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

Doc. 8.01
(19.II.2015)

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

Session 8

GRUAN Station Report for Barrow

(Submitted by Lead Centre)

Summary and Purpose of Document

Report from the GRUAN station Barrow for the period Nov 2013 to Oct 2014.

GRUAN Station Report for Barrow (BAR), 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	Barrow
Unique GRUAN ID	BAR
Geographical position	71.3233 °N, -156.6158 °W, 8.0 m
Operated by	ARM | US DOE Atmospheric Radiation Measurement (ARM) Program
Main contact	Sisterson, Doug
WMO no./name	-
Operators	current 0, change +0 / -0
Sounding Site	2
GNSS	1

1.1 General information about GRUAN measurement systems

System	Type	Setups	Measurements	As scheduled
BAR-GN-01	GNSS	0	0	not scheduled
BAR-RS-01	Sounding Site	1	0	0.00 %
BAR-RS-02	Sounding Site	1	841	115.21 %

1.2 General comments from Lead Centre

1.2.1 General

ARM site.

ARM is using an automated routine to transmit data and raw data. ARM is requested to inform the Lead Centre of all upcoming changes in equipment, launch schedule or procedures to be able to update the metadata database.

It is strongly recommended that the site uses a manufacturer independent ground check, e.g. SHC, for the RS92 radiosonde.

1.2.2 GTS

This site regularly sends PTU measurements in the GTS (FM35 format, 2 times per day).

2 System: GNSS Site SG27 (BAR-GN-01)

Info	Value
System name	GNSS Site SG27
Unique GRUAN ID	BAR-GN-01
System type	GNSS (GN - GNSS)
Geographical position	71.3229 °N, -156.6103 °W, 7.5 m
Operated by	ARM | US DOE Atmospheric Radiation Measurement (ARM) Program
Instrument contact	Sisterson, Doug
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: Balloon-Borne Sounding System (SONDE) (BAR-RS-01)

Info	Value
System name	Balloon-Borne Sounding System (SONDE)
Unique GRUAN ID	BAR-RS-01
System type	Sounding Site (RS - Radiosonde)
Geographical position	71.3233 °N, -156.6158 °W, 8.0 m
Operated by	ARM | US DOE Atmospheric Radiation Measurement (ARM) Program
Instrument contact	Sisterson, Doug
Started at	-
Defined setups	1 (ROUTINE)
Possible streams	RS92

3.1 Lead Centre comments

3.1.1 General

Manual launch site until February 2012.

4 System: Balloon-Borne Sounding System (SONDE) (BAR-RS-02)

Info	Value
System name	Balloon-Borne Sounding System (SONDE)
Unique GRUAN ID	BAR-RS-02
System type	Sounding Site (RS - Radiosonde)
Geographical position	71.3233 °N, -156.6158 °W, 8.0 m
Operated by	ARM | US DOE Atmospheric Radiation Measurement (ARM) Program
Instrument contact	Sisterson, Doug
Started at	2012-02-08
Defined setups	1 (AUTO1)
Possible streams	RS92

4.1 Lead Centre comments

4.1.1 Dataflow

Dataflow is running fully automated from the ARM Archive to the GRUAN LC. Launch metadata are not checked manually. Equipment changes (e.g. balloon, unwinder, …) are not recorded.

As a consequence it is essential that the Lead Centre is notified of all upcoming changes to be able to maintain a correct metadata record. (This comment applies to all ARM sites in GRUAN.)

Additional launches from the 'ARM Radiosondes for NPOESS/NPP Validation' field campaign are included in the dataflow.

4.1.2 Data quality

Only few data processing issues (corrupt files or unknown issues).

One third of the measurements pass GRUAN Quality Control routines with a 'checked' label, which is largely due to uncertainty inconsistencies in pressure and humidity.

GC25 ground check corrections are within expected limits.

4.1.3 General

Auto-launcher since February 2012.

