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GLOBAL CLIMATE OBSERVING
SYSTEM (GCOS)

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

Session 7

Singapore

20 - 24 May 2019

GRUAN Site Report for Tenerife

(Submitted by Miguel Hernandez)

Summary and Purpose of this Document

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

Overview

TEN contributes to GRUAN data with a twice-a-day sounding programme. In this Report Period (Jan-Dec 2018), a RS41-SGP datastream is available. Launches typically reach 10 hPa.

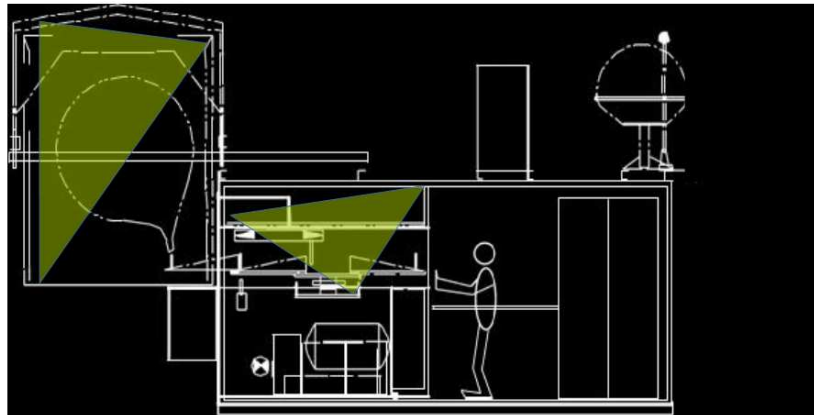
Change and change management

There has been little change in operational procedures in this period.

- Calibration of GC barometer and AWS barometer Baro-1QML-AV was carried out on June 6th, 2018 and an extraordinary verification was done on September 26th, 2018. In both cases, the pressure sensor passed the verification OK and no adjustment was necessary.
- Auto-launcher regular bi-annual maintenance was undertaken on 5 May and on 4 December 2018 by INE-MET S.L. (Vaisala certified contractor) with no significant findings.
- Since September 2018, operators were instructed so that they never manipulate balloons earlier than 14 days before launches (in the past, non-return valves were fitted to balloons even earlier in order to have ready to load). However, no significant change in bursting altitude has been observed.
- Two webcams has been installed in the station, within the container. One of them inside ready-to-launch storage area (carousel). It can monitor mechanical movements of the roulette. The other one was installed inside the launcher vessel so we can now visualize the last part of balloon filling and the launching. In this diagram the approximate FoV for each camera are shown as green areas.
- A Standard Humidity Chamber model 1 is now ready to perform radiosonde pre-flight 100 % RH checks. However a protocol and checking program has yet to be developed.
- A warning form LC related to a possible radiosonde temperature sensor malfunction which has been detected in some stations specially in Central Europe was investigated. No significant amount of errors of this type were found in recent years at TEN.
- There are no significant changes in environment. New pictures were sent to LC.

Resourcing

Resources are guaranteed for next period 2019-2020, in personnel, funding and materials.



Operations

In march2018, we started to use the RsLClient to send the data files. All past data available were sent by ftp to LC. We have noticed that some RS41 data files were not uploaded:

- 12 December 2017 to 22 February 2018
- 7 March to 20 March 2018

We are not sure why. In agreement with LC we uploaded them manually in march 2019. Perhaps a closer monitoring of the RsLaunchClient is required.

Site assessment and certification

Certification process depends on GRUANs policy for auto-launchers. We are willing GRUAN policies to develop further or clarify in order to push Tenerife certification ahead.

GRUAN-related research

No significant research has been done at Tenerife during this period.

Miguel Hernandez became part of Radiosonde Task Team. However little work has been carried out at Tenerife for this Team mainly because of lack time.

WG-GRUAN interface

OK

Items for ICM-11 plenary discussions

Auto-launcher certification progress. Unfortunately, Miguel Hernandez wont be able to attend to 2019 ICM.

Other archiving centers

The station belongs to AEMETs Thermodynamic Sounding Network (RST). This network management is ISO 9001:2008 certified. Data (in TEMP BUFR format) contributes to the GOS and the GUAN network.

Participation in campaigns

NIL

Future plans

- In the next two years, our goal will be establishing a permanent local research programme at Tenerife sounding station. Especially related to water-vapour studies and radiosonde ground-check stability.
- During 2019, we hope to install a GNSS precipitable water instrumentation, very near the station.
- During the second half of 2019, the helium gas banks pressure and distribution system is to be upgraded. We hope this will improve a more precise balloon filling and reduce helium leakages.
- An important future development (planned for late 2019) is the use of new RS41 EPS-covered radiosonde (currently RS41 radiosondes are plastic-covered). This will mean less weight (minus 27%) and therefore a smaller initial helium volume is required. As we are keeping the 500-gr TOTEX balloons, it is expected that a higher altitude will be attained after this change takes place. LC will be informed in advance.



