



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

Doc. 7.06  
(1.V.2019)

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**11th GRUAN Implementation-  
Coordination Meeting (ICM-11)**

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Session 7

Singapore

20 - 24 May 2019

## GRUAN Site Report for Darwin

*(Submitted by Matt Tully)*

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

Report from the GRUAN site Darwin for the period January to December 2018.

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## **Overview**

Regular twice-daily radiosonde launches are currently performed at Darwin Airport. Daily total column ozone measurements are also made (Dobson), and a small number of Umkehr ozone profiles.

## **Change and change management**

The transition from Vaisala RS92 to RS41 took place on 1 July 2018. An intercomparison campaign was conducted in the dry season consisting of approximately 60 flights, 20 x 11Z (night), 30 x 23Z (day-time) and 10 x 05 Z. Data from the intercomparison has been submitted to the GRUAN Lead Centre.

## **Resourcing**

Nil at present.

## **Operations**

Balloon launches are made with a "Remote Balloon Launcher" which offers limited capacity. The RsLaunchClient is not yet being used. Raw data has been submitted to the GRUAN Lead Centre.

## **Site assessment and certification**

Not yet certified.

## **GRUAN-related research**

Nil. (Results from the RS92/RS41 intercomparison will be presented at ICM-11.)

## **WG-GRUAN interface**

A letter of support was sent to the Australian PR which is now being responded to.

## **Items for ICM-11 plenary discussions**

Use of the RsLaunchClient presents difficulties because of IT security issues is there any possibility of an alternative method?

## **Other archiving centres**

GUAN, WOUDC (total ozone), BSRN (Solar Radiation), NDACC (total ozone)

## **Participation in campaigns**

NIL

## **Future plans**

An automated balloon launcher is expected to be installed in Darwin within the next 5 years. It is hoped to commence frost point hygrometer launches within the next 12 months.



# GRUAN Site Report for Darwin (DAR), 2018

Reported time range is Jan 2018 to Dec 2018

Created by the Lead Centre

Version from 2019-05-09

## 1 General GRUAN site information

Object	Value
Station name	Darwin
Unique GRUAN ID	DAR
Geographical position	-12.4300 °S, 130.8900 °E, 30.0 m
Operated by	BOM   Australian Bureau of Meteorology
Main contact	Tully, Matthew
WMO no./name	94120 DARWIN
Operators	currently 0, changes +0 / -0
Sounding Site	1
GNSS	1

### 1.1 General information about GRUAN measurement systems

System	Name	Type	Setups	Measurements
DAR-GN-01	GNSS Site SA39	GNSS	0	not operational
DAR-RS-01	Darwin radiosonde launch site	Sounding Site	2	57

### 1.2 General comments from Lead Centre

#### 1.2.1 Change management

Dual flights were performed during a campaign to compare Vaisala RS92 and RS41 radiosondes in the tropical region.

#### 1.2.2 General

No operational dataflow to GRUAN LC so far.

## 2 System: GNSS Site SA39 (DAR-GN-01)

<b>Object</b>	<b>Value</b>
System name	GNSS Site SA39
Unique GRUAN ID	DAR-GN-01
System type	GNSS (GN - GNSS)
Geographical position	-12.4246 °S, 130.8916 °E, 84.9 m
Operated by	BOM   Australian Bureau of Meteorology
Instrument contact	Tully, Matthew
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: Darwin radiosonde launch site (DAR-RS-01)

Object	Value
System name	Darwin radiosonde launch site
Unique GRUAN ID	DAR-RS-01
System type	Sounding Site (RS - Radiosonde)
Geographical position	-12.4239 °S, 130.8925 °E, 30.4 m
Operated by	BOM   Australian Bureau of Meteorology
Instrument contact	Tully, Matthew
Started at	-
Defined setups	2 (ROUTINE, DUAL1)
Possible streams	RS41, RS92

#### 3.1 Lead Centre comments

##### 3.1.1 Dataflow

No radiosonde dataflow to GRUAN LC as yet.