4.2 GRUAN data products

Product	Version	Soundings received	Available at LC	Distributed by NCDC

4.2.1 Stream: RS92

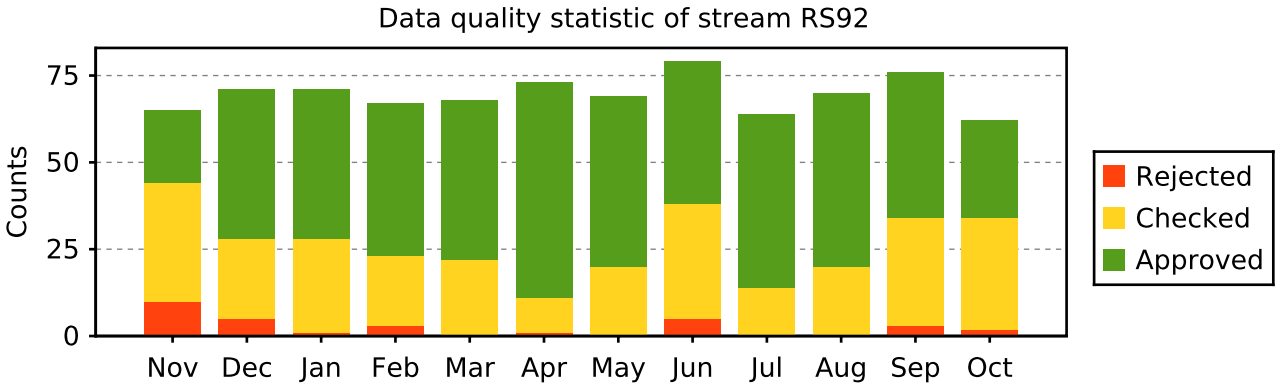
RS92		841	841	
RS92-RAW	001		835	
RS92-GDP	001		142	
RS92-GDP	002		805	519

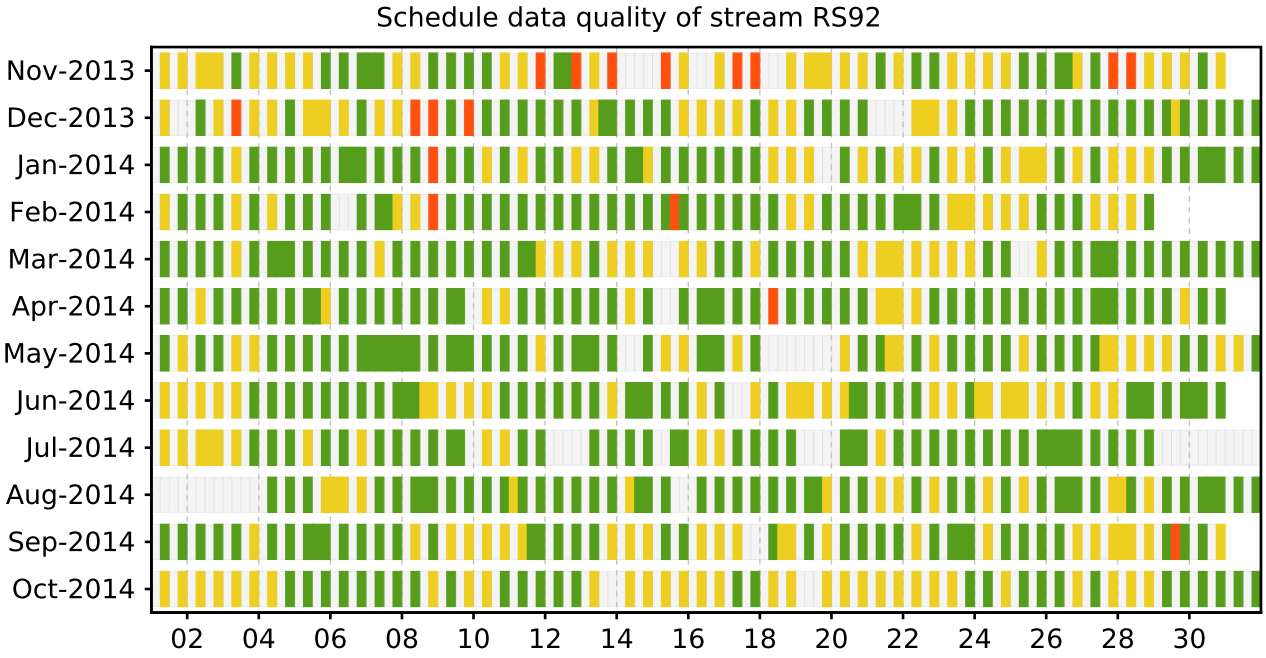
4.3 Data quality of current GRUAN data products

