Updates from Tateno and introducing the new candidate sites

- Session 7, 14 June 2017 -

Masami Iwabuchi (Tateno / JMA)

Outline

Activity

1. GPS soundings in Tateno
2. Progress
3. Comparison between RS-11G and RS92-SGP
4. Comparison between iMS-100 and RS-11G
5. Future plan

New GRUAN candidate site

1. Minamitorishima
2. Syowa

GPS soundings in Tateno

Routine

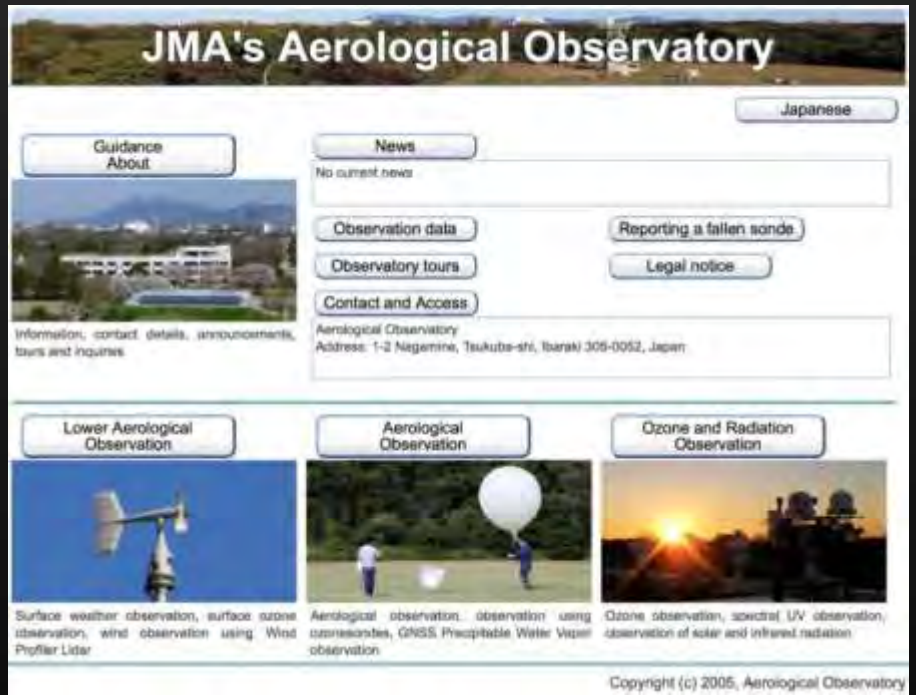
1. RS-11G (single) : twice a day
2. RS92-SGP (single) :once a week (summer only)
3. Ozonesonde (single) : once a week

Comparison

1. RS92-SGP and RS-11G : once a week (except summer)
2. iMS-100 and RS-11G : 20 times X 4 season
3. MTR – RS11G
4. CFH – RS11G

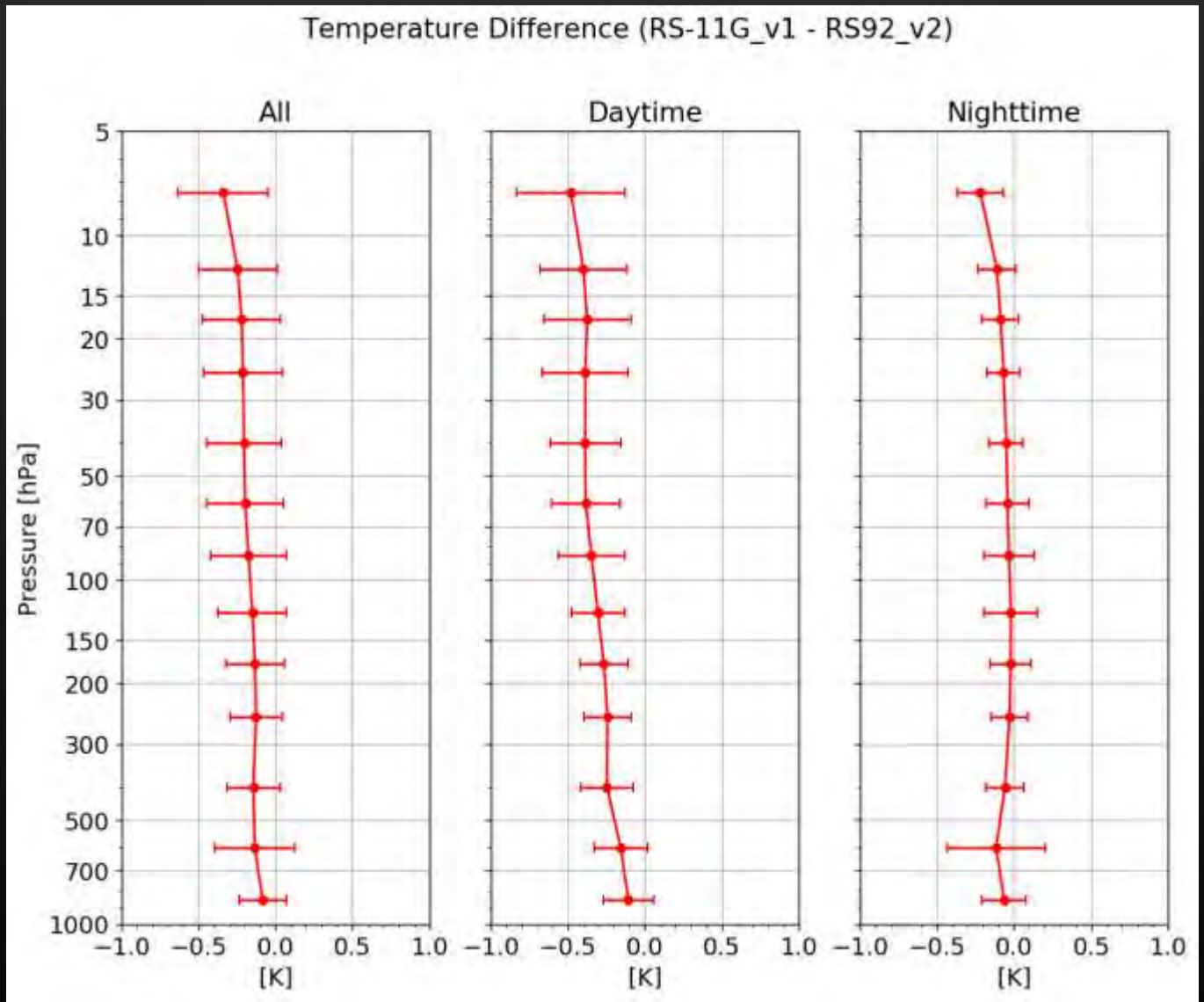
Progress

- Support of GDP for iMS100
- Constitutions of new header of BUFR
  - 0 02 088 Volume of gas used in balloon
  - 0 03 027 Type of flight rig Code
  - 0 08 037 Baseline check significance
  - 0 08 038 Instrument data significance
- Renewal of Tateno's website