#### 3.2 GRUAN data products

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

RS41		57	57	
RS41-RAW	001		57	
RS41-EDT	001		57	
RS41-GDP-ALPHA	002		57	

##### 3.2.2 Stream: RS92

RS92		57	57	
RS92-RAW	001		57	
RS92-RAW	002		57	
RS92-EDT	001		56	
RS92-GDP	002		53	15

### 3.3 Data availability of data products

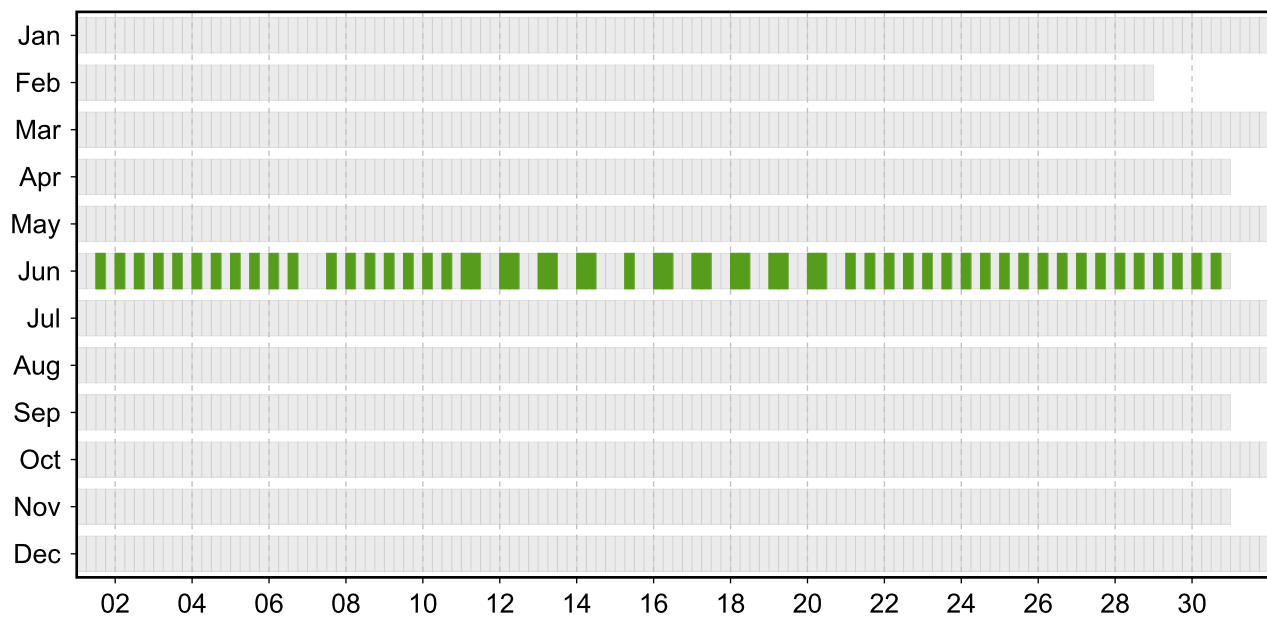
Available (green): All steps of processing have been successfully completed. The data file is available at LC (e.g. unapproved or uncertified GRUAN data products) and at NCEI (approved and certified GRUAN data products).

Unprocessed (yellow): The raw data file has been successfully converted to a GRUAN standardized raw data file format (NetCDF). The processing (e.g. GRUAN data processing) has not yet been done, or has not been completed. Reason may be a processing routine which does not yet exist, or software errors.

Original (red): The original raw data file is available (e.g. MWX). The raw data file was not converted to a GRUAN standardized raw data file format (NetCDF). Reason may be a converting routine which does not yet exist, or a corrupt original raw data file, or software errors.