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

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

Nov 13	65	21	34	10			12		32
Dec 13	71	43	23	5			7		21
Jan 14	71	43	27	1					27
Feb 14	67	44	20	3			1		19
Mar 14	68	46	22						22
Apr 14	73	62	10	1			1		10
May 14	69	49	20						20
Jun 14	79	41	33	5					35
Jul 14	64	50	14						14
Aug 14	70	50	20				1		22
Sep 14	76	42	31	3			2		32
Oct 14	62	28	32	2			4	2	32
	835	**519**	**286**	**30**			**28**	**2**	**286**





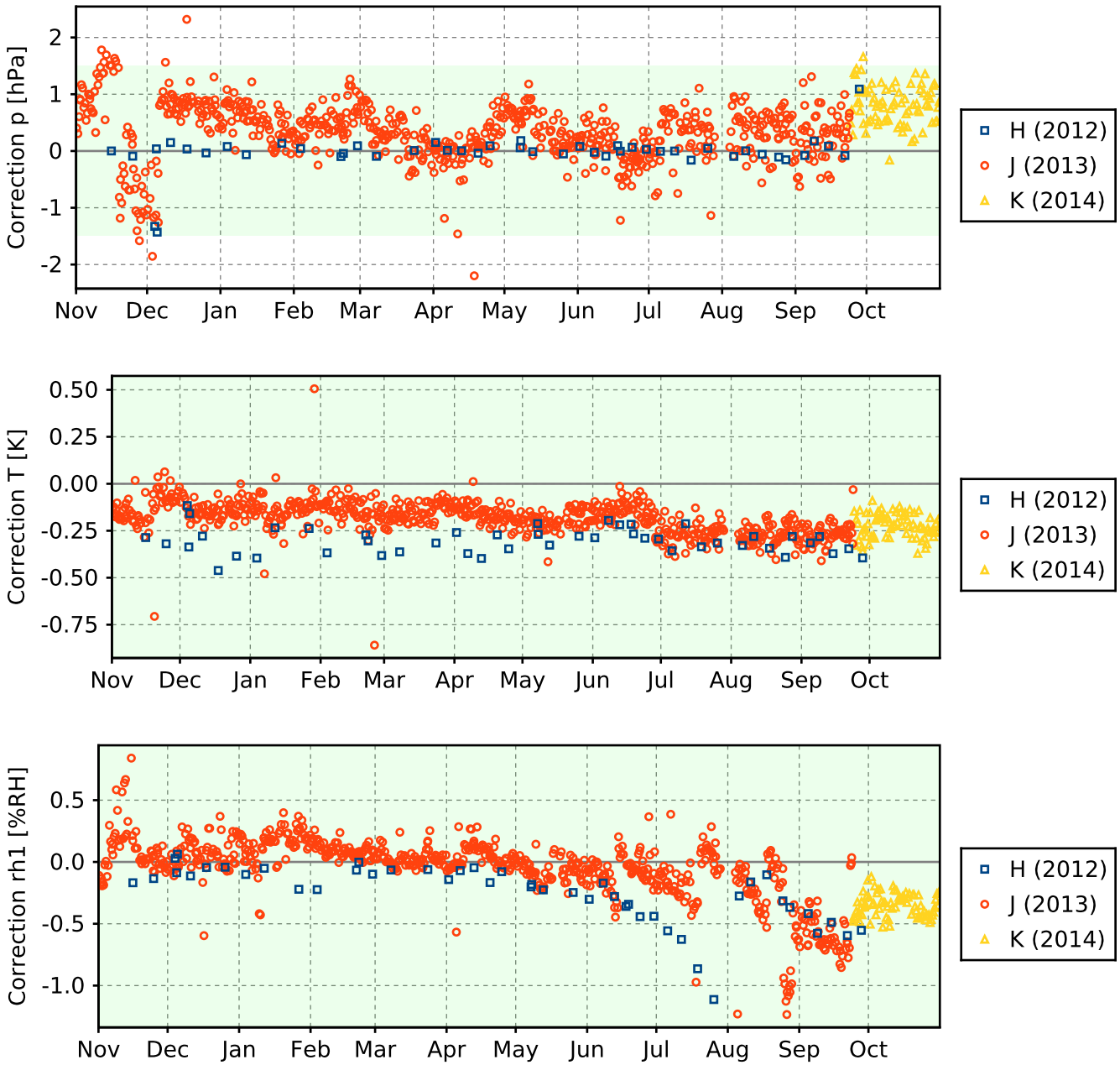
4.4 Instrument combinations of BAR-RS-02

