



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

---

Doc. 6.13  
(28.II.2014)

---

**6th GRUAN Implementation-  
Coordination Meeting (ICM-6)**  
Greenbelt, USA  
10 March – 14 March 2014

Session 6

## GRUAN Station Report for Potenza

*(Submitted by Fabio Madonna)*

---

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

Report from the GRUAN station Potenza for the period Feb 2013 to Feb 2014.

---





## GRUAN Station Report for Potenza

Reporting for the period Feb 2013 to Feb 2014

Date: 26-Feb-2014

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. Ozone sounding is expected to be performed in the near future once per month.

### **Change and change management**

Radiation measurements are now available (irradiance).

No changes in management processes.

Information describing POTENZA site on the GRUAN web page are ok.

### **Resourcing**

To find continuous funding support for radiosoundings not expected in the running project and challenging to be obtained in future projects. Moreover, for this, Potenza is suffering from its position of GRUAN but not RAOB station (RAOB IT stations are under the Army weather service).

### **Site assessment and certification**

POTENZA could be ready for the certification in 2015.

### **GRUAN related research**

GATNDOR: Quantifying the value of complementary measurements; Study of collocation of atmospheric measurements;

Comparison of water vapour Raman lidar profiles and COSMIC.

F. Madonna, P. Burlizzi, A. Giunta, I. Biniotoglou, M. R. Perrone, and G. Pappalardo, "Validation of COSMIC water vapor profiles using Raman lidar measurements performed at CIAO" in Lidar Technologies, Techniques, and Measurements for Atmospheric Remote Sensing VII, edited by Upendra N. Singh, Gelsomina Pappalardo, Proceedings of SPIE Vol. 8182 (SPIE, Bellingham, WA 2011) 81820B.

Fabio Madonna, Marco Rosoldi, Jürgen Güldner, Alexander Haefele, Rigel Kivi, Douglas Sisterson and Gelsomina Pappalardo, Quantifying the value of redundant measurements at GRUAN sites, Atmos. Meas. Tech., submitted.

Fassò, A., Ignaccolo, R., Madonna, F., and Demoz, B. B.: Statistical modelling of collocation uncertainty in atmospheric thermodynamic profiles, Atmos. Meas. Tech. Discuss., 6, 7505-7533, doi:10.5194/amtd-6-7505-2013, 2013.

### **WG-GRUAN interface**

They could support us to encourage, at the WMO/GCOS the establishment in Potenza of a RAOB station in order to drain more funding for the station operations.

**Items for ICM-6 plenary discussions**

Radiosonde scheduling for the stations performing one or two launches per week.

**Future plans**

Potenza is going to purchase the Standard Humidity chamber. Moreover, a new laboratory for the launch of radiosoundings is in preparation and it will be soon ready for hosting manual launches.



# GRUAN Station Report for Potenza (POT), 2013

Reported time range is Nov 2012 to Oct 2013

Created by the Lead Centre

Version from 2014-02-20

## 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 2, change +0 / -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	18	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 General

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 with some gaps in the data record. Last long gap started in July 2013.

##### 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
RS92		18	18	
RS92-RAW	001		18	
RS92-GDP	001		16	
RS92-GDP	002		14	11

