



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

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**9th GRUAN Implementation-
Coordination Meeting (ICM-9)**

Session 7

Helsinki, Finland

12 - 16 June 2017

GRUAN Site Report for Potenza

(Submitted by Fabio Madonna)

Summary and Purpose of this Document

Report from the GRUAN site Potenza for the period March 2016 to April 2017.

Overview

As remarked last year, only RS data are provided to the GRUAN archive. Aerosol, water vapor, clouds and radiation from lidars, GPS, ceilometers, and radiometers could be included in the future data streams. In particular GPS data stream from the two antennas operating at the site (Trimble and Novatel) could be immediately submitted to any GRUAN processing server. It is worth to remind that since May 2016, the Potenza station is equipped with the new Vaisala DigiCORA Sounding System MW41. Therefore, radiosounding raw datafiles are submitted in the MWX format using the RSLaunchClient. This is the reason why the GRUAN data processing of the Potenza radiosoundings is not available through the GRUAN NCDC data archive since 17 May 2016. Moreover since August 2016, all the launches are performed manually given that the autosonde has been put in quiescent state due to lack of funding to perform its maintenance and its mandatory update.

Change and change management

- SHC is routinely operated in. Since August 2016, all the launches are performed using the manual launcher (including the use of the SHC in the launch procedure); the autolauncher will be not operated at minimum over the next year.
- Since 17 May 2016, the Vaisala DigiCORA Sounding System MW41 is routinely operated in replacement of the old Vaisala Sounding System.
- Since 17 May 2016, the first RS-41 sonde have been launched. In the transition, no dual launches have been performed. Since 24 Nov. 2017 only RS-41 sonde are launched.
- The new calibration chamber Kambic KK-105 is operative since mid of 2016, but not yet fully exploited for specific radiosonde related experiments.
- Water vapour Raman lidar measurements are not performed on a regular basis since beginning of July 2015. A few measurements are available also in 2016-2017 but the system is not operated on a regular basis.

Resourcing

Potenza is continuing to support GRUAN activities using not dedicated funds. Negotiation with the Met Service to transfer a national RAOB station to Potenza got stuck. A request to the Met Service for obtaining the WMO index has been sent in March 2017.

Operations

NIL

Site assessment and certification

POTENZA site has been certified on 29 April 2015

GRUAN-related research

- Assessment of the traceability chain for the aerosol lidar products is going to be completed in the frame of the GAIA-CLIM H2020 project;
- CNR-IMAA is coordinating the C3S_311a.Lot3 Service Baseline And Reference Observation Network in the frame of the Copernicus Climate Change Service (C3S). The aim is to harmonize GUAN historical radiosonde taking advantage to the GRUAN reference measurements and data processing.

WG-GRUAN interface

N/A

Items for ICM-9 plenary discussions

- Harmonization of Baseline radiosoundings using GRUAN products
- Performing dedicated experiment with the autolauncher at other station than Potenza
- Establishment of other GRUAN products (GPS, Raman lidar, MWR)
- Use of collocation and redundancy studies to serve GRUAN community

Future plans

- To restart water vapour measurements with the PEARL lidar or with a new lidar system whose project phase has recently started.
- To install a wind lidar for continuous wind measurements



GRUAN Station Report for Potenza (POT), 2016/17

Reported time range is Mar 2016 to Apr 2017

Created by the Lead Centre

Version from 2017-06-06

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 +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	not operational	not scheduled
POT-RS-01	Sounding Site	5	36	27.27 %

1.2 General comments from Lead Centre

No comments available from Lead Centre.

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

Info	Value
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	Madonna, Fabio
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	5 (OZONE, ROUTINE, ROUTINE3, RESEARCH, ROUTINE2)
Possible streams	ECC, RS41, RS92

3.1 Lead Centre comments

3.1.1 Dataflow

Sonde dataflow to GRUAN LC is operational since February 2011.

Since December 2016, data flow is temporary stopped because change of operational sonde from Vaisala RS92 to RS41.