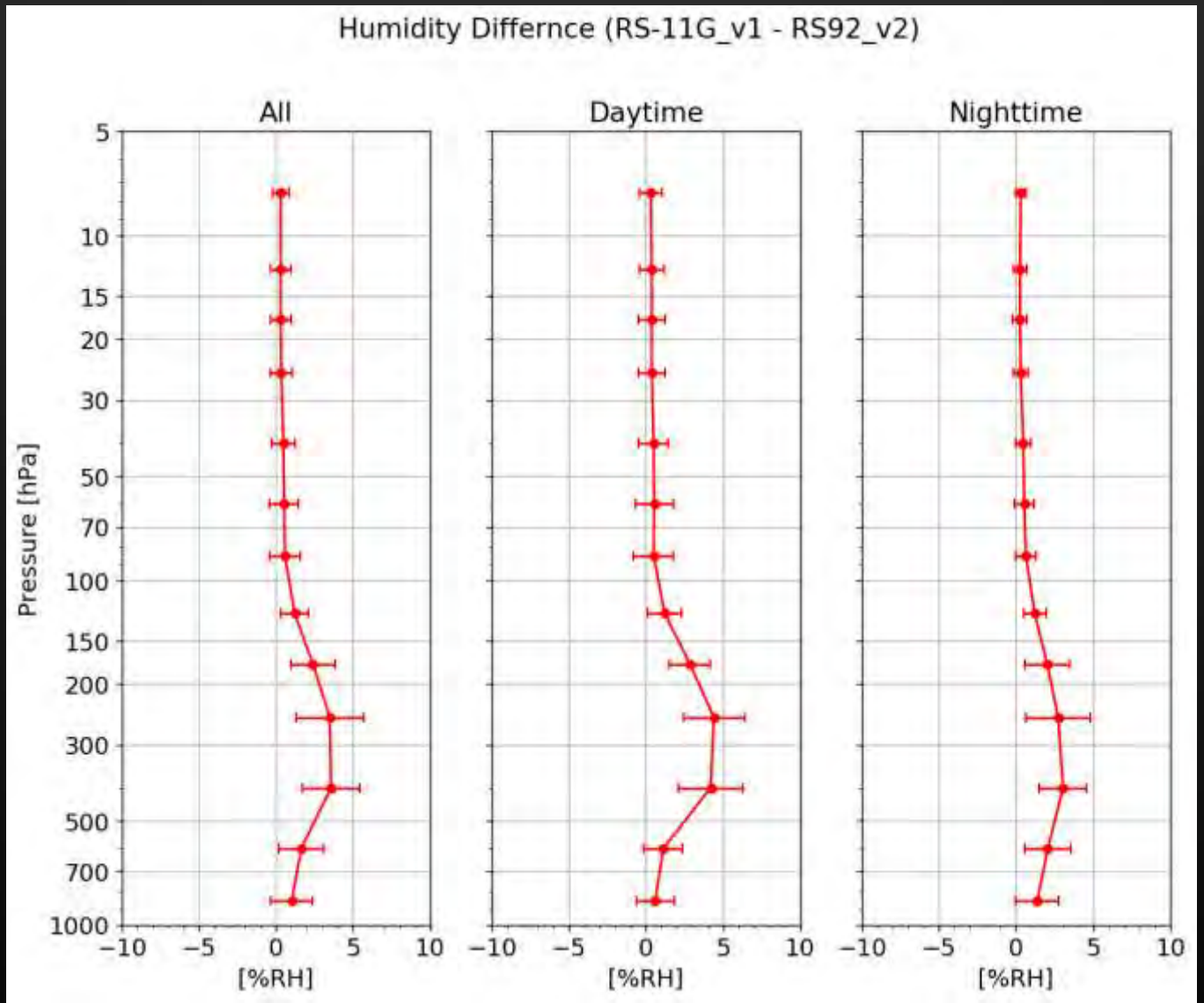
Comparison between RS-11G and RS92

Temperature Difference



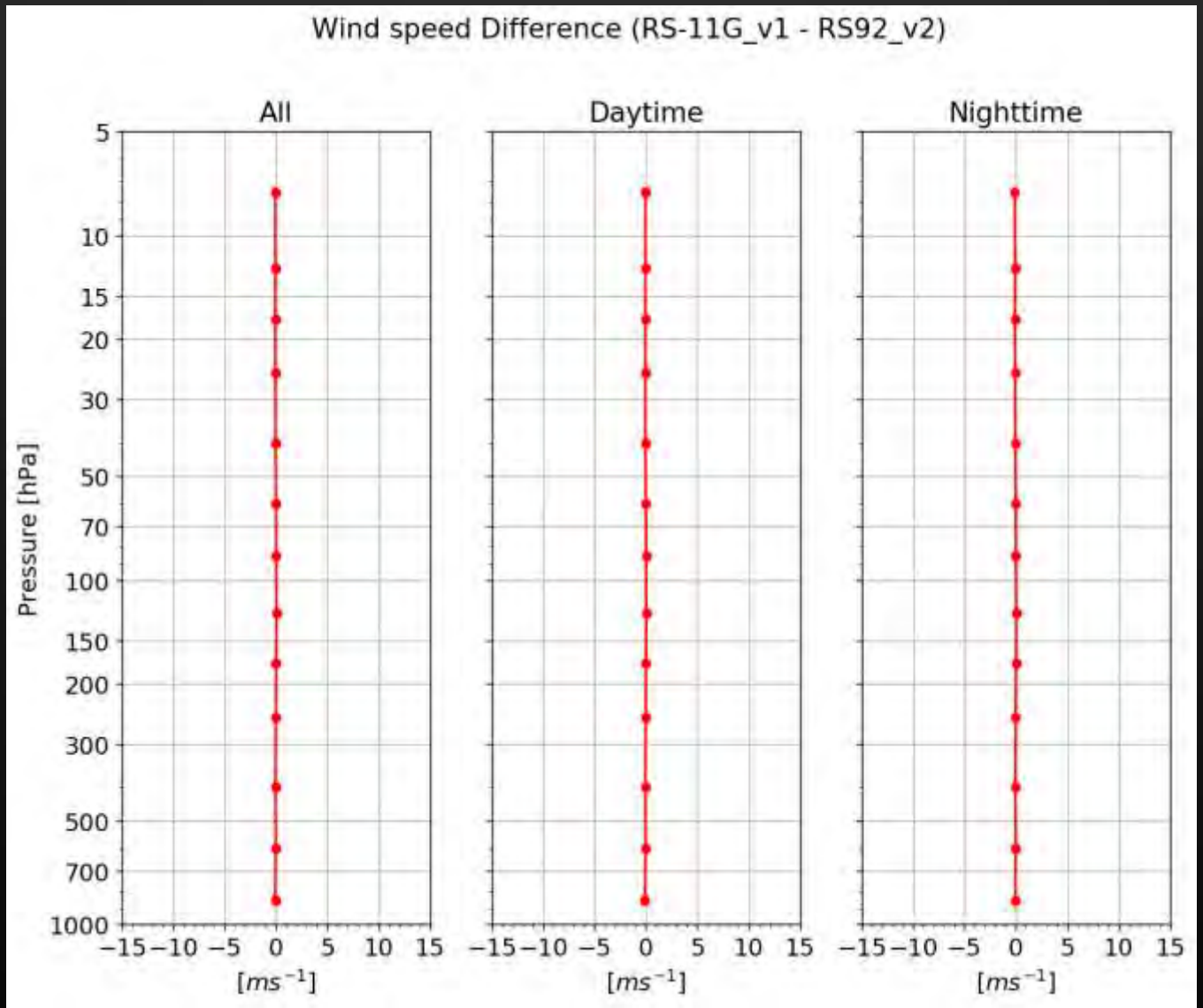
Comparison between RS-11G and RS92

Humidity Difference



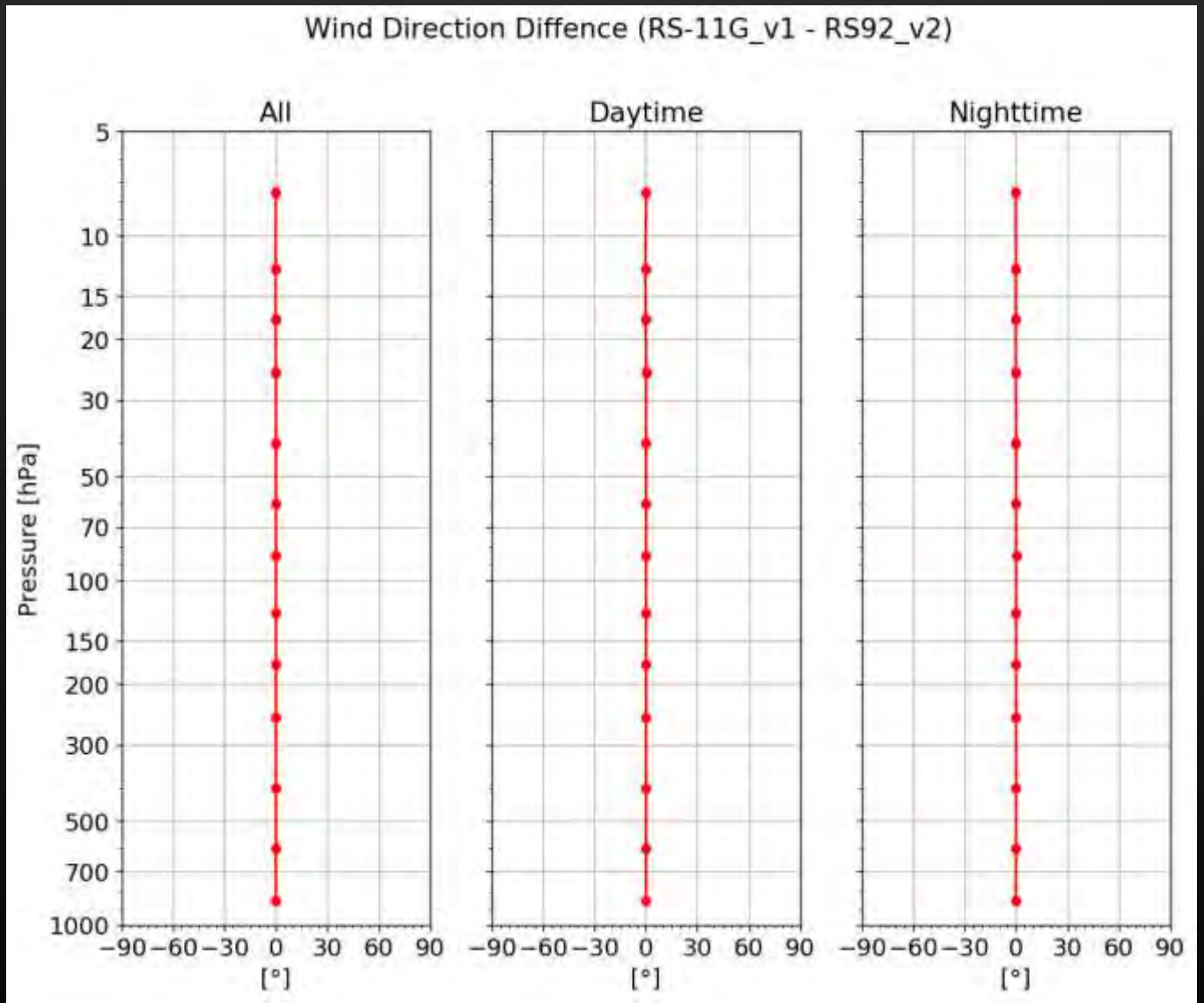
Comparison between RS-11G and RS92

