



WMO/IOC/UNEP/ICSU  
GLOBAL CLIMATE OBSERVING  
SYSTEM (GCOS)

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**7th GRUAN Implementation-  
Coordination Meeting (ICM-7)**  
Matera, Italy  
23 February – 27 February 2015

Session 8

## GRUAN Station Report for Potenza

*(Submitted by Fabio Madonna)*

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### **Summary and Purpose of Document**

Report from the GRUAN station Potenza for the period Mar 2014 to Jan 2015.

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## GRUAN Station Report for Potenza

Reporting for the period Mar 2014 to Jan 2015

Date: 31-Jan-2015

Primary author: Fabio Madonna  
(email: fabio.madonna@imaa.cnr.it)

### **Overview**

Currently, only RS data are provided to the GRUAN archive. Aerosol, water vapor, clouds and radiation from lidar, GPS, ceilometers, and radiometers could be included in the future data streams. In particular GPS data stream could be immediately submitted to any GRUAN processing server.

### **Change and change management**

SHC has been installed and tested. One launch each 15 days will be performed using the manual launcher (including the use of the SHC in the launch procedure), the other weekly launch will be performed with the autolauncher.

A new laboratory for the launch of radiosoundings is now operative.

Use of an inflation kit to fill in the balloon.

A second GPS mobile antenna is available for managing any possible change.

A sky camera is also now available.

A new pyranometer is available and it will be operational during this year.

### **Resourcing**

Potenza is continuing to support GRUAN activities using not dedicated funds. Nevertheless the station is negotiating with the Met Service the possibility to transfer a RAOB Italian station to Potenza, adopting a one year transition period before the completion of the transfer.

### **Site assessment and certification**

POTENZA applied for the certification in 2014. A response to the comments provided by the WG GRUAN will be provided by February, 10, 2015.

### **GRUAN related research**

Comparison of water vapor Raman lidar profiles calibrated using difference water vapor measurements.

Study of redundant measurements.

Madonna, F., Rosoldi, M., Guldner, J., Haefele, A., Kivi, R., Cadeddu, M. P., Sisterson, D., and Pappalardo, G.: Quantifying the value of redundant measurements at GCOS Reference Upper-Air Network sites, *Atmos. Meas. Tech.*, 7, 3813-3823, doi:10.5194/amt-7-3813-2014, 2014.

### **WG-GRUAN interface**

The WMO/GCOS letter already drafted and agreed between the different parties should be finalized, it is still pending.

### **Items for ICM-7 plenary discussions**

- Radiosonde scheduling for the stations performing one or two launches per week
- Establishment of other GRUAN products (GPS, Raman lidar, MWR)
- Use of collocation and redundancy studies to serve GRUAN community

**Future plans**

Dual launches involving the autosonde and the manual systems will be performed.

Negotiation with the Met Service about the possibility to transfer a RAOB Italian station to Potenza will continue and likely closed within 2015.

Every two months, an ozonesounding will be likely performed in 2015.

The water vapour Raman lidar will be upgraded to extend its maximum vertical range up to 10-12 km.



# GRUAN Station Report for Potenza (POT), 2014

Reported time range is Nov 2013 to Oct 2014

Created by the Lead Centre

Version from 2015-02-11

## 1 General GRUAN station information

Info	Value
Station name	Potenza
Unique GRUAN ID	POT
Geographical position	40.6000 °N, 15.7200 °E, 720.0 m
Operated by	IMAA   Istituto di Metodologie per l'Analisi Ambientale, part of: CNR   Consiglio Nazionale delle Ricerche
Main contact	Madonna, Fabio
WMO no./name	-
Operators	current 3, change +1 / -0
Sounding Site	1
GNSS	1

### 1.1 General information about GRUAN measurement systems

System	Type	Setups	Measurements	As scheduled
POT-GN-01	GNSS	0	0	not scheduled
POT-RS-01	Sounding Site	2	22	not scheduled

### 1.2 General comments from Lead Centre

#### 1.2.1 General

The site is requested to implement a routine launch schedule and to inform the Lead Centre about the number of soundings that can be expected.