3.2 GRUAN data products

Product	Version	Soundings received	Available at LC	Distributed by NCDC
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3.2.1 Stream: RS41

RS41		5	5	
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3.2.2 Stream: RS92

RS92		31	31	
RS92-RAW	001		12	
RS92-RAW	002		31	
RS92-EDT	001		31	31
RS92-GDP	002		8	5

3.3 Data availability of data products

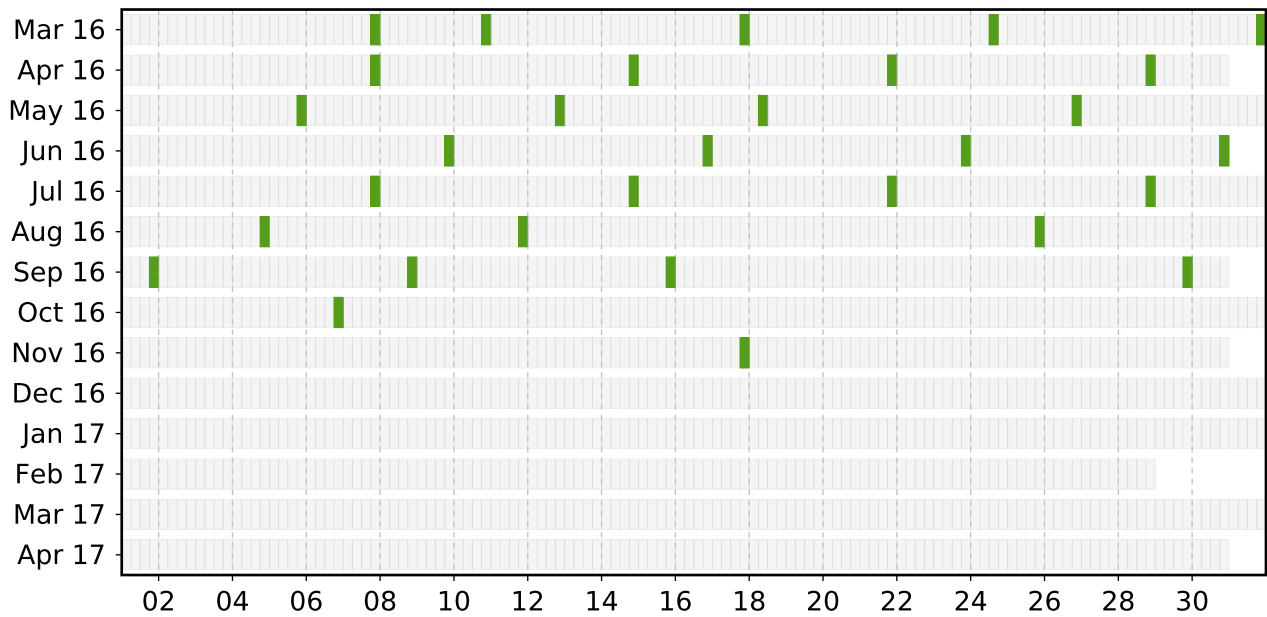
Available (green): All steps of processing have been successfully completed. The data file is available at NCEI (NCDC).

Unprocessed (yellow): The raw data file has been successfully converted to a GRUAN standardized raw data file format (NetCDF). The processing itself (e.g. extracting manufacturer data product or GRUAN data processing) is not done yet, or could not be completed. Reason may be missing raw data, or software bugs.

Failed (red): Raw data file could not be converted to a GRUAN standardized raw data file format (NetCDF). Reason may be a corrupt original raw data file, or software bugs.

3.3.1 Stream: RS92 (Product: RS92-EDT-001)

Schedule data availability of stream RS92



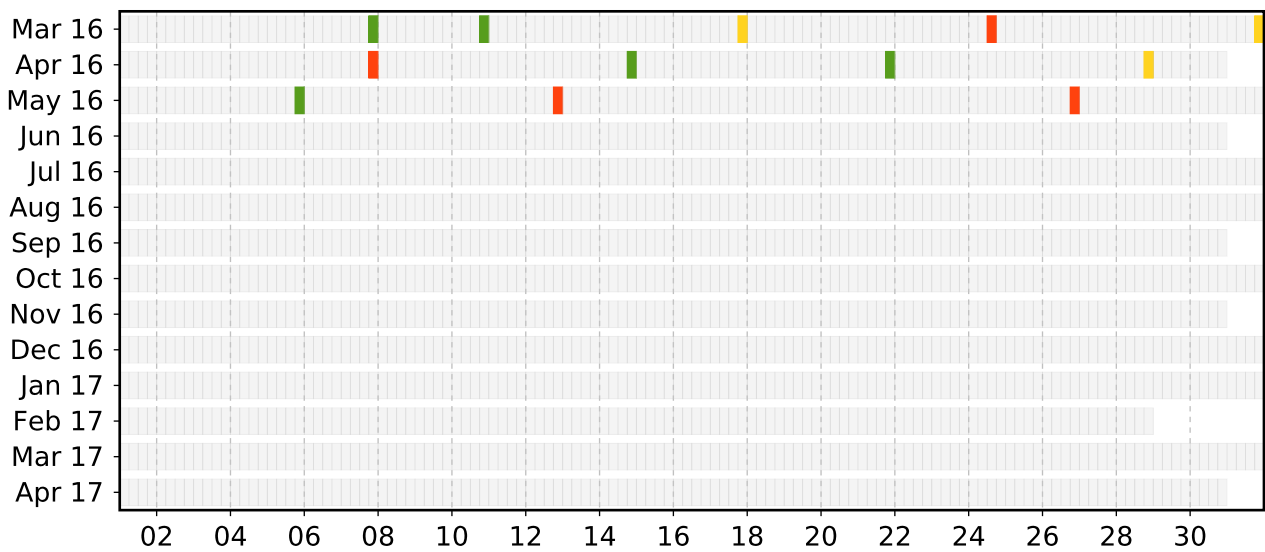
3.4 Data quality of current GRUAN data products