Wind Speed Difference



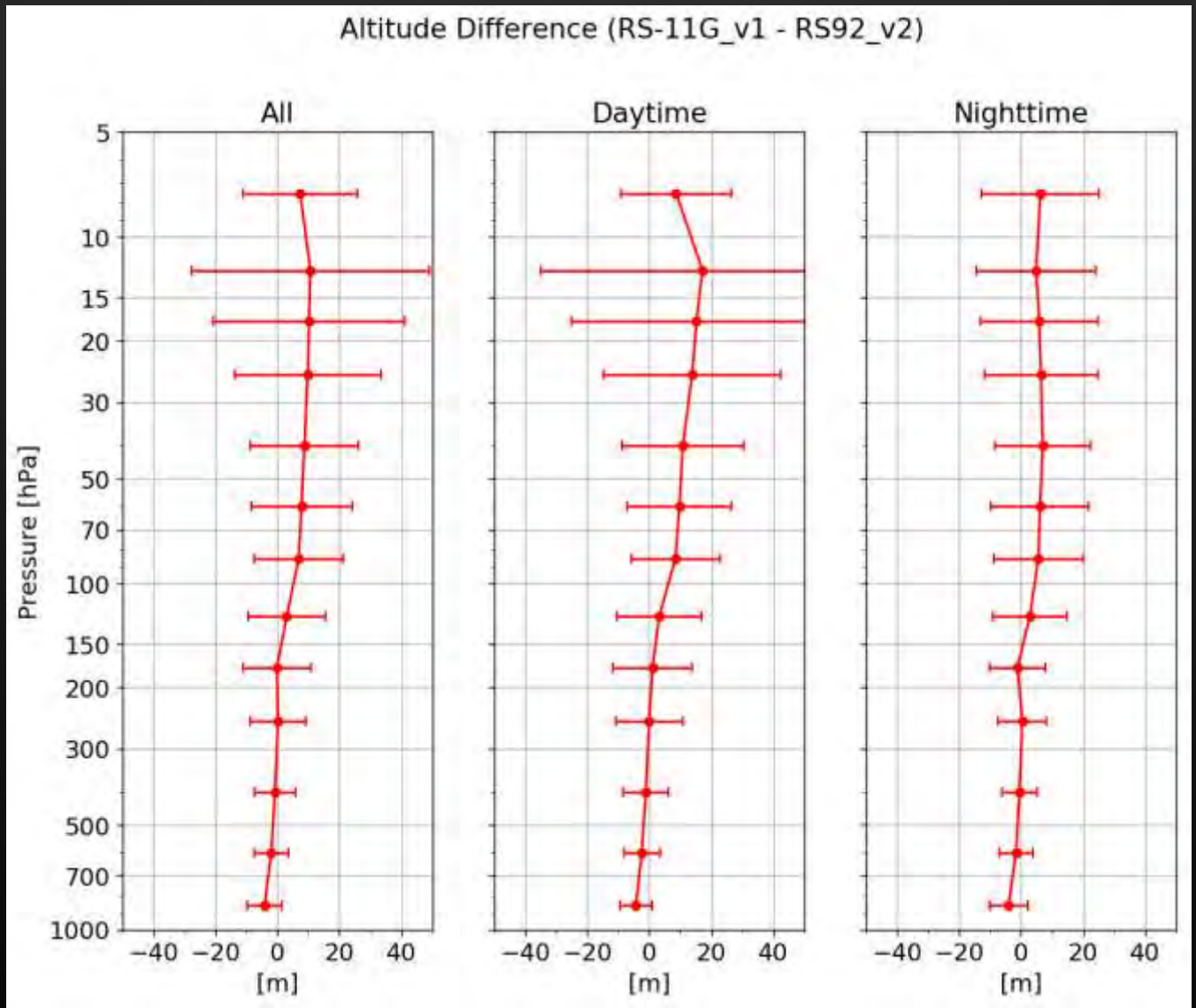
Comparison between RS-11G and RS92

Wind Direction Difference



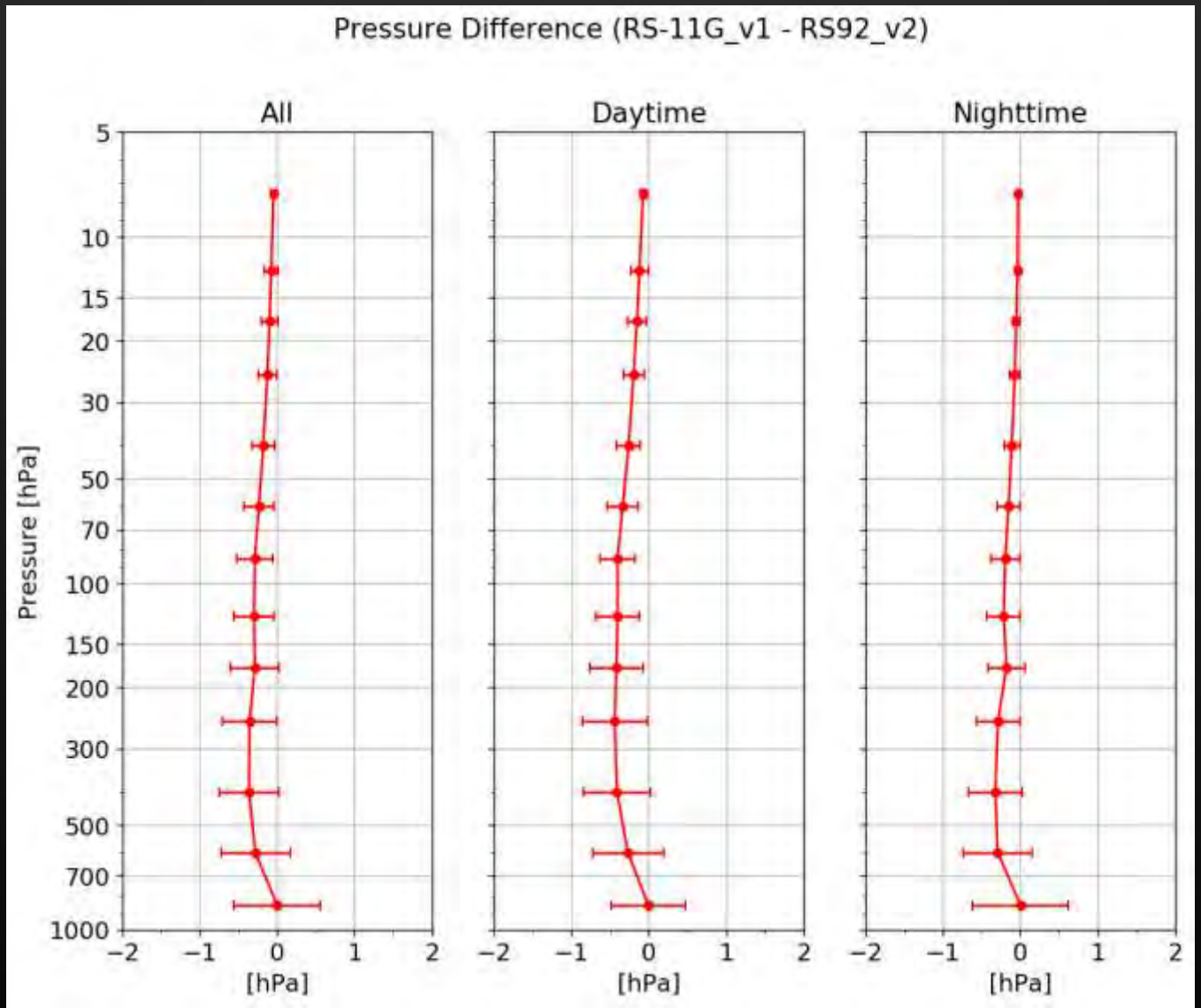
Comparison between RS-11G and RS92

Altitude Difference



Comparison between RS-11G and RS92

Pressure Difference