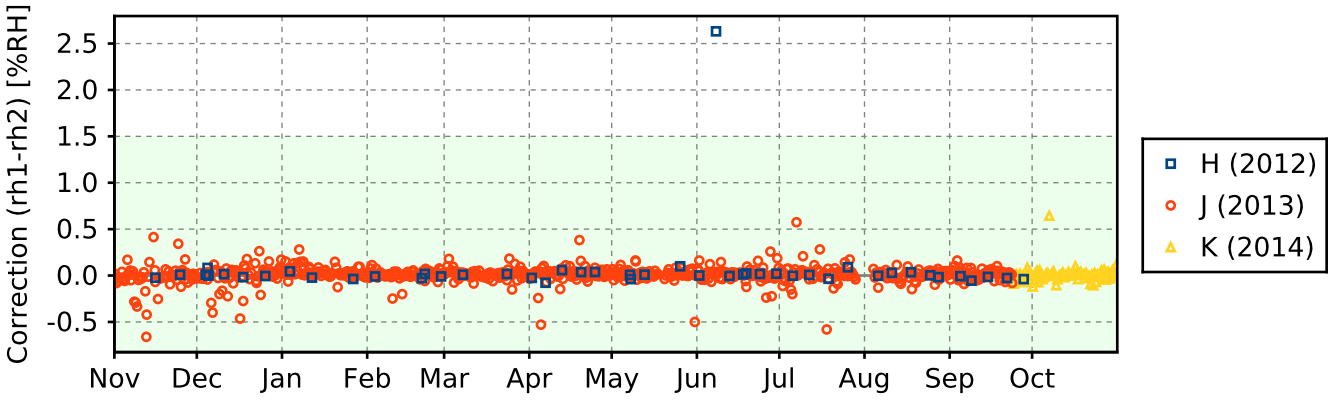
Count	Instrument combination
841	RS92

4.5 Instrument ground check

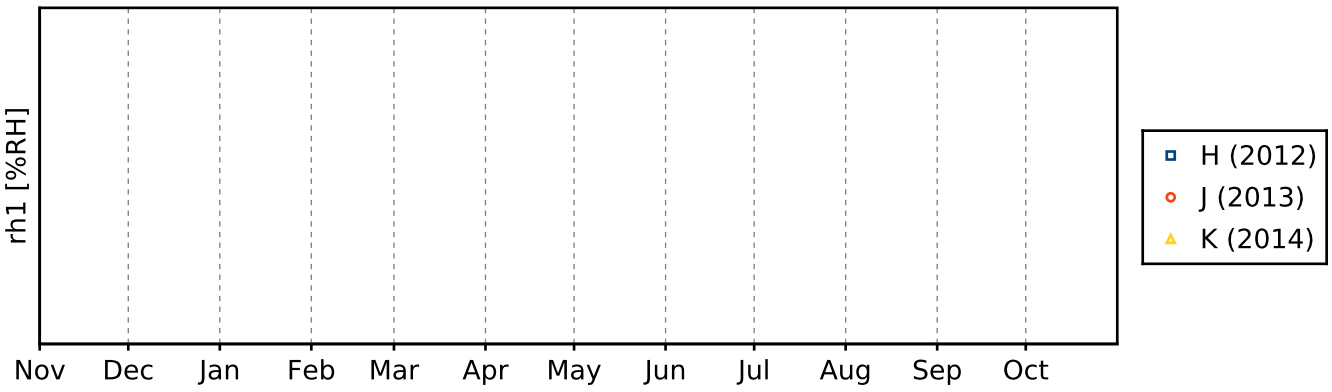
4.5.1 Stream: RS92

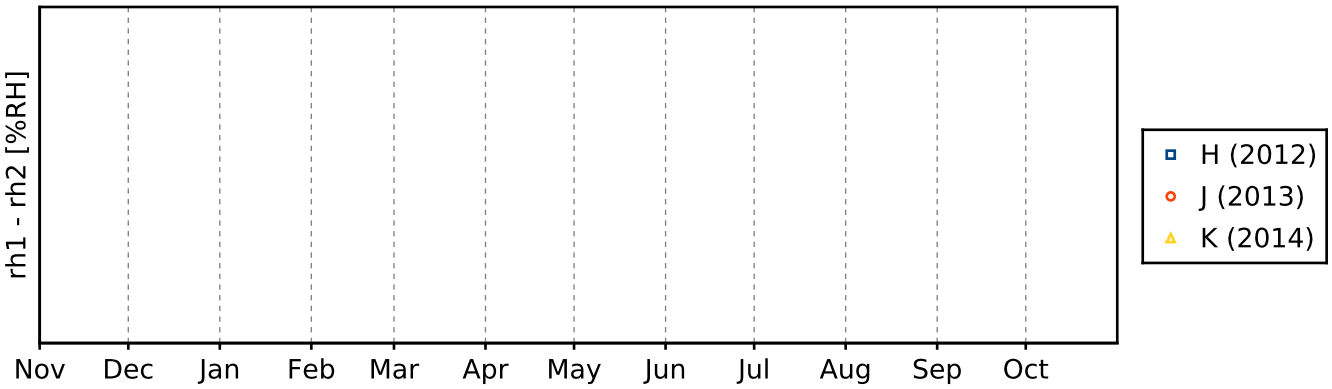
4.5.1.1 GroundCheck: GC25