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

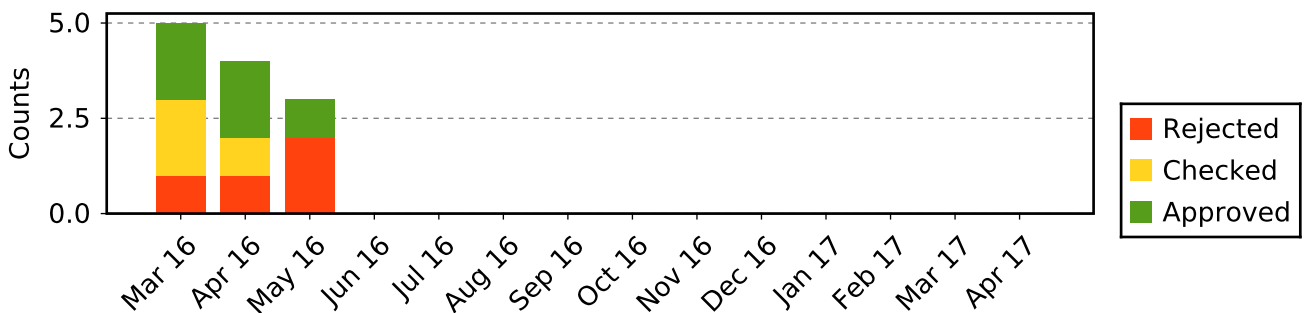
3.4.1 Stream: RS92 (Product: RS92-GDP-002)

Mar 16	5	2	2	1			1		2
Apr 16	4	2	1	1			1		1
May 16	3	1		2			1		
Jun 16									
Jul 16									
Aug 16									
Sep 16									
Oct 16									
Nov 16									
Dec 16									
Jan 17									
Feb 17									
Mar 17									
Apr 17									
12	5	3	4			3		3	

Schedule data quality of stream RS92



Data quality statistic of stream RS92



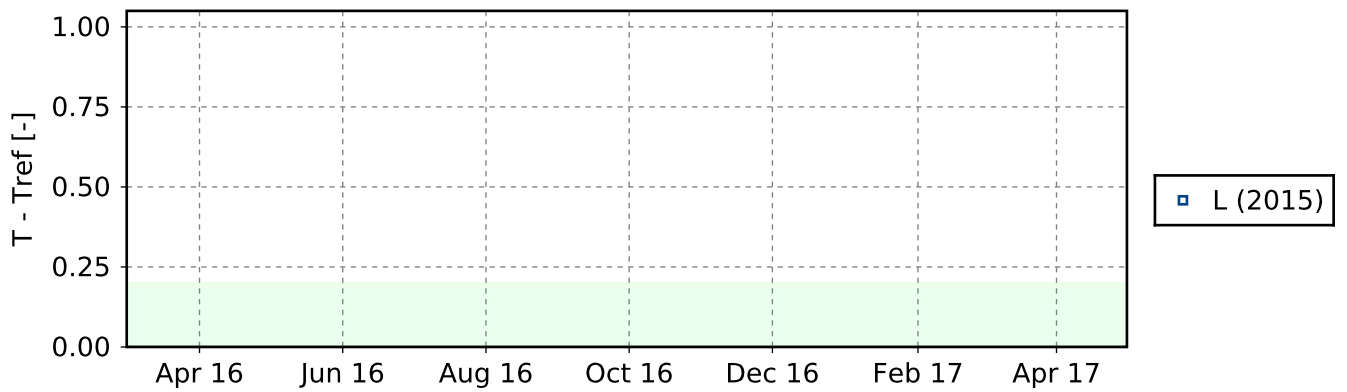
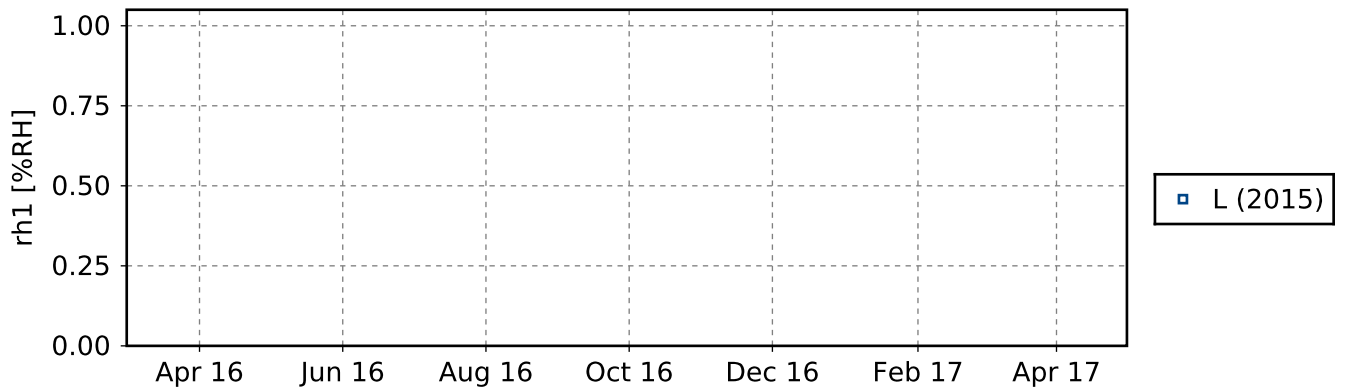
3.5 Instrument combinations of POT-RS-01