It is strongly recommended that the site uses a manufacturer independent ground check for the Vaisala radiosonde.

## 2 System: GNSS Site TITO (POT-GN-01)

<b>Info</b>	<b>Value</b>
System name	GNSS Site TITO
Unique GRUAN ID	POT-GN-01
System type	GNSS (GN - GNSS)
Geographical position	40.6013 °N, 15.7237 °E, 818.2 m
Operated by	IMAA   Istituto di Metodologie per l'Analisi Ambientale, part of: CNR   Consiglio Nazionale delle Ricerche
Instrument contact	Pappalardo, Gelsomina
Started at	-
Defined setups	-
Possible streams	-

### 2.1 Lead Centre comments

#### 2.1.1 Dataflow

No GNSS dataflow to GRUAN LC as yet.

### 3 System: Radiosonde Launch Site (POT-RS-01)

Info	Value
System name	Radiosonde Launch Site
Unique GRUAN ID	POT-RS-01
System type	Sounding Site (RS - Radiosonde)
Geographical position	40.6010 °N, 15.7237 °E, 760.0 m
Operated by	IMAA   Istituto di Metodologie per l'Analisi Ambientale, part of: CNR   Consiglio Nazionale delle Ricerche
Instrument contact	Madonna, Fabio
Started at	-
Defined setups	2 (OZONE, ROUTINE)
Possible streams	ECC, RS92

#### 3.1 Lead Centre comments

##### 3.1.1 Dataflow

Dataflow to GRUAN LC running since February 2011.

##### 3.1.2 Data quality

GC25 ground check corrections are within expected limits.

The use of a manufacturers independent ground check is highly recommended.

#### 3.2 GRUAN data products

Product	Version	Soundings received	Available at LC	Distributed by NCDC
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##### 3.2.1 Stream: RS92