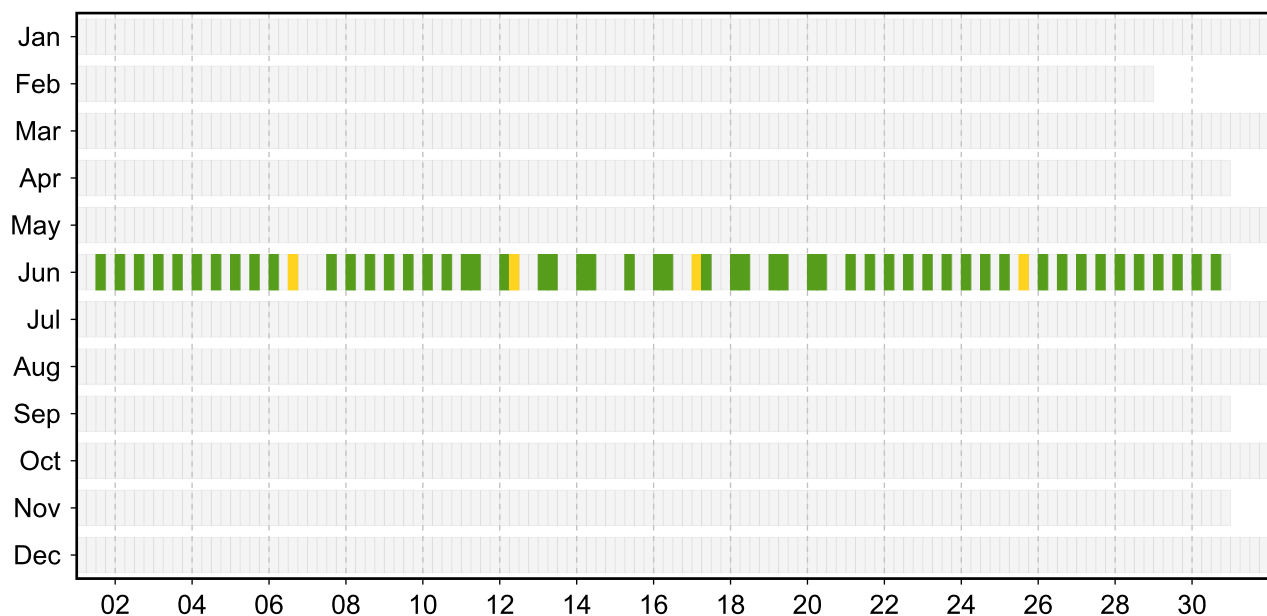
#### 3.3.1 Stream: RS41

Data availability RS41



#### 3.3.2 Stream: RS92

Data availability RS92





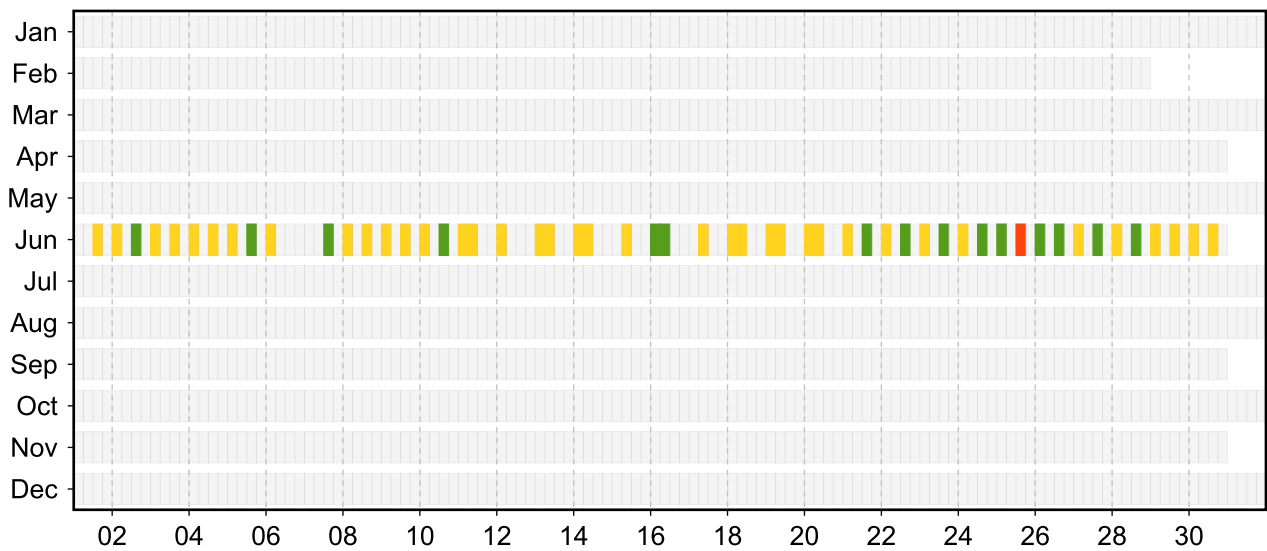
### 3.4 Data quality of current GRUAN data products

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

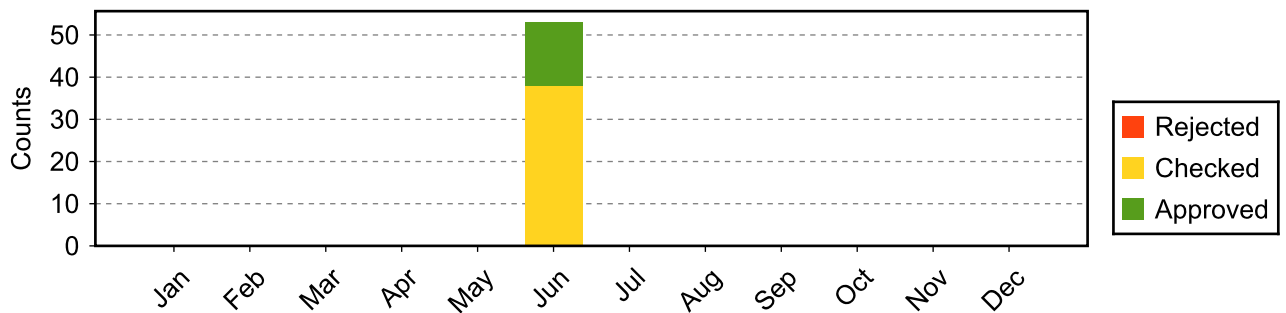
#### 3.4.1 Stream: RS92 (Product: RS92-GDP-002)