Count	Instrument combination
5	RS41
31	RS92

3.6 Instrument ground check

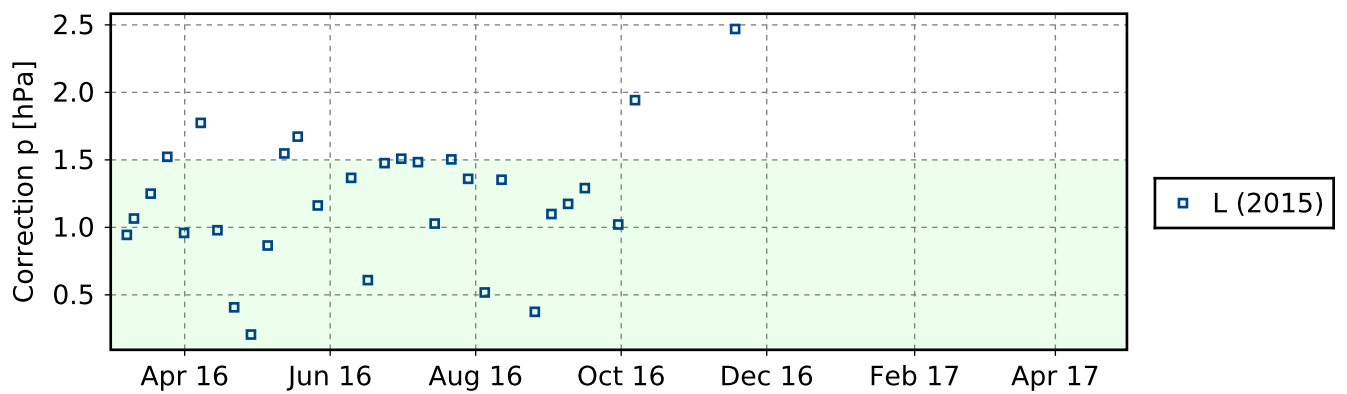
3.6.1 Stream: RS41

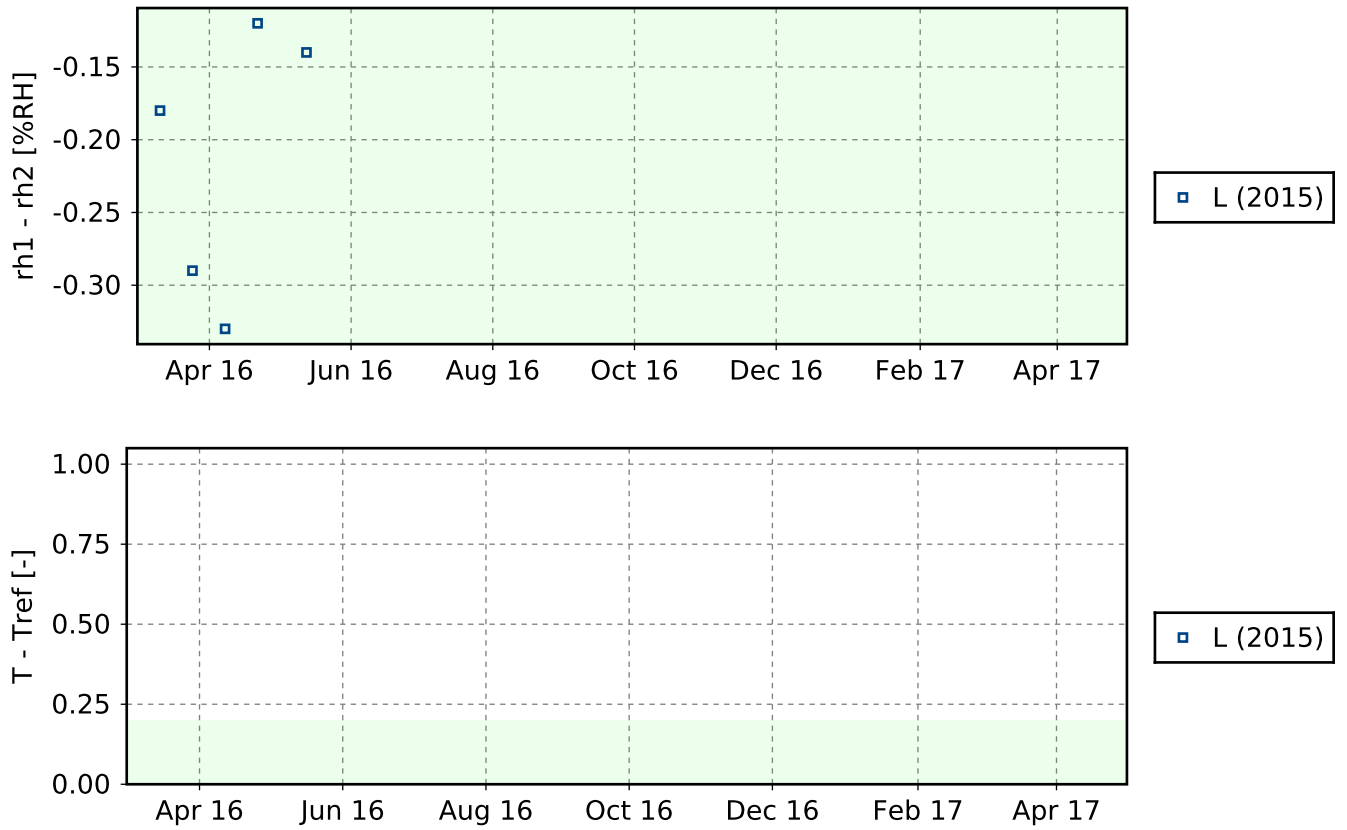
