



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

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**13th GRUAN Implementation-  
Coordination Meeting (ICM-13)**

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Session 1

Virtual

15 November - 19 November 2021

## GRUAN Site Report for Syowa

*(Submitted by Yoshinobu Tanaka )*

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

Report from the GRUAN site Syowa for the period January to December 2020.

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## **Overview**

Syowa is operated by Japan Meteorological Agency (JMA). Syowa contributes to GRUAN with the operational data streams of RS-11G radiosonde (2 times per day) and GNSS IPW. Syowa additionally conducts surface observation, ECC ozonesonde observation, CFH observation, total column ozone observation with a Dobson ozone spectrophotometer, ultraviolet observation with a Brewer spectrophotometer, radiation observation and greenhouse-gases observation. Syowa conducts ground check in SHC at 0% and 100%RH similarly to Tateno and Minamitorishima before launching RS-11G radiosondes.

## **Change and change management**

All the measurement instruments were moved from the old observation building to the new one.

## **Resourcing**

JMA is trying to curtail the budget of observations.

## **Operations**

During winter seasons, balloon burst point tends to decrease due to extremely low temperature. Syowa deals with this problem with kerosene dipping of balloons every year.

## **Covid-19**

NIP since Syowa was already isolated when Covid-19 pandemic started.

## **Site assessment and certification**

Preparation for site certification of Syowa is in progress by JMA.

## **GRUAN-related research**

NIP.

## **WG-GRUAN interface**

NIP.

## **Other archiving centres**

- Total ozone and ozonesonde observation: WOUDC (GAW)
- Surface ozone observation: WDCRG (GAW)
- Radiation observation: WRMC (BSRN)

## **Participation in campaigns**

NIP.

## **Future plans**

Syowa will change the place of radiosonde launch point from the old deck to the new one in 2021.  
Test flight of SKYDEW will be made during winter season in 2021.



# GRUAN Site Report for Syowa (SYO), 2020

Reported time range is Jan 2020 to Dec 2020

Created by the Lead Centre

Version from 2021-04-27

## 1 General GRUAN site information

Object	Value
Station name	Syowa
Unique GRUAN ID	SYO
Geographical position	-69.0100 °S, 39.5800 °E, 25.5 m
Operated by	JMA   Japan Meteorological Agency
Main contact	Ogawa, Yutaka
WMO no./name	89532 SYOWA
Operators	currently 5, changes +5 / -5
Sounding Site	1
GNSS	1

### 1.1 General information about GRUAN measurement systems

System	Name	Type	Setups	Measurements
SYO-GN-01	GNSS site SYOG	GNSS	1	operational
SYO-RS-01	Syowa Station Radiosonde Launch Site	Sounding Site	4	708

### 1.2 General comments from Lead Centre

#### 1.2.1 Dataflow

Dataflow was established in 2018.

## 2 System: GNSS site SYOG (SYO-GN-01)

<b>Object</b>	<b>Value</b>
System name	GNSS site SYOG
Unique GRUAN ID	SYO-GN-01
System type	GNSS (GN - GNSS)
Geographical position	-69.0025 °S, 39.3501 °E, 50.1 m
Operated by	JMA   Japan Meteorological Agency
Instrument contact	Ogawa, Yutaka
Started at	-
Defined setups	1 (HOURLY)
Possible streams	-

### 2.1 Lead Centre comments

#### 2.1.1 Dataflow

No GNSS dataflow to LC has been established yet.

### 3 System: Syowa Station Radiosonde Launch Site (SYO-RS-01)

Object	Value
System name	Syowa Station Radiosonde Launch Site
Unique GRUAN ID	SYO-RS-01
System type	Sounding Site (RS - Radiosonde)
Geographical position	-69.0053 °S, 39.5811 °E, 21.6 m
Operated by	JMA   Japan Meteorological Agency
Instrument contact	Ogawa, Yutaka
Started at	1959-01-01
Defined setups	4 (ROUTINE, ROUTINE2, RESEARCH, DUAL)
Possible streams	CFH, ECC, IMS-100, RS-11G

#### 3.1 Lead Centre comments

##### 3.1.1 Dataflow

Sonde dataflow to the GRUAN LC is operational since September 2018.

##### 3.1.2 General

Routine soundings are performed two times per day.

Current operational radiosonde is the Meisei RS-11G.