Comparison between RS-11G and iMS-100

(1)OCT. / 2016 (Autumn : 20 times)
(2)JAN. / 2017 (Winter : 20 times)
(3)MAR. /2017 (Spring : 20 times)

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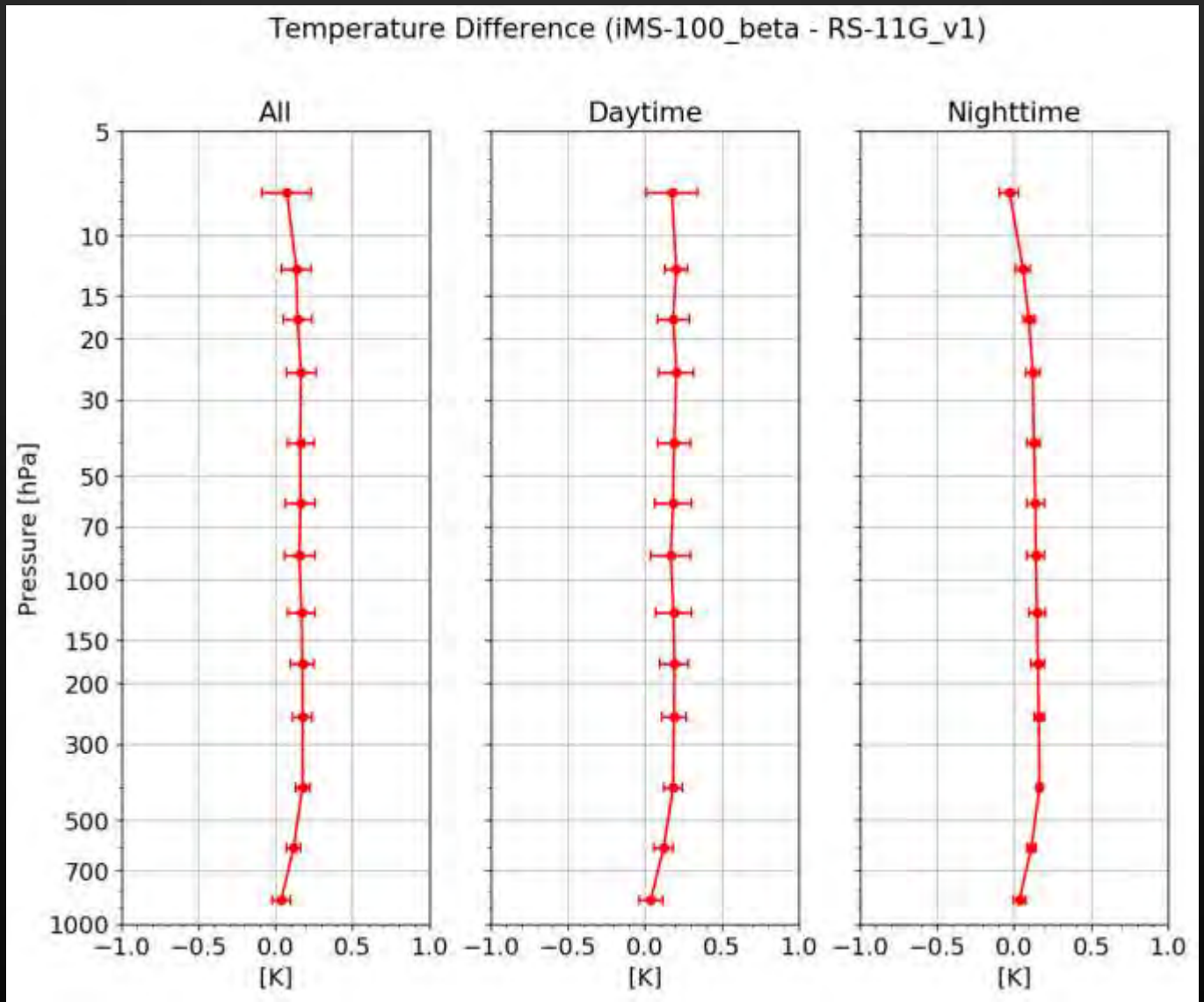
(4)JUN. / 2017 (Summer : 20 times) - on going

