	-	-	-	-	-	-	2.5	1.5	0.8	1.7	
	2.4	-	-	-	-	-	-	3.0	1.6	1.3	2.0	
	2	0	-	-	-	-	-	3	4	4	2.8	
	3.1	-	-	-	-	-	-	3.3	3.3	6.5	7.5	
	3.3	-	-	-	-	-	-	3.6	4.0	7.0	10.1	
	2	0	0	0	0	0	0	3	4	3	2.3	
	-	-	-	-	-	-	-	-	-	-	0.0	
	3.5	-	-	-	-	-	-	3.7	3.7	9.0	5.6	7.3
	0	0	0	0	0	0	0	0	0	0	0.0	
	-	-	-	-	-	-	-	-	-	-	0.0	
	-	-	-	-	-	-	-	-	-	-	0.0	
	-	-	-	-	-	-	-	-	-	-	0.0	
	-	-	-	-	-	-	-	-	-	-	0.0	

Surface stations | Radiosonde stations

GCOS Surface stations monthly obs against NWP selection (09/2016)  
country code TZA

← Back | Export as CSV | Legend

14 stations found.

Daily average 11.09.16:  
pressure bias -575.8 hPa  
Pressure RMSE 575.8 hPa

Index	Descriptor	Wert	Einheit
4	0 01 001	63	Numeric
5	0 01 002	932	Numeric
9	0 04 001	2016	a
10	0 04 002	9	mon
11	0 04 003	11	d
13	0 04 004	18	h
14	0 04 005	0	min
22	0 10 004	25800	Pa
23	0 10 051	MISSING	Pa

11.09.16, 18/21 UTC: incorrect pressure obs (258 hPa), others missing.

Identifier	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Ø		
63932 MBEYA, TZA	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	33.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-575.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	575.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

# Contact Details

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