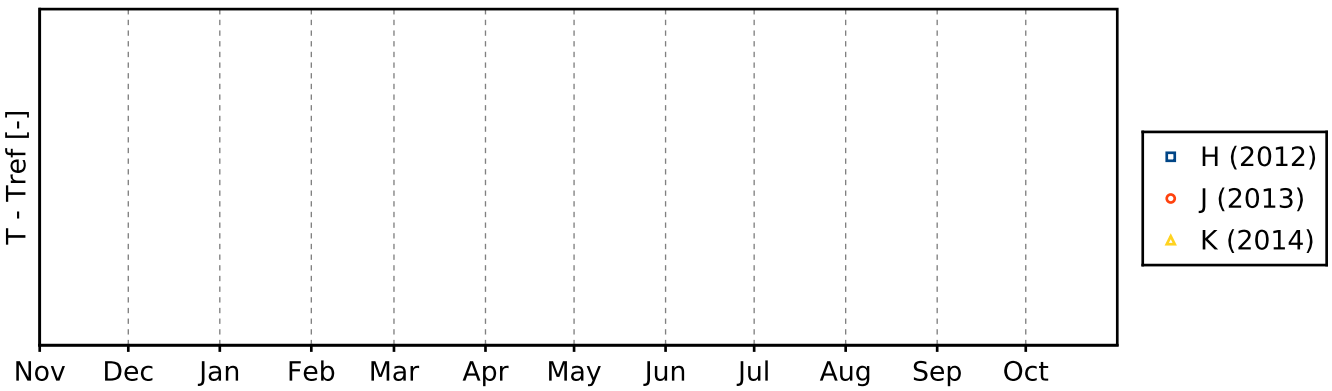




4.5.1.2 GroundCheck: SHC

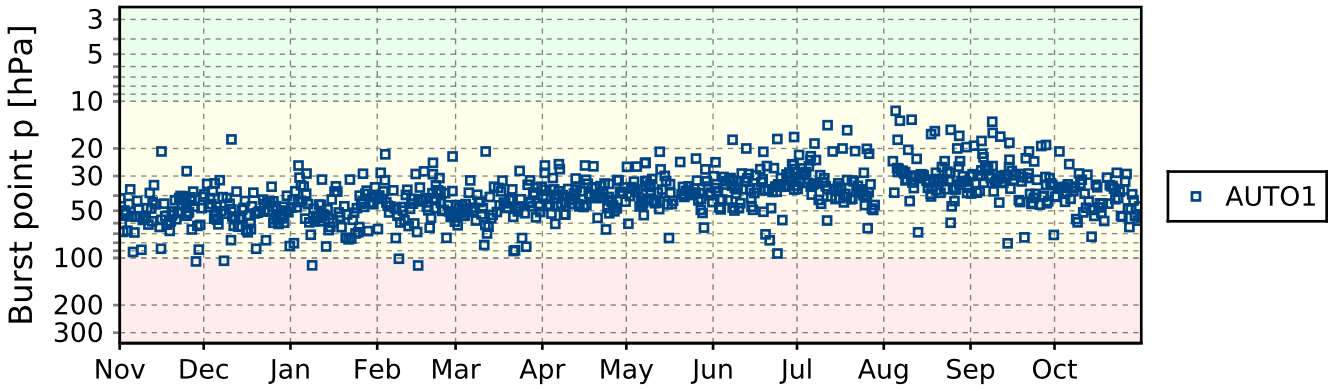






4.6 Measurement events

4.6.1 Stream: RS92


Burst point p [hPa]
3
5
10
20
30
50
100
200
300
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
AUTO1