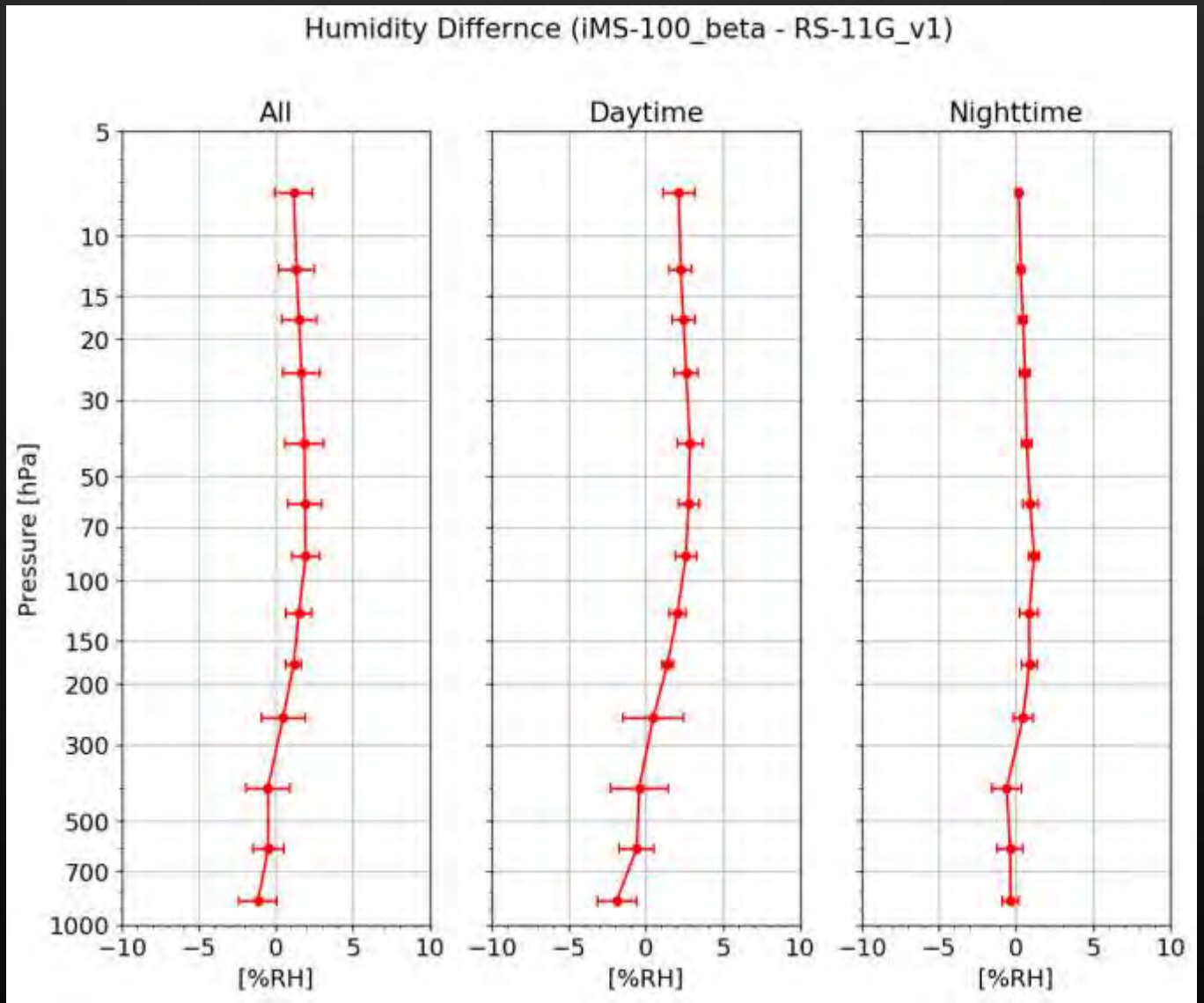
Comparison between iMS-100 and RS-11G

Temperature Difference in **Spring**



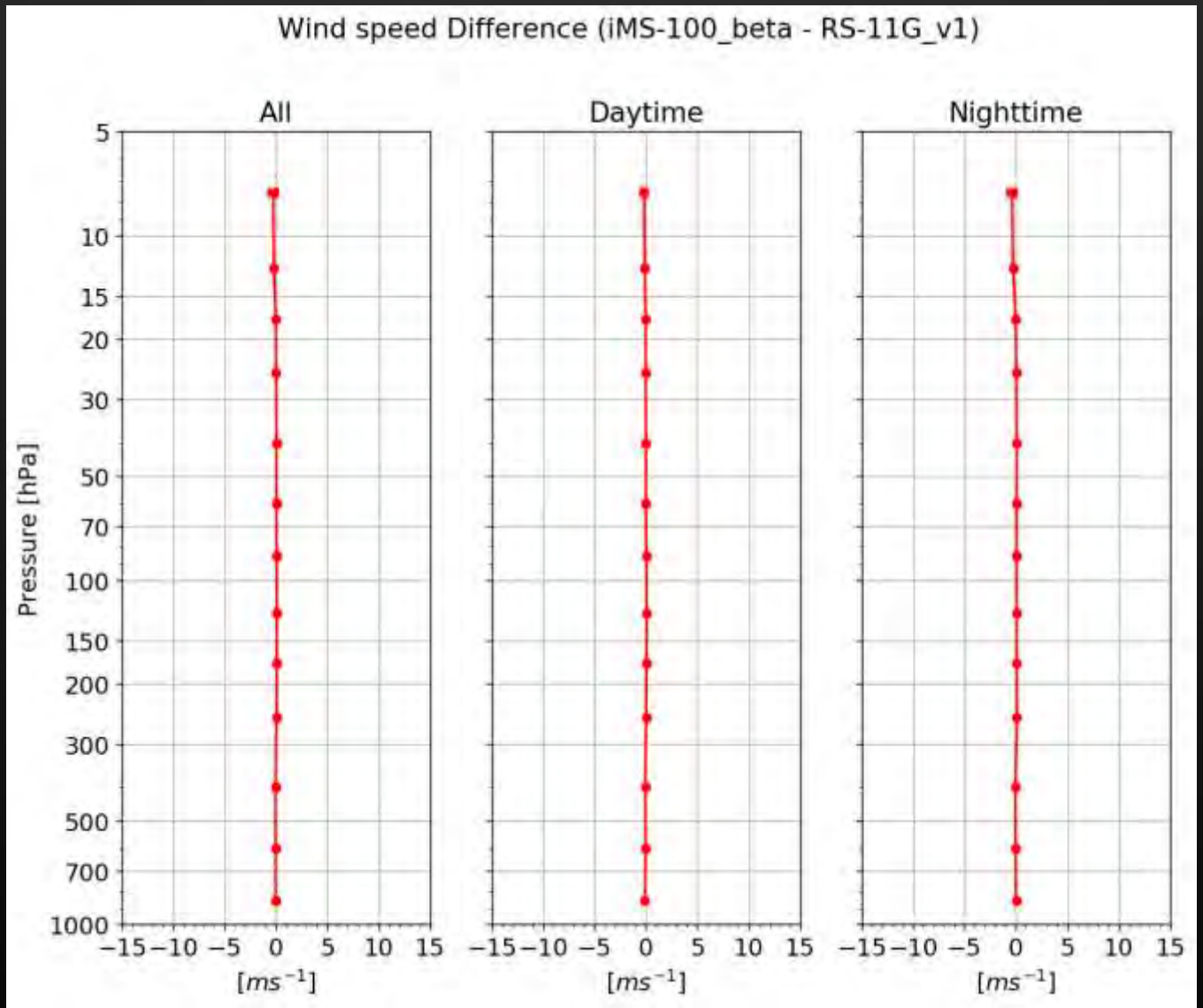
Comparison between iMS-100 and RS-11G

Humidity Difference in **Spring**



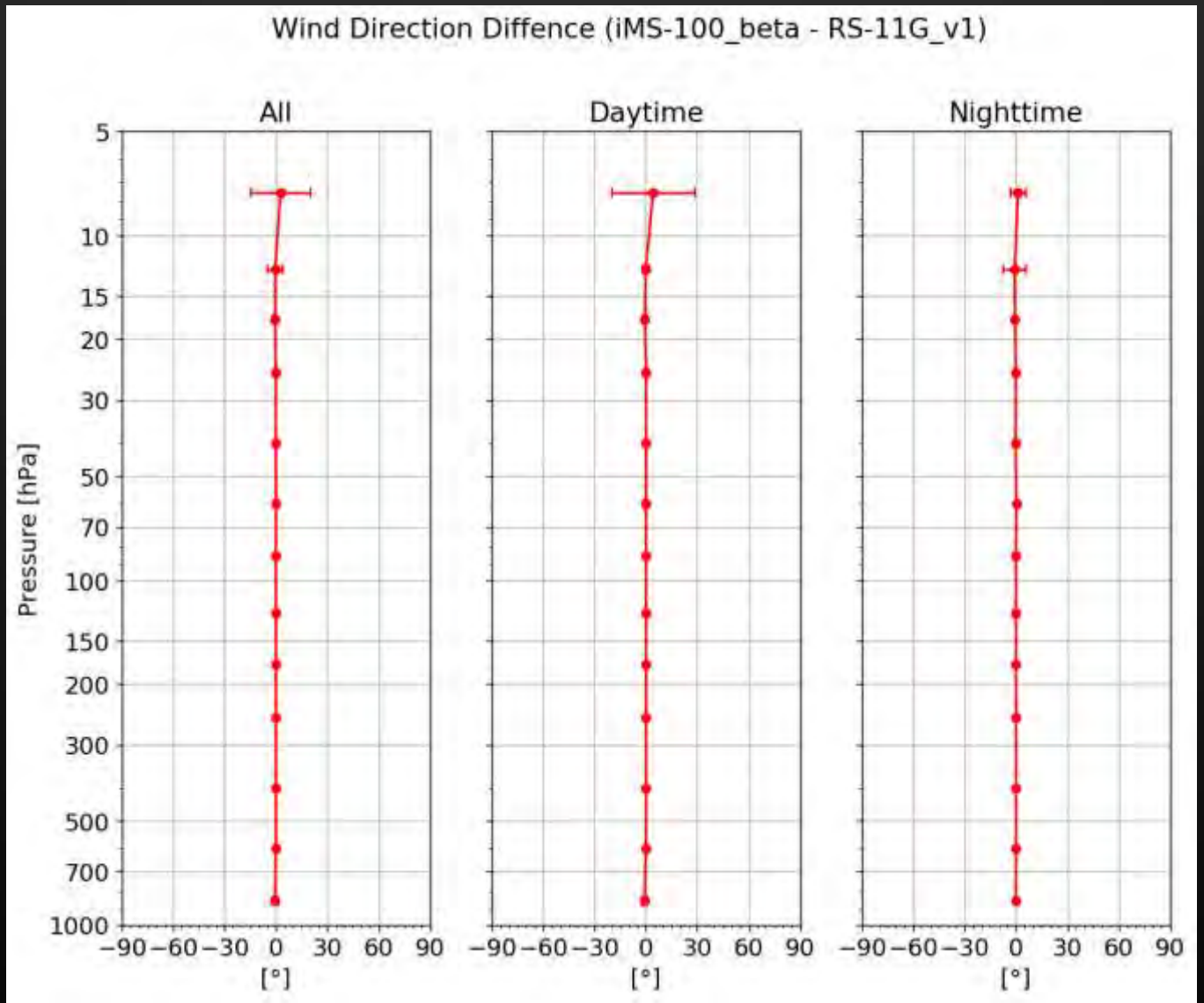
Comparison between iMS-100 and RS-11G

Wind Speed Difference in **Spring**



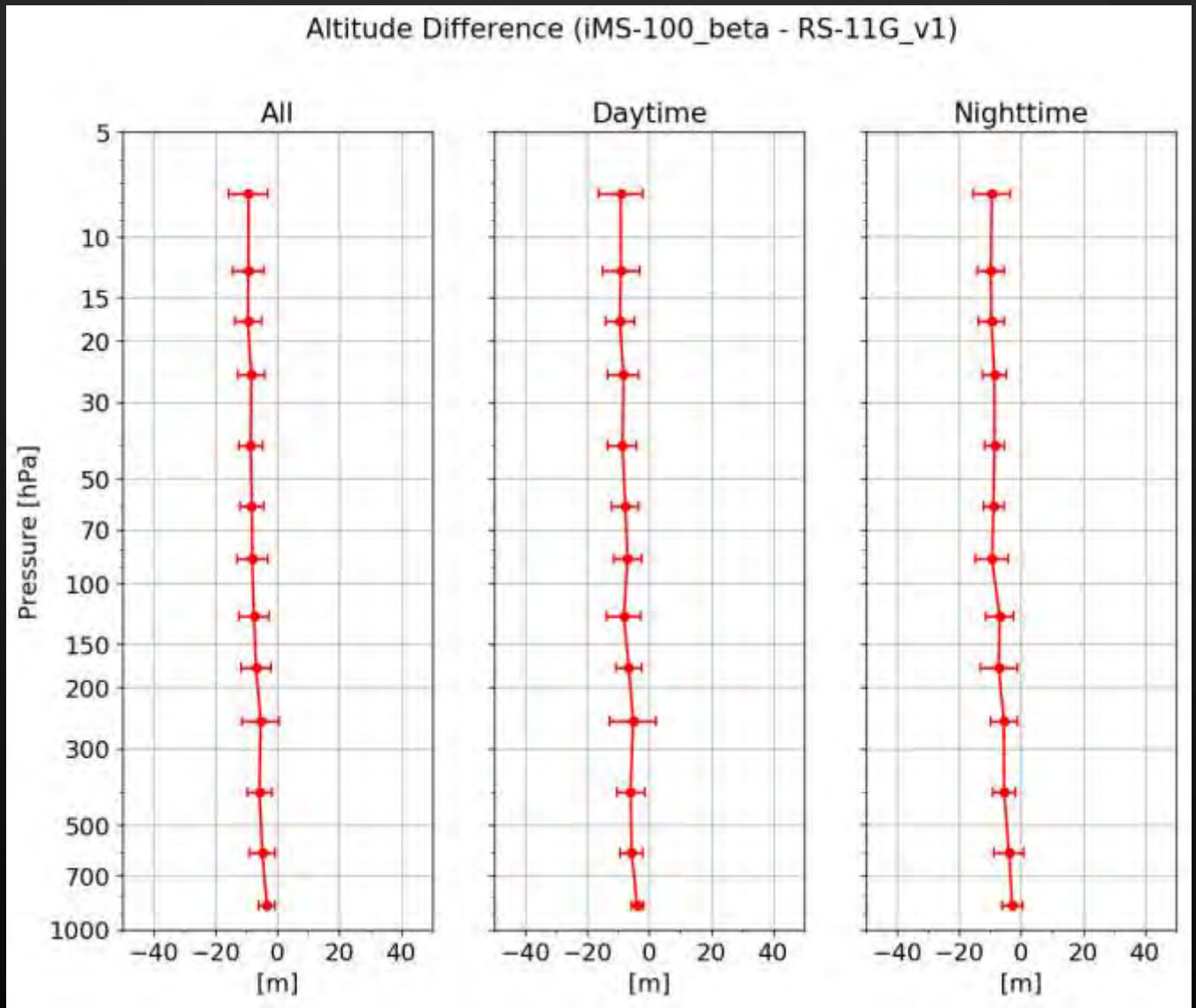