##### 3.2.1 Stream: RS92

RS92		18	18	
RS92-RAW	001		18	
RS92-GDP	001		16	
RS92-GDP	002		14	11

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

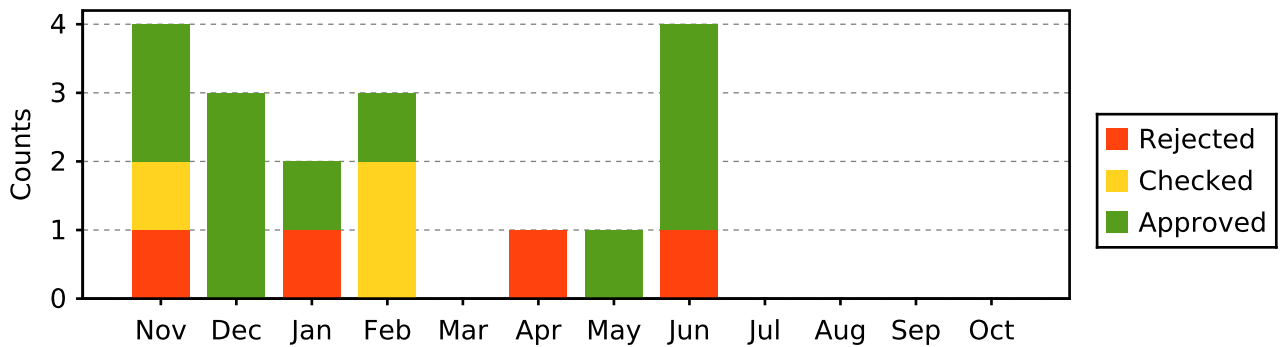
Month	Count	GRUAN Data Quality			Issues				
		Approved	Checked	Rejected	Meta-data	Process.	Press	Temp	RH
Nov 12	4	2	1	1			1		
Dec 12	3	3							
Jan 13	2	1		1					
Feb 13	3	1	2						2
Mar 13									

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

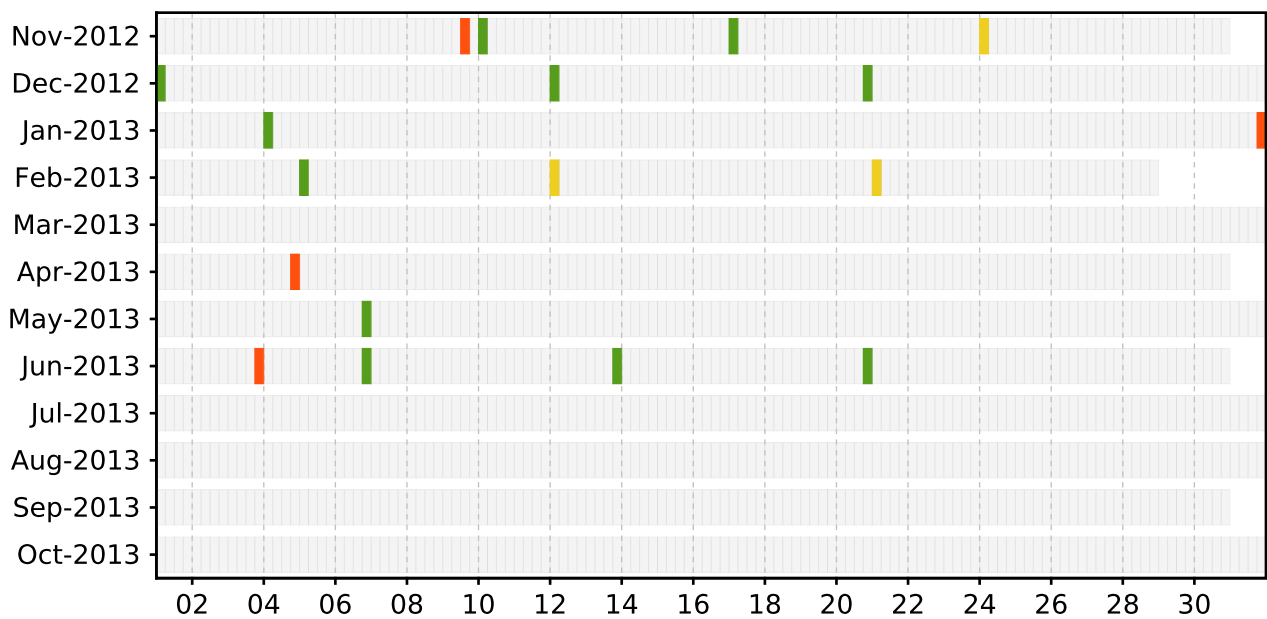
Nov 12	4	2	1	1			1		
Dec 12	3	3							
Jan 13	2	1		1					
Feb 13	3	1	2						2
Mar 13									