3.6.1.1 GroundCheck: SHC



3.6.1 Stream: RS92

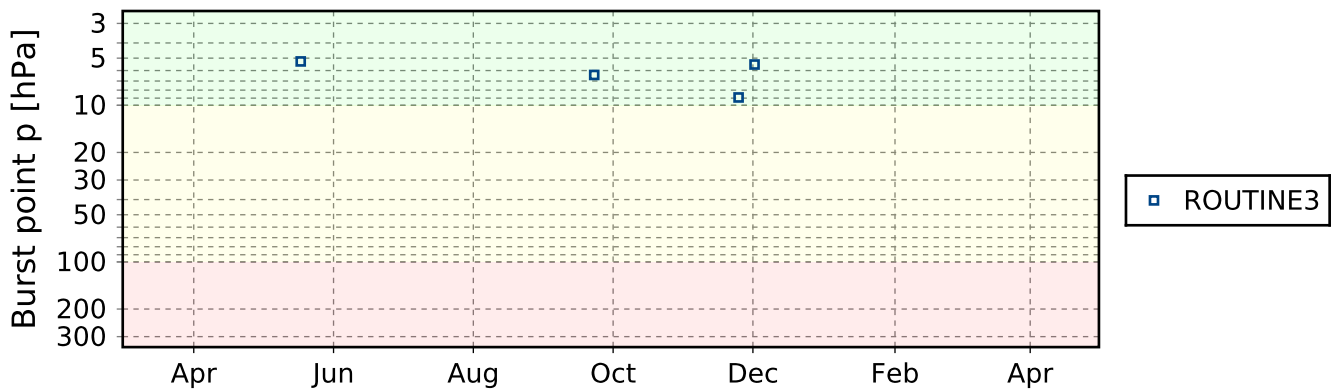
3.6.1.1 GroundCheck: GC25





3.7 Measurement events

3.7.1 Stream: RS41



3.7.1 Stream: RS92

