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GLOBAL CLIMATE OBSERVING
SYSTEM (GCOS)

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**14th GRUAN Implementation-
Coordination Meeting (ICM-14)**

Session 5

La Réunion

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GRUAN Site Report for Tenerife

(Submitted by Miguel Hernández)

Summary and Purpose of this Document

Report from the GRUAN site Tenerife for the period January to December 2021.

Overview

TENERIFE contributes currently to GRUAN with a twice-a-day sounding programme. In this Report Period (Jan-Dec 2021), 750 soundings were sent to LC in data stream RS41-SGP using the gtRsl tool. In the future (late 2022, early 2023) we expect to contribute also in the GNSS-PW data stream.

Change and change management

- SSoftware version was updated twice in 2021 according to recommendation by manufacturer. First time on 28-January-2021 (MW41software changed to version 2.17 and controller AUTOSONDE software to version 1.7) and the second time on 2-June-2021 (a further MW41 version update to 2.17.1). We updated conveniently these data in the GtRsl ChageFile and communicated to LC.
- In May 2021, the communication technology at the site was upgraded to optical fibre.
- There was no significant change in environment. According to TN-9, pictures were uploaded in LC's ftp site.
- We would like to note that Tenerife sounding stations also belongs to GUAN (so it can be updated in the GRUAN website description).

Resourcing

Current reporting period had no resourcing issues. The resources are guaranteed for next period (2022) in personnel, funding and materials for operational launchings. The site is visited at least once per week. INEMET S.L. (Vaisala's certified contractor in Spain) performs twice-a-year mechanical and software maintenance.

Operations

- Main deviation from GRUAN operating procedures is still the lack of SHC check prior to launches. This is due to 1) GRUAN auto-launcher issues and 2) standard operation condition (forecast-oriented automatic launches), but see the Future Plans section.
- Verification of AWS and auto-launcher ground check pressure sensors took place on 9-September-2021. No adjustment was necessary.
- TENERIFE keeps reaching the 10 hPa level before balloon bursting in most launches.

Covid-19

Fortunately, Covid-19 has not played any impact in operation during 2021. However it has delayed some of the goals defined for 2021 such as acquisition of GNSS receiver.

Site assessment and certification

TENERIFE is still not a certified site. Although the schedule for certification has not been defined in 2021, some steps has been taken towards this goal.

GRUAN-related research

In April 2021 an experiment was proposed by LC (Task Teams Sites) in order to assess the stability of RS41 radiosonde ground-check for RH. At least TENERIFE and PAYERNE sites joined. The goal was to determine if the 100% RH check was stable for at least two weeks. Basically, a chosen radiosonde was tested using SHC and then stored in the carrousel of our VAISALA auto-launcher AS41 for two weeks. After that time another SHC test was performed and the radiosonde was set to be launched (after a further auto-launcher automatic ground check for 0

WG-GRUAN interface

OK

Other archiving centers

The station belongs to AEMET's Thermodynamic Sounding Network (RST). This network management is ISO 9001:2008 certified. BUFR ascent and descent data are sent to GOS and the GUAN network.

Participation in campaigns

No campaigns in 2021.

Future plans

In 2022 we have planned these two goals:

- Acquisition (and perhaps installation) of a GNSS receiver. In agreement with GNSS-PW TT recommendations and directed to complete requirements for TENERIFE's certification. The new data stream could be started in 2023.
- Design a new set of tests in order to gain more information about the RS41 ground check stability. We will test further the radiosondes 100% RH checks in order to be able to conduct at least once a week GRUAN full operating procedures. These tests will be designed and conducted in agreement with LC.



GRUAN Site Report for Tenerife (TEN), 2021

Reported time range is Jan 2021 to Dec 2021

Created by the Lead Centre

Version from 2022-11-15

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	750

1.2 General comments from Lead Centre

No comments from Lead Centre.