RS92		22	22	
RS92-RAW	001		22	
RS92-GDP	001		4	
RS92-GDP	002		22	18

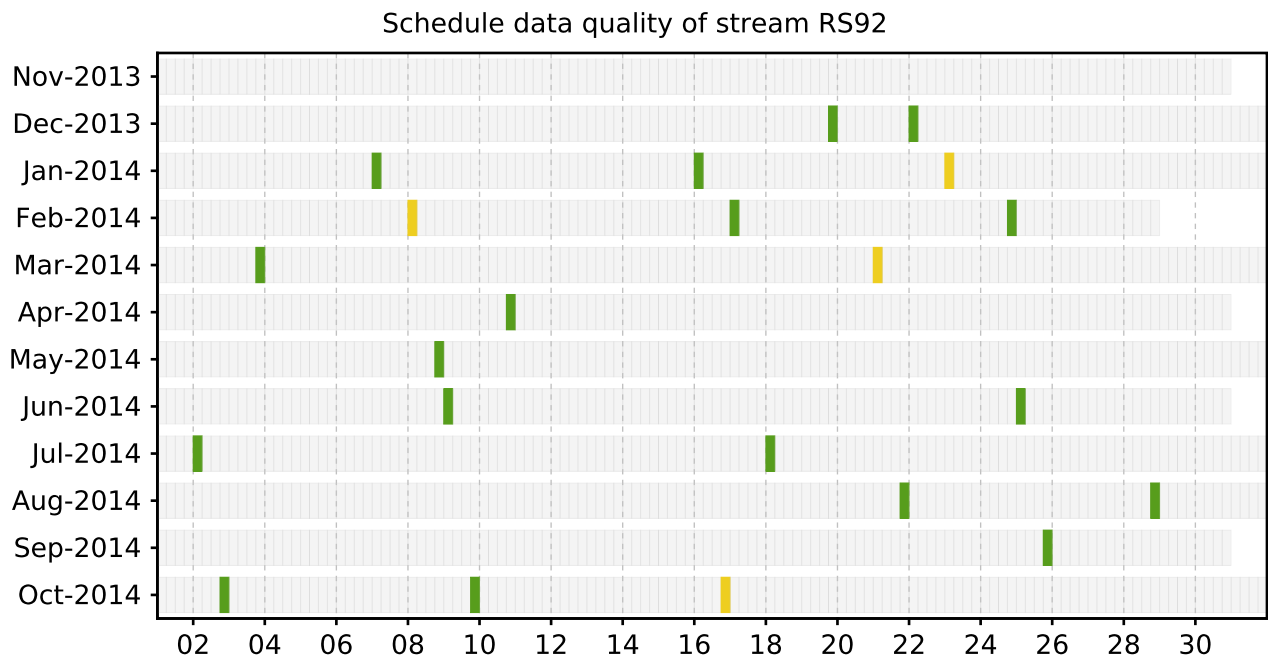
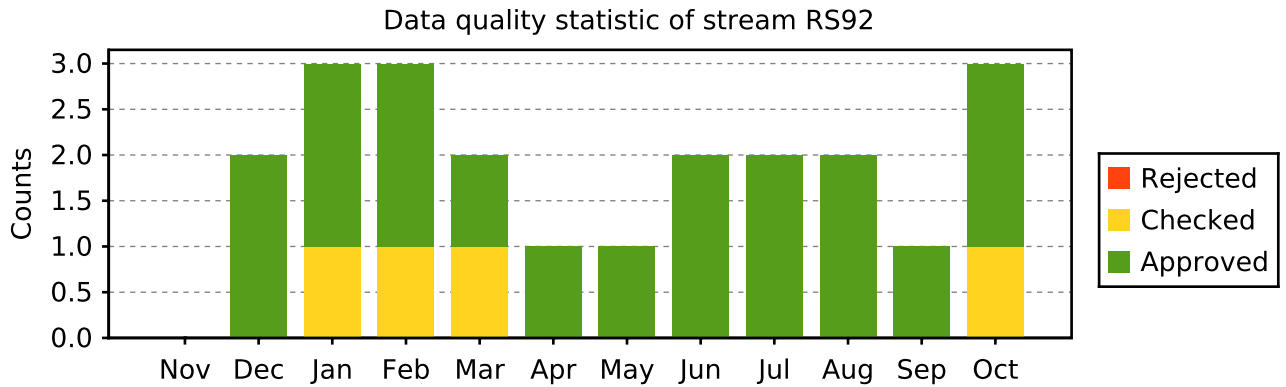
#### 3.3 Data quality of current GRUAN data products

Month	Count	GRUAN Data Quality			Issues				
		Approved	Checked	Rejected	Meta-data	Process.	Press	Temp	RH

##### 3.3.1 Stream: RS92 (Product: RS92-GDP-002)

Nov 13									
Dec 13	2	2							
Jan 14	3	2	1						1
Feb 14	3	2	1						1
Mar 14	2	1	1						1
Apr 14	1	1							

Month	Count	GRUAN Data Quality			Issues				
		Approved	Checked	Rejected	Meta-data	Process.	Press	Temp	RH
May 14	1	1							
Jun 14	2	2							
Jul 14	2	2							
Aug 14	2	2							
Sep 14	1	1							
Oct 14	3	2	1						1
	<b>22</b>	<b>18</b>	<b>4</b>						<b>4</b>