Comparison between iMS-100 and RS-11G

Wind Direction Difference in **Spring**



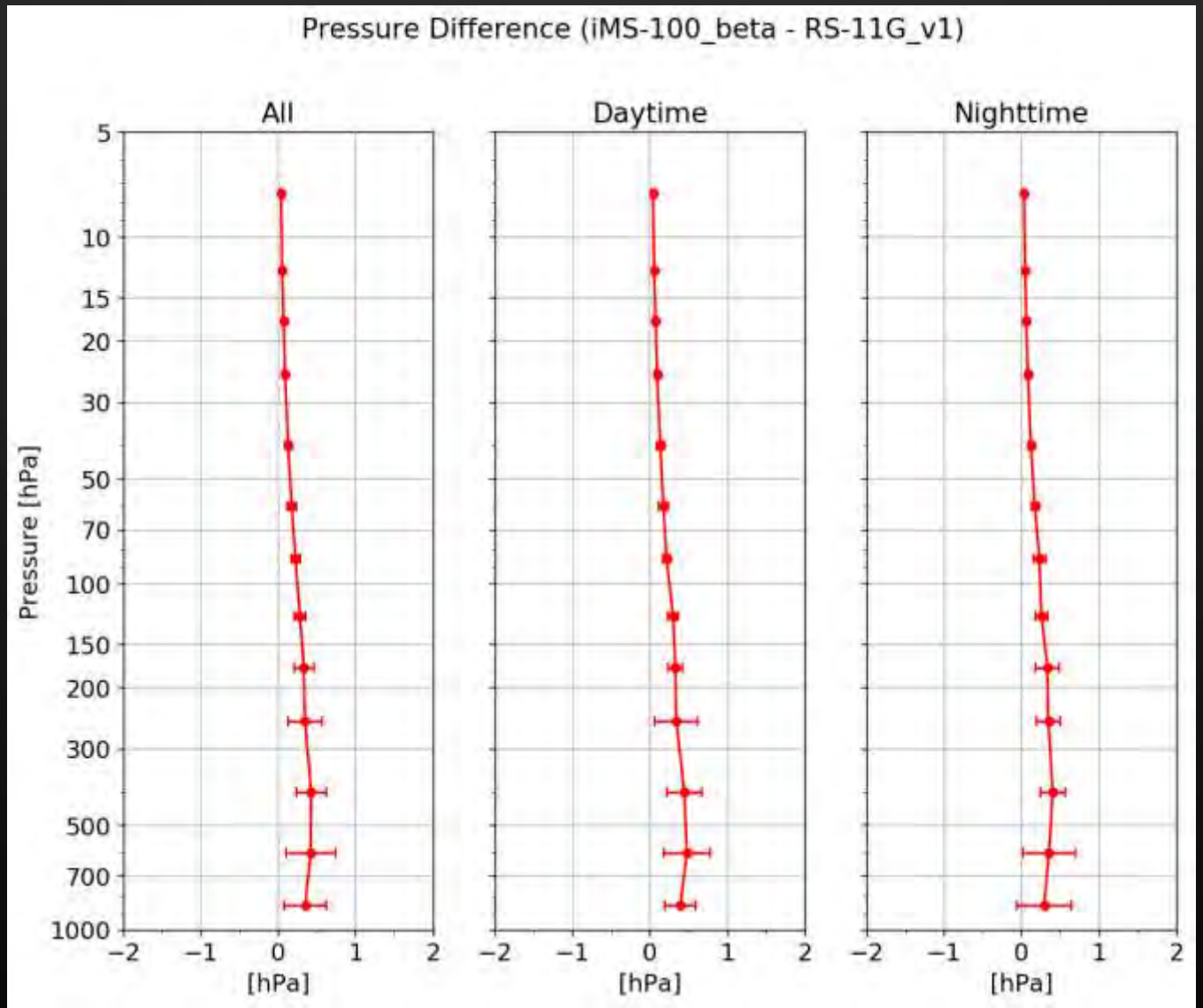
Comparison between iMS-100 and RS-11G

Altitude Difference in **Spring**



Comparison between iMS-100 and RS-11G

Pressure Difference in **Spring**

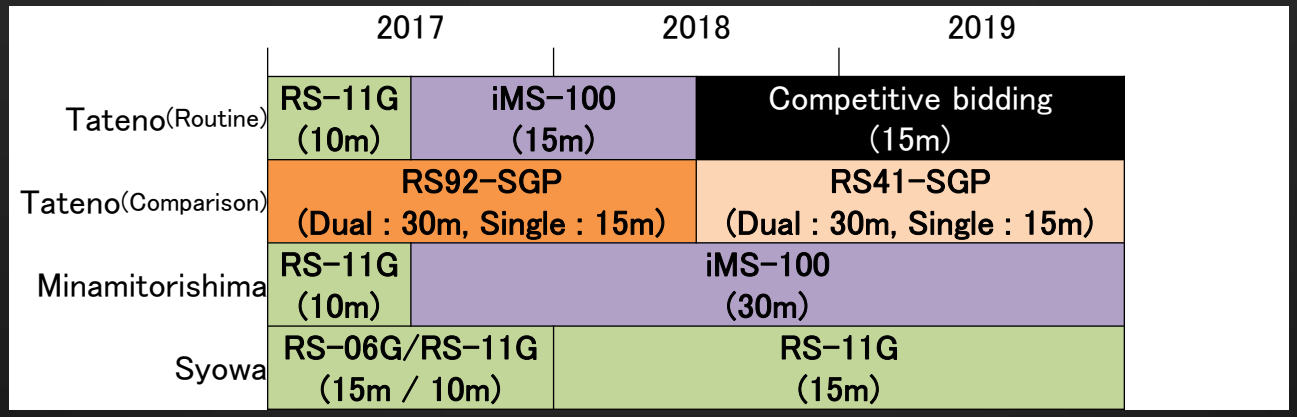


Future plan (1)

- Switch from RS-11G to iMS-100
  (AUG.2017)