#### 3.2 GRUAN data products

Product	Version	Soundings received	Available at LC	Distributed by NCEI
RS-11G		708	708	
RS-11G-BETA	002		1	
RS-11G-GDP	001		681	

##### 3.2.1 Stream: RS-11G

RS-11G		708	708	
RS-11G-BETA	002		1	
RS-11G-GDP	001		681	

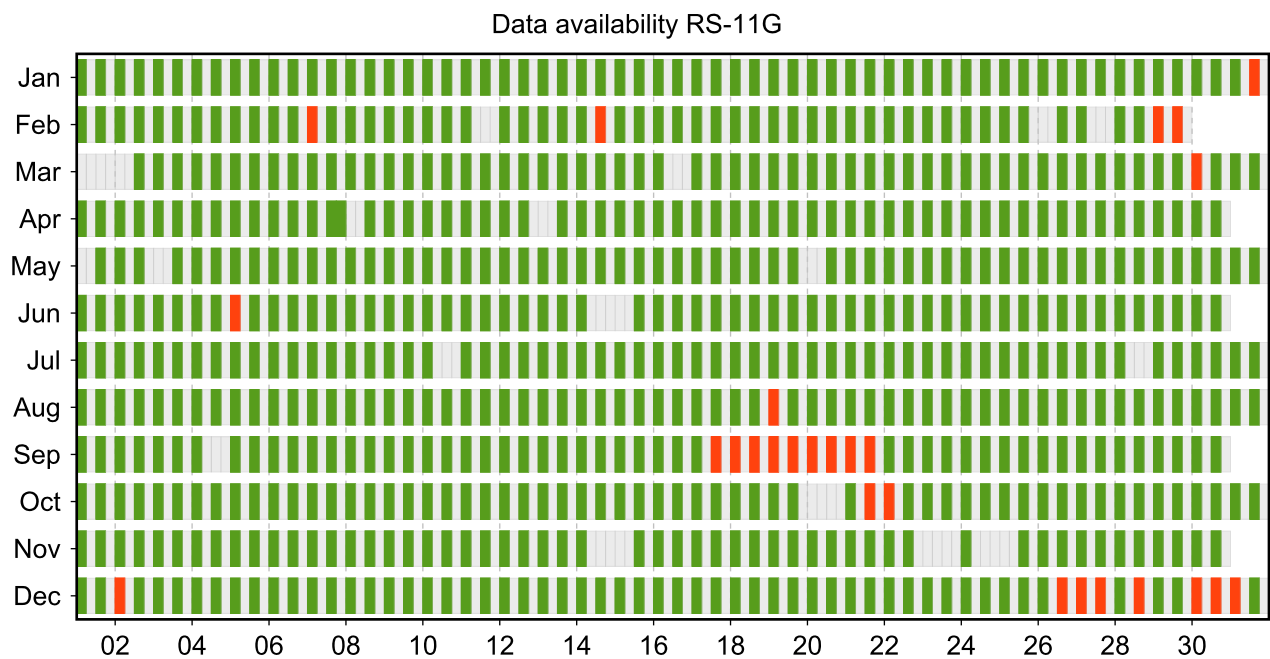
### 3.3 Availability of data products

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.