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 December 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		750	750	
RS41-RAW	001		746	
RS41-EDT	001		710	
RS41-GDP	001		707	
RS41-GDP-BETA	002		342	
RS41-GDP-BETA	003		606	

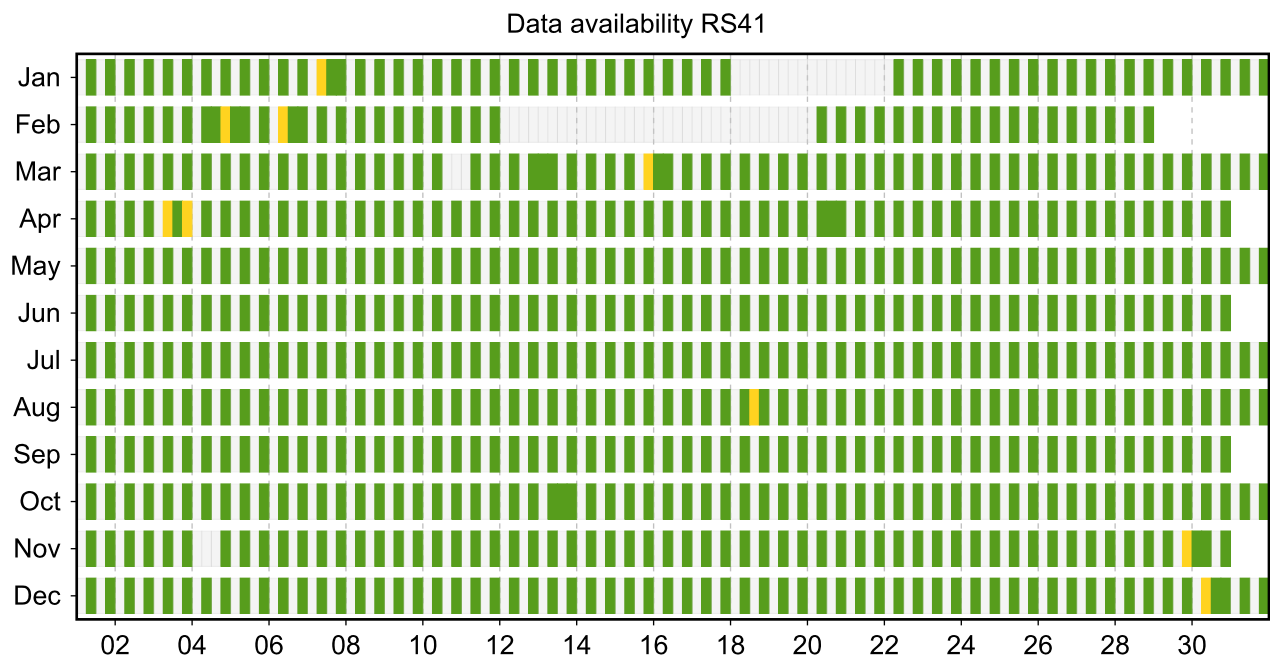
2.3 Availability of data products

Available (green): All steps of data processing have been successfully completed. The data product file is available at LC (e.g. files that didn't pass QA/QC or uncertified GRUAN data products) and/or at NCEI (a certified GRUAN data product file that did pass QA/QC).

Unprocessed (yellow): The manufacturer-produced file with raw measurement data has been successfully converted into a GRUAN-standardized raw data format (NetCDF). The GRUAN data processing has not been performed or was aborted. Reasons for this may be a still missing GRUAN data processor or a processing-software error.

Original (red): The original, manufacturer-produced, raw data file is available (e.g. MWX data file) but was not converted into a GRUAN-standardized raw data format (NetCDF). Reasons for this may be missing data conversion software, a software error, or a corrupt data file.

2.3.1 Stream: RS41



2.4 Instrument combinations of TEN-RS-01

Count	Instrument combination
750	RS41

2.6 Measurement events