Month	Total	Approved	Checked	Rejected	Meta-data	Process.	Press	Temp	RH
Jan									
Feb									
Mar									
Apr									
May									
Jun	53	15	38						38
Jul									
Aug									
Sep									
Oct									
Nov									
Dec									
<b>Sum</b>	<b>53</b>	<b>15</b>	<b>38</b>						<b>38</b>

Data quality of stream RS92



Data quality statistic of stream RS92



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### 3.5 Instrument combinations of DAR-RS-01

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<b>Count</b>	<b>Instrument combination</b>
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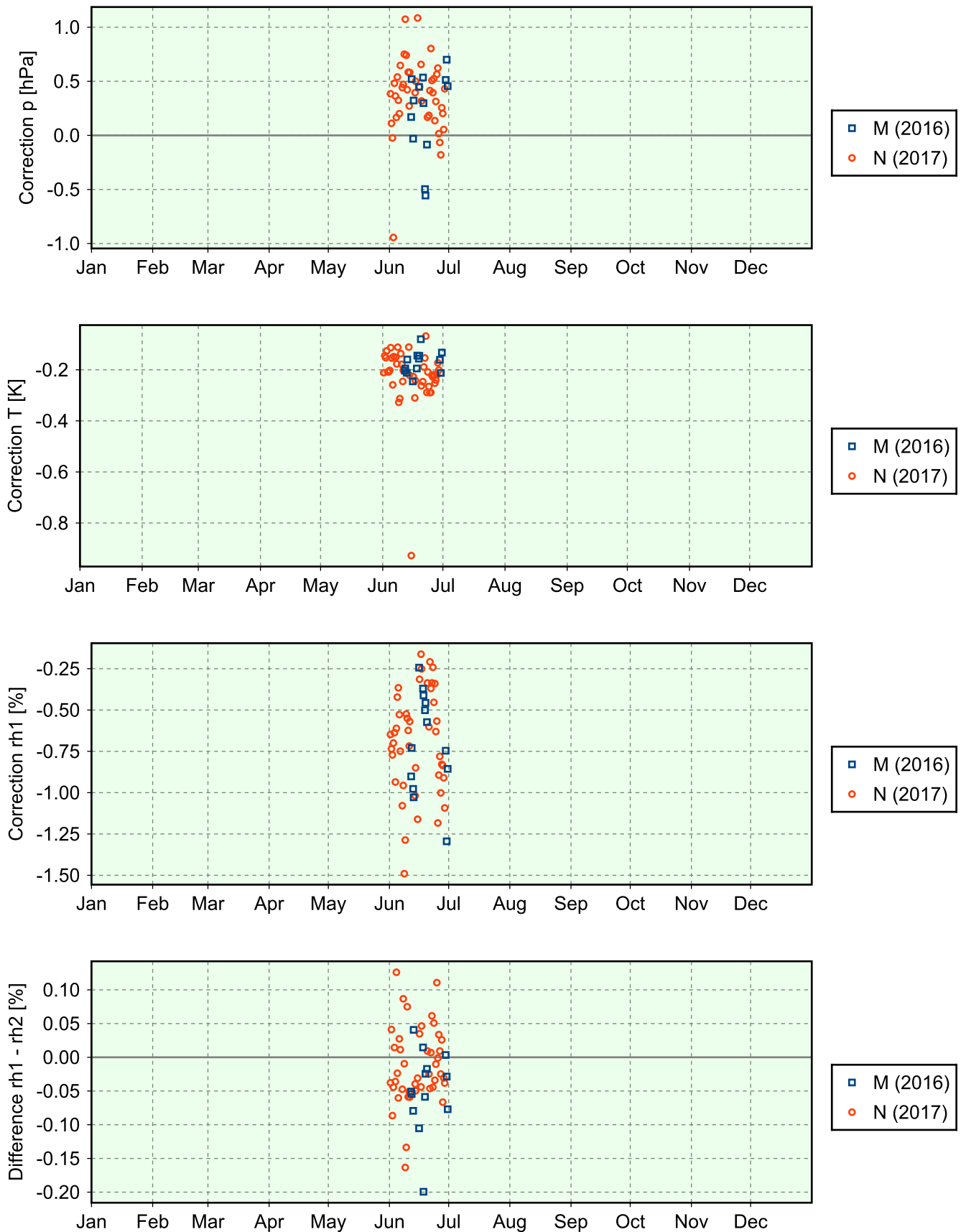
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57	RS41, RS92
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### 3.6 Instrument ground check

#### 3.6.1 Stream: RS92

##### (1) GroundCheck: GC-GC25



### 3.7 Measurement events