#### 3.3.1 Stream: RS-11G



#### 3.4 Instrument combinations of SYO-RS-01

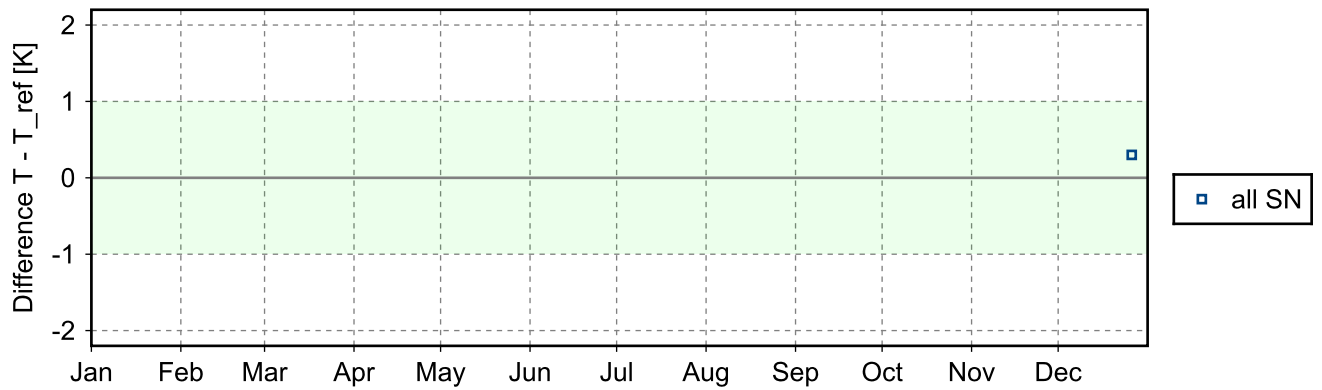
Count	Instrument combination
708	RS-11G



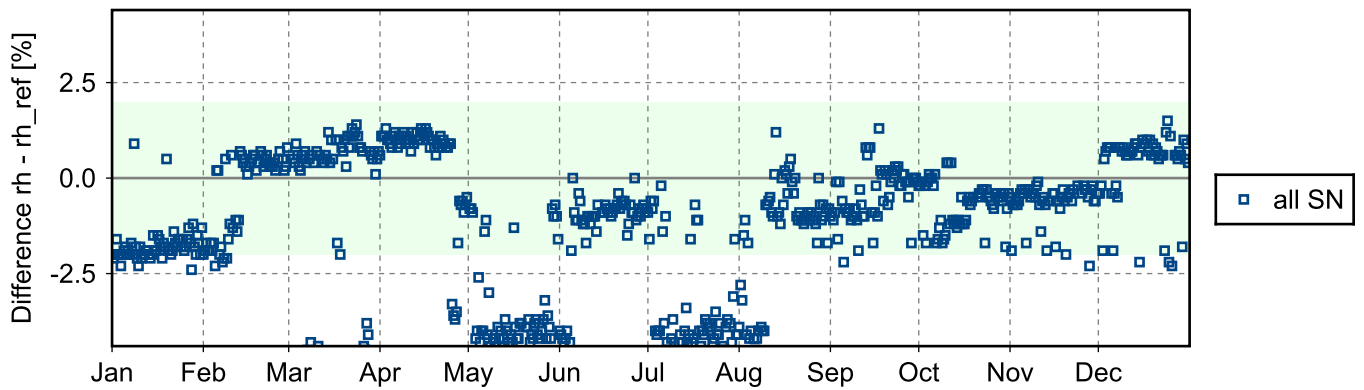
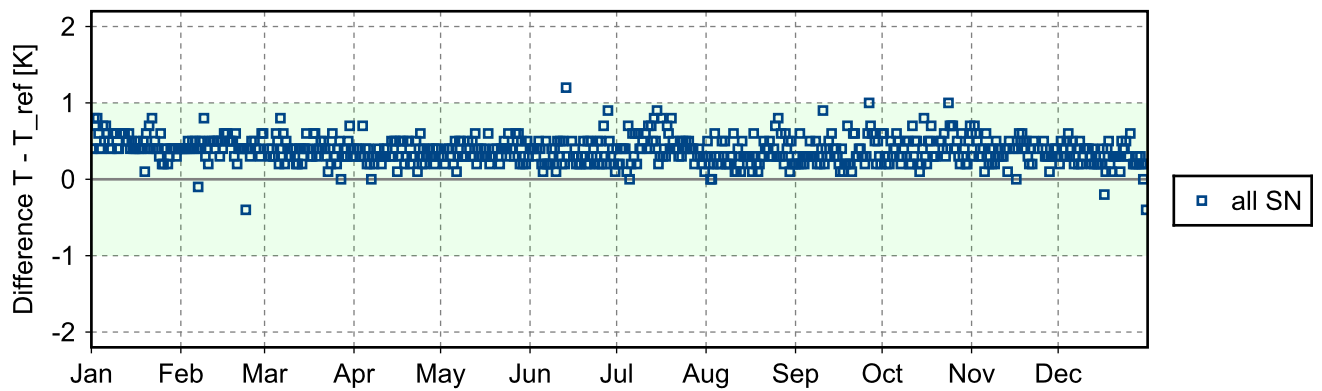
### 3.5 Instrument ground check