### 3.4 Instrument combinations of POT-RS-01

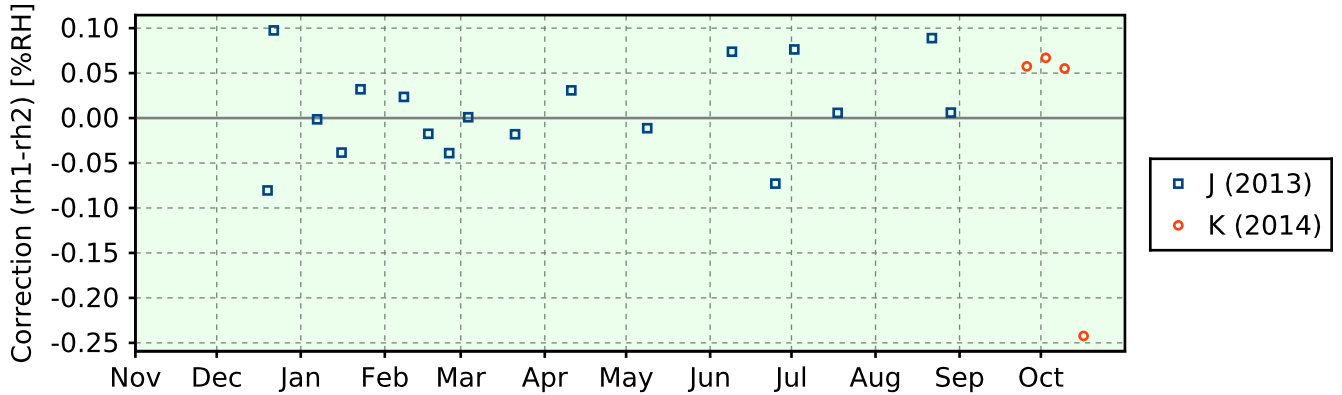
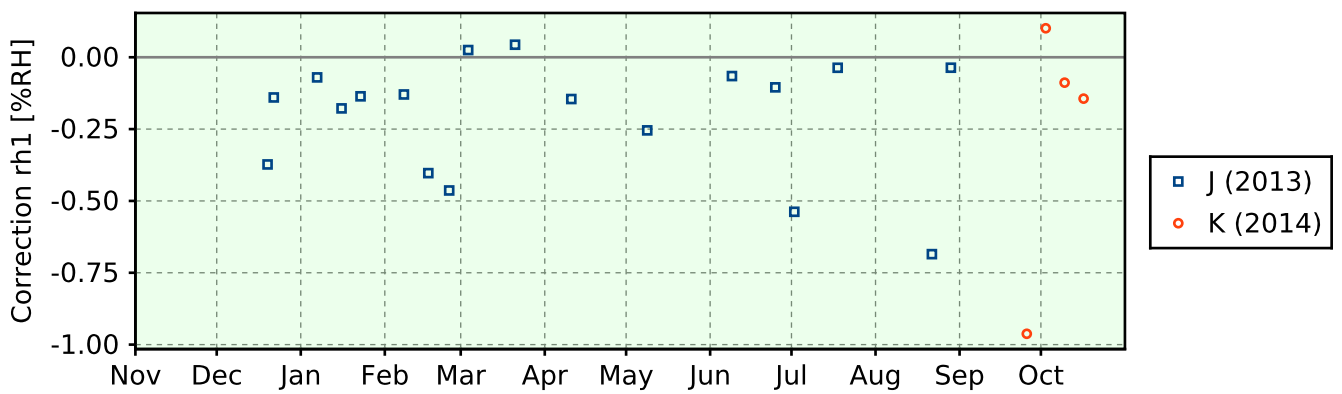