Month	Count	GRUAN Data Quality			Issues				
		Approved	Checked	Rejected	Meta-data	Process.	Press	Temp	RH
Apr 13	1			1					
May 13	1	1							
Jun 13	4	3		1					
Jul 13									
Aug 13									
Sep 13									
Oct 13									
	<b>18</b>	<b>11</b>	<b>3</b>	<b>4</b>			<b>1</b>		<b>2</b>

Data quality statistic of stream RS92



Schedule data quality of stream RS92



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

**Count Instrument combination**

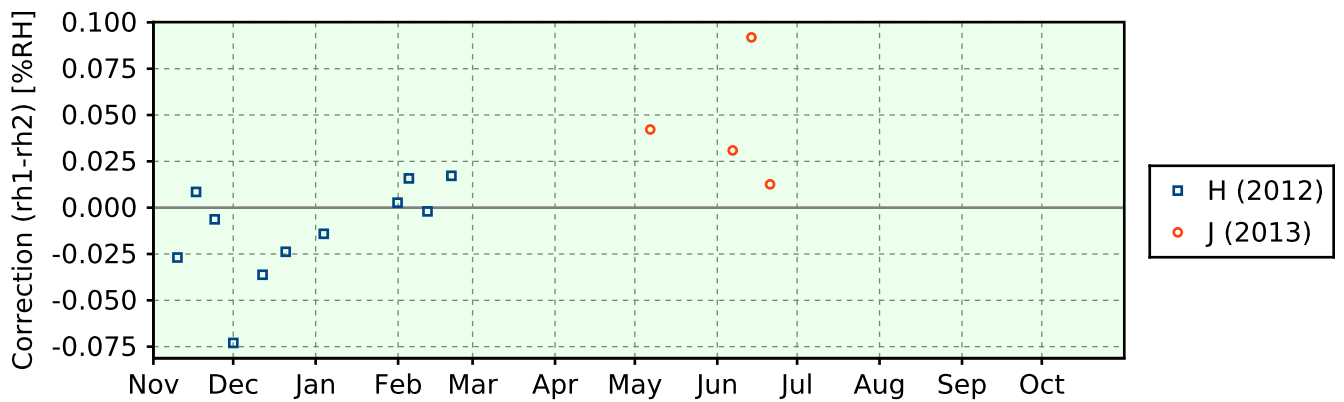
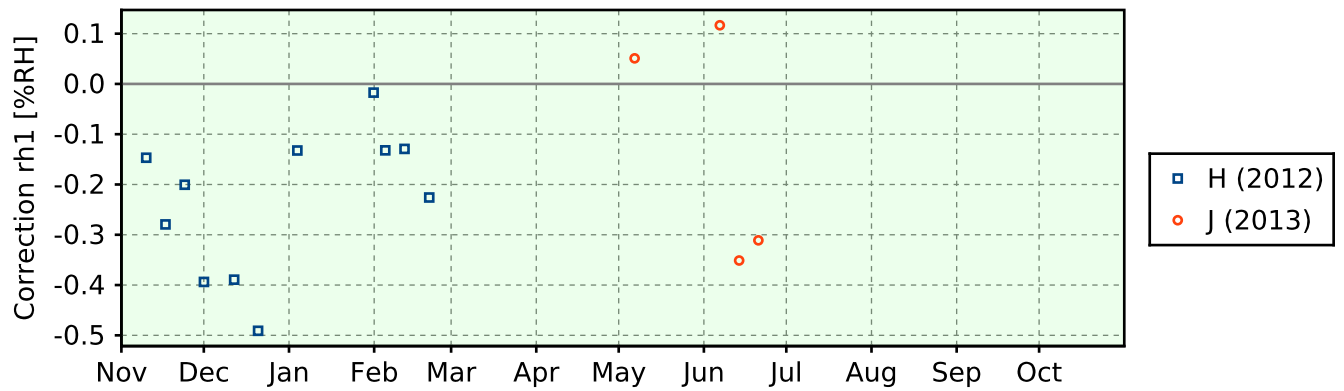
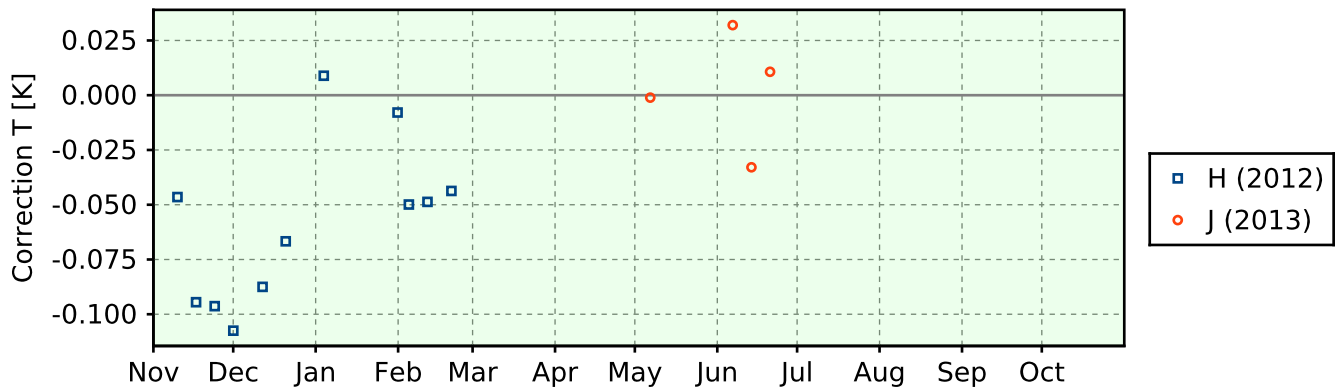
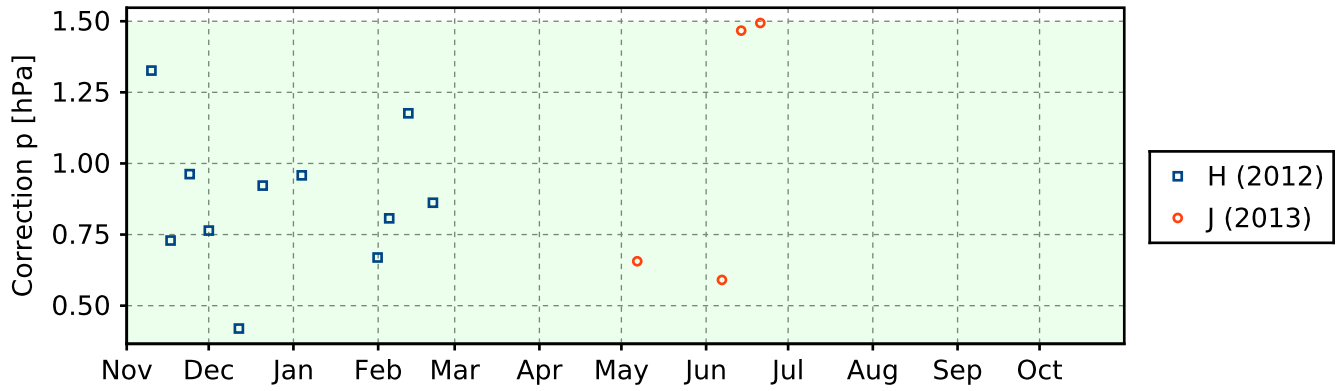
18 RS92

### 3.5 Instrument ground check

#### 3.5.1 Stream: RS92



3.5.1.1 GroundCheck: GC25



3.5.1.2 GroundCheck: SHC