- Update of the sounding central system
  (FEB.2018)
- Start sending of BUFR corresponding to new headers
  (FEB.2018)
- Switch from RS92-SGP to RS41-SGP
  (2018)
- Start sending of RINEX
  (undecided)

Future plan (2)

Sonde Type and length of string



New GRUAN candidate site

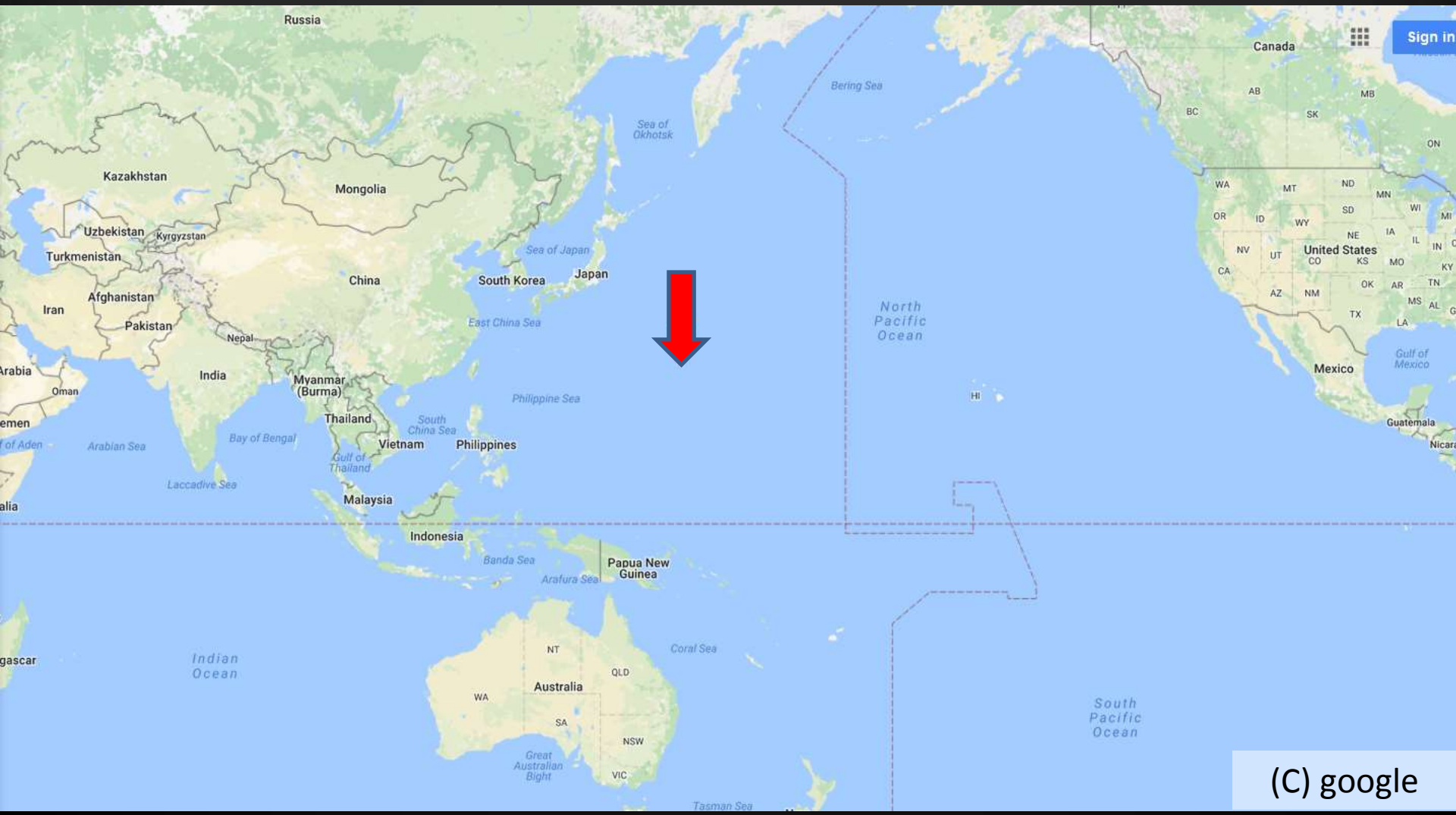
1. Minamitorishima

Photo by JMA

Minamitorishima : Location(1)