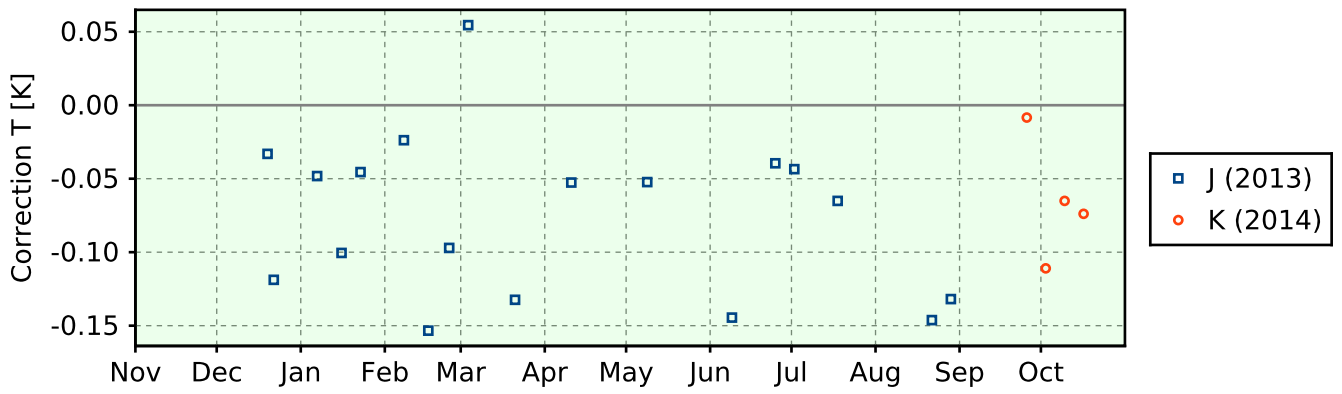
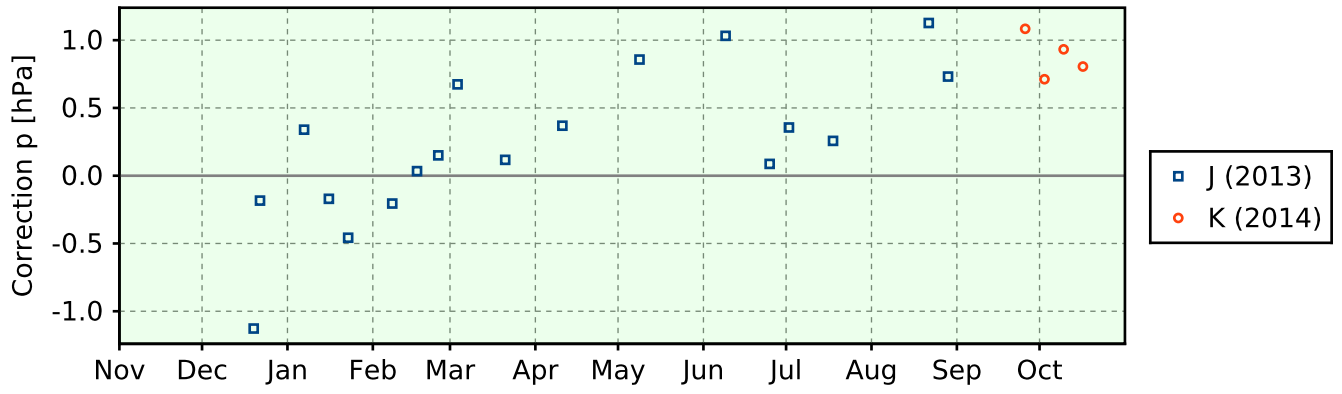
Count	Instrument combination
22	RS92