#### 3.5.1 Stream: RS-11G

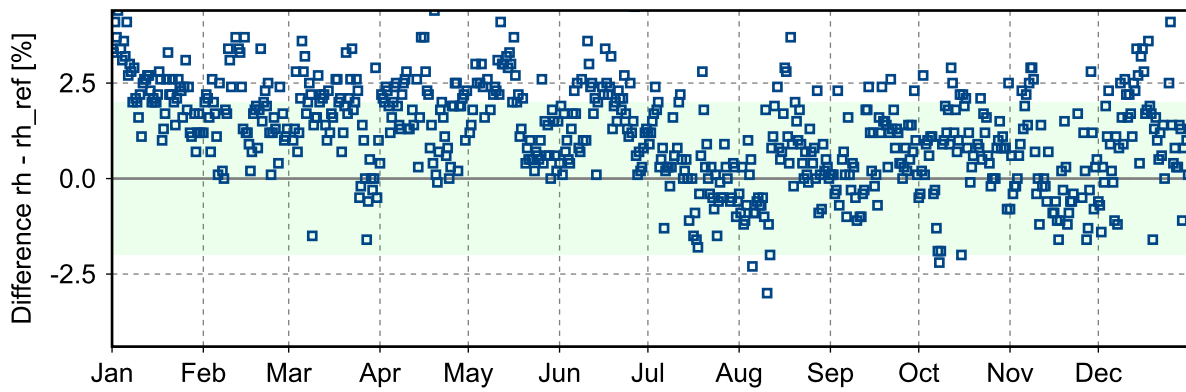
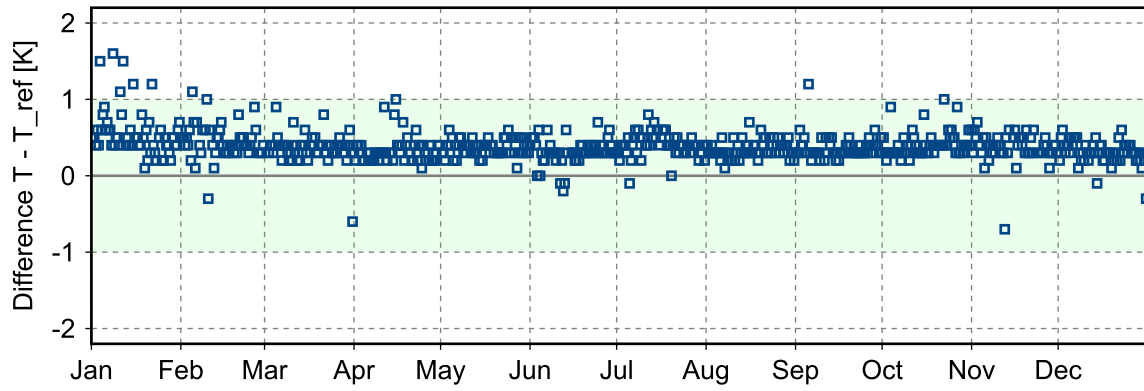
##### (1) GroundCheck: GC-TU



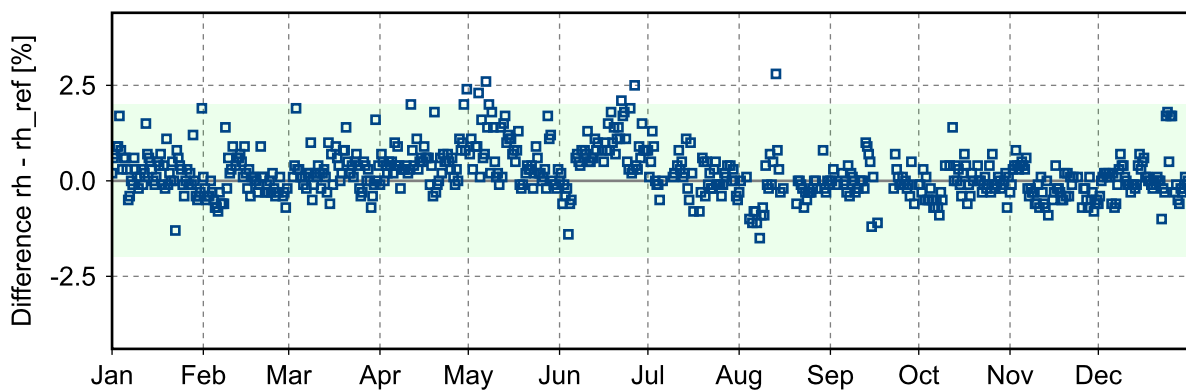
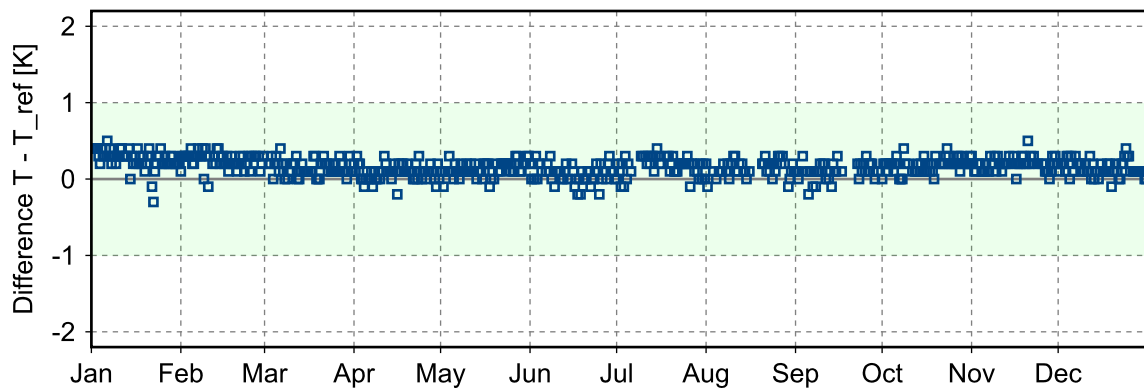
##### (2) GroundCheck: GC-TU(0)



**(3) GroundCheck: GC-TU(100)**



**(4) GroundCheck: GC-TU(room)**



### 3.6 Measurement events