GRUAN Site Report for Tenerife (TEN), 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	Tenerife
Unique GRUAN ID	TEN
Geographical position	28.3184 °N, -16.3822 °W, 115.0 m
Operated by	AEMET Agencia Estatal de Meteorología
Main contact	Hernández, Miguel
WMO no./name	60018 TENERIFE-GUIMAR
Operators	currently 0, changes +0 / -0
Sounding Site	1

1.1 General information about GRUAN measurement systems

System	Name	Type	Setups	Measurements
TEN-RS-01	Tenerife Automatic Radiosonde Launch System (AUTOSONDE)	Sounding Site	2	730

1.2 General comments from Lead Centre

1.2.1 General

Good communications between station and GRUAN LC.

2 System: Tenerife Automatic Radiosonde Launch System (AUTOSONDE)

Object	Value
System name	Tenerife Automatic Radiosonde Launch System (AUTOSONDE)
Unique GRUAN ID	TEN-RS-01
System type	Sounding Site (RS - Radiosonde)
Geographical position	28.3184 °N, -16.3822 °W, 115.0 m
Operated by	AEMET Agencia Estatal de Meteorología
Instrument contact	Hernández, Miguel
Started at	2002-09-10
Defined setups	2 (ROUTINE, ROUTINE2)
Possible streams	RS41, RS92

2.1 Lead Centre comments

2.1.1 Dataflow

Sonde dataflow to the GRUAN LC is operational since November 2017. This dataflow includes stream of the Vaisala RS41-SGP (since Dec 2017). All launches are submitted using the GruanToolRsLaunch (gtRsl).

2.2 GRUAN data products

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

RS41		730	730	
RS41-GCA	001		44	
RS41-RAW	001		730	
RS41-EDT	001		729	
RS41-GDP-ALPHA	002		627	

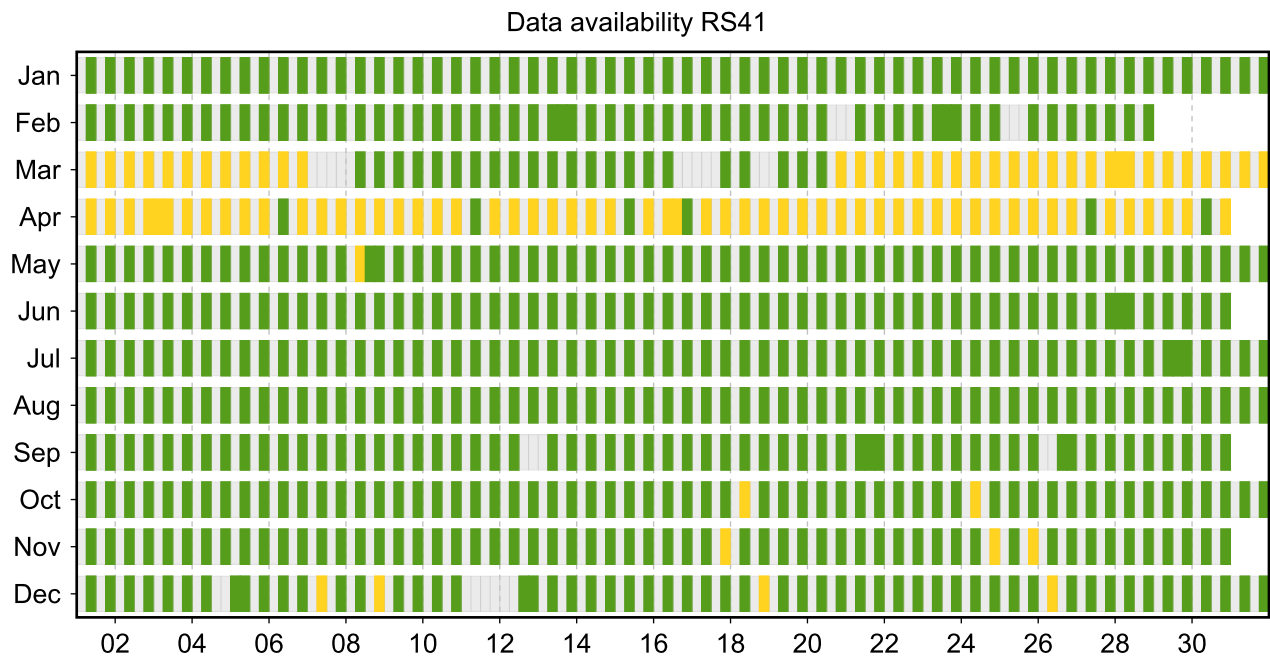
2.3 Data availability of data products

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.

2.3.1 Stream: RS41



2.5 Instrument combinations of TEN-RS-01

Count	Instrument combination
730	RS41

2.7 Measurement events