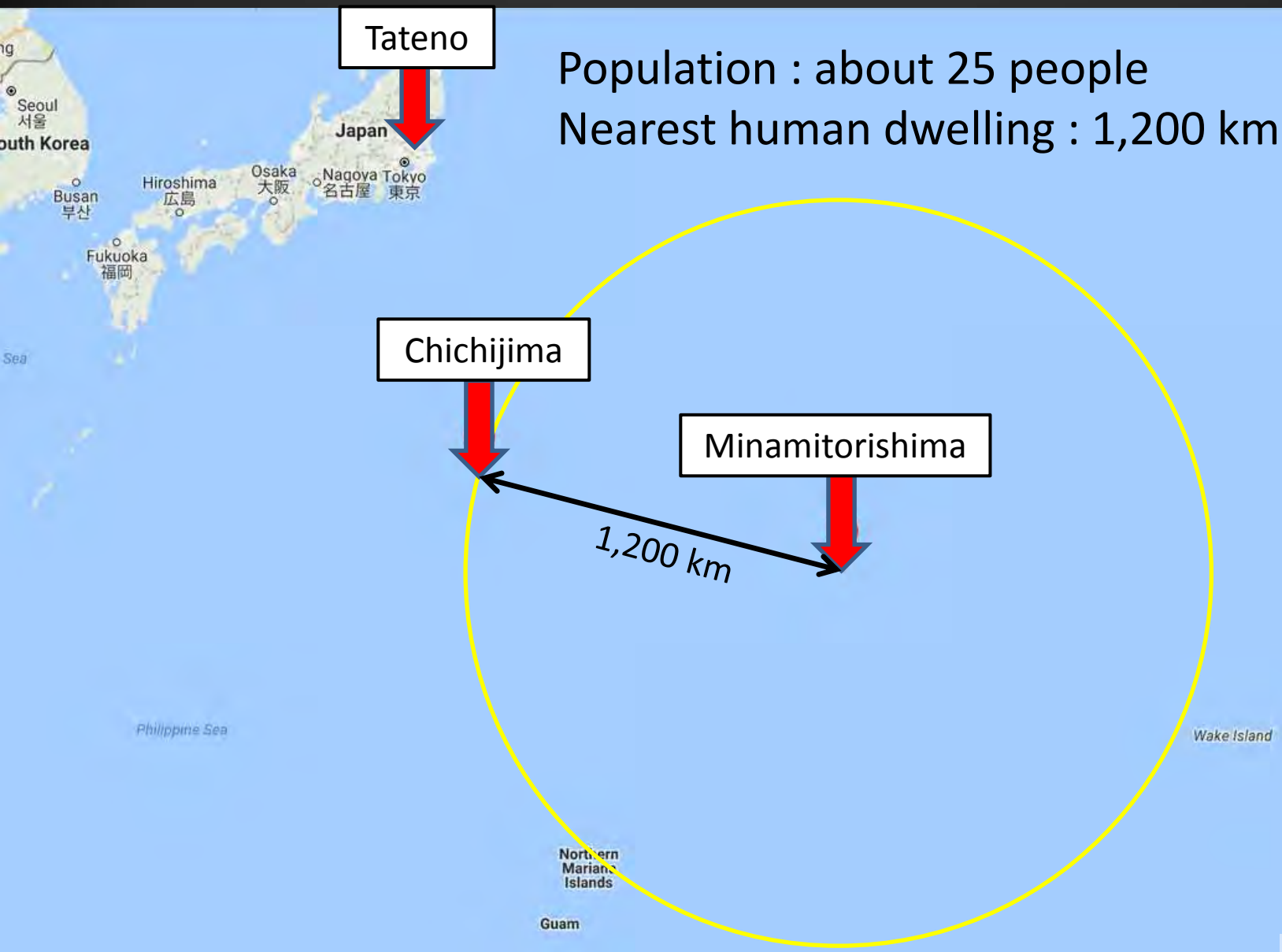
Location : 24.29N, 153.98E, 9m

minami tori shima
南 鳥 島
South Bird Island



(C) google

Minamitorishima : Location(2)



Population : about 25 people

Nearest human dwelling : 1,200 km distant

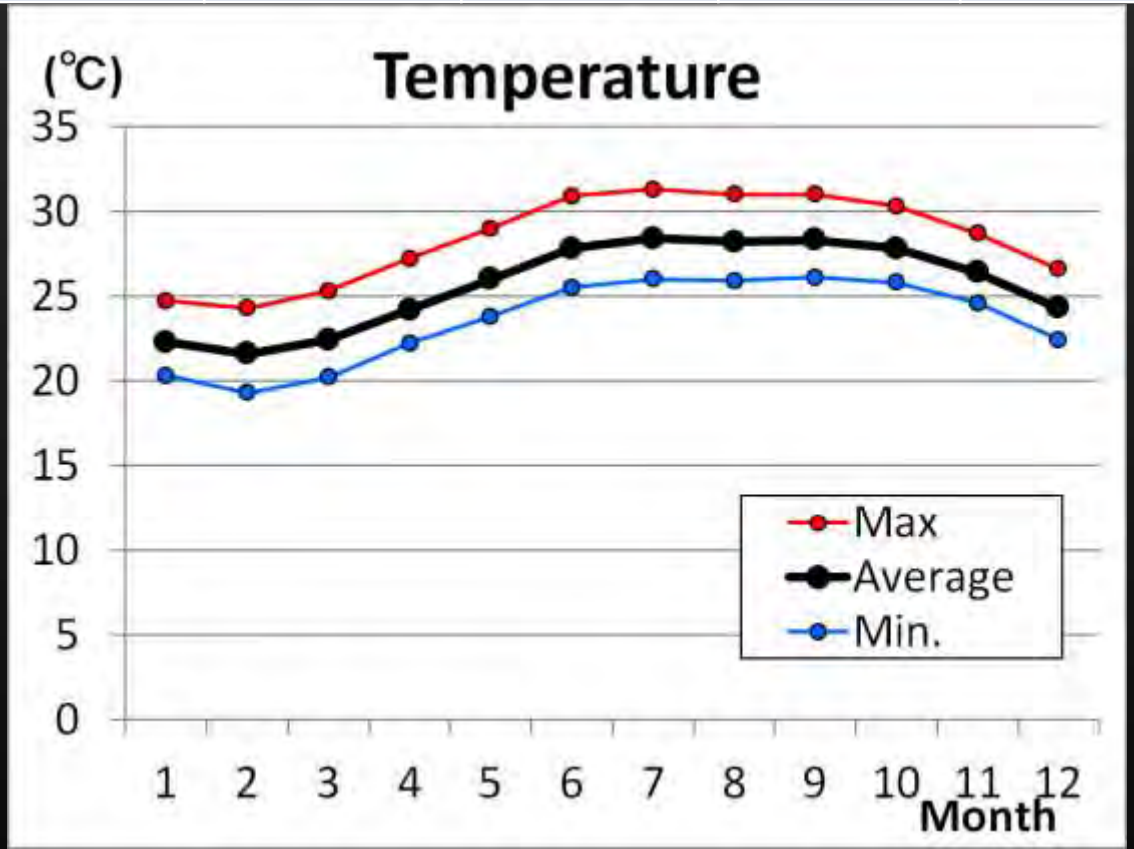
(C) google

Minamitorishima : Full view

Photo by Masami Iwabuchi

Minamitorishima : Climate

	Minimum Record	Minimum Moon	Annual Average	Maximum Moon	Max Record	Unit
Temperature	13.8	**21.6**	**25.6**	**28.4**	35.6	℃
Wind Velocity	0	**4.3**	**5.8**	**7.1**	43.3	m/s
Rain	0.5	**42.6**	**87.8**	**167.3**	513.5	mm/month



Minamitorishima : History

Year	Month	Event
1935	10	Start of meteorological observation (Observation data are missing)
1951	2	Start of upper-air observation
1951	4	Start of surface meteorological observation
1993	3	Start of CH_4, CO and surface O_3 observation
1995	1	Start of Atmospheric Optical Depth observation
1996	1	Start of precipitation and drydeposition observation
2009	11	Designation as Wildlife Sanctuary
2010	4	Start of surface radiation observation
2011	2	Start of greenhouse effect gas observation using planes

Belongs to GAW and BSRN

Minamitorishima : Photo(1)

Photo by Masami Iwabuchi

Minamitorishima : Photo(2)

Photo by Masami Iwabuchi

Minamitorishima : Photo(3)

Photo by JMA

Minamitorishima : Photo(4)

Photo by Masami Iwabuchi

New GRUAN candidate site

2. Syowa