### 3.5 Instrument ground check

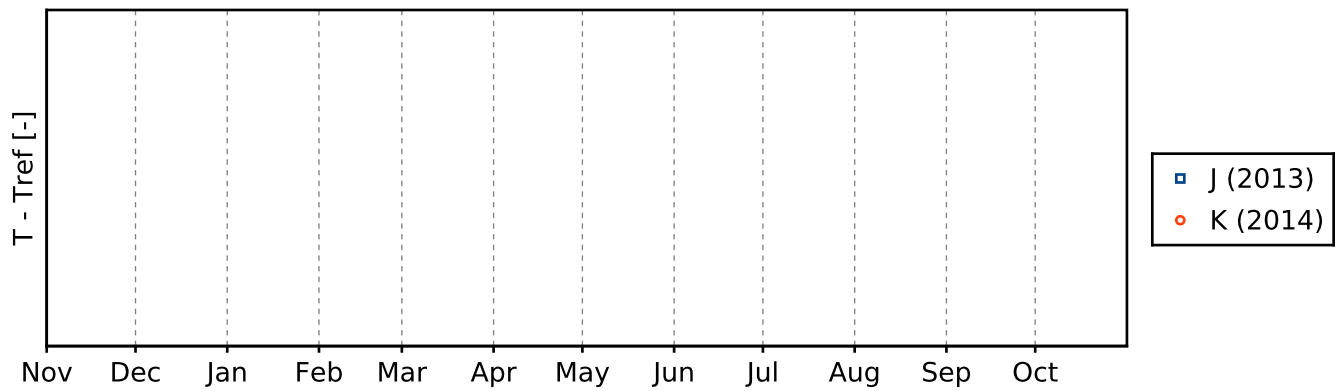
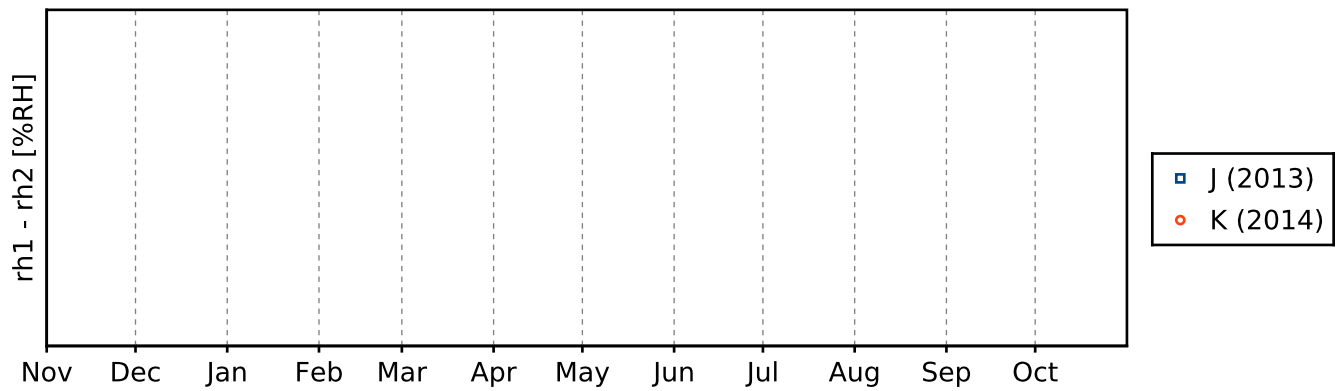
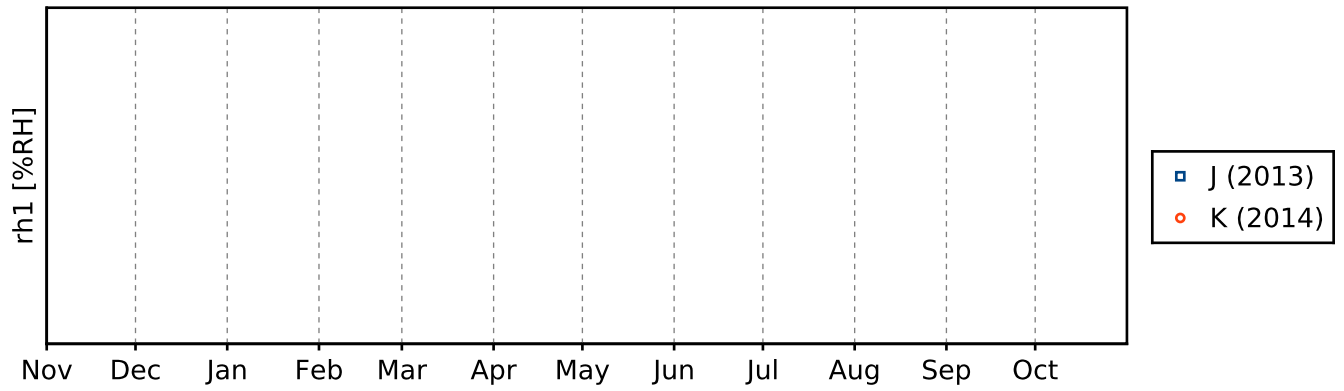
#### 3.5.1 Stream: RS92



3.5.1.1 GroundCheck: GC25



3.5.1.2 GroundCheck: SHC



3.6 Measurement events

3.6.1 Stream: RS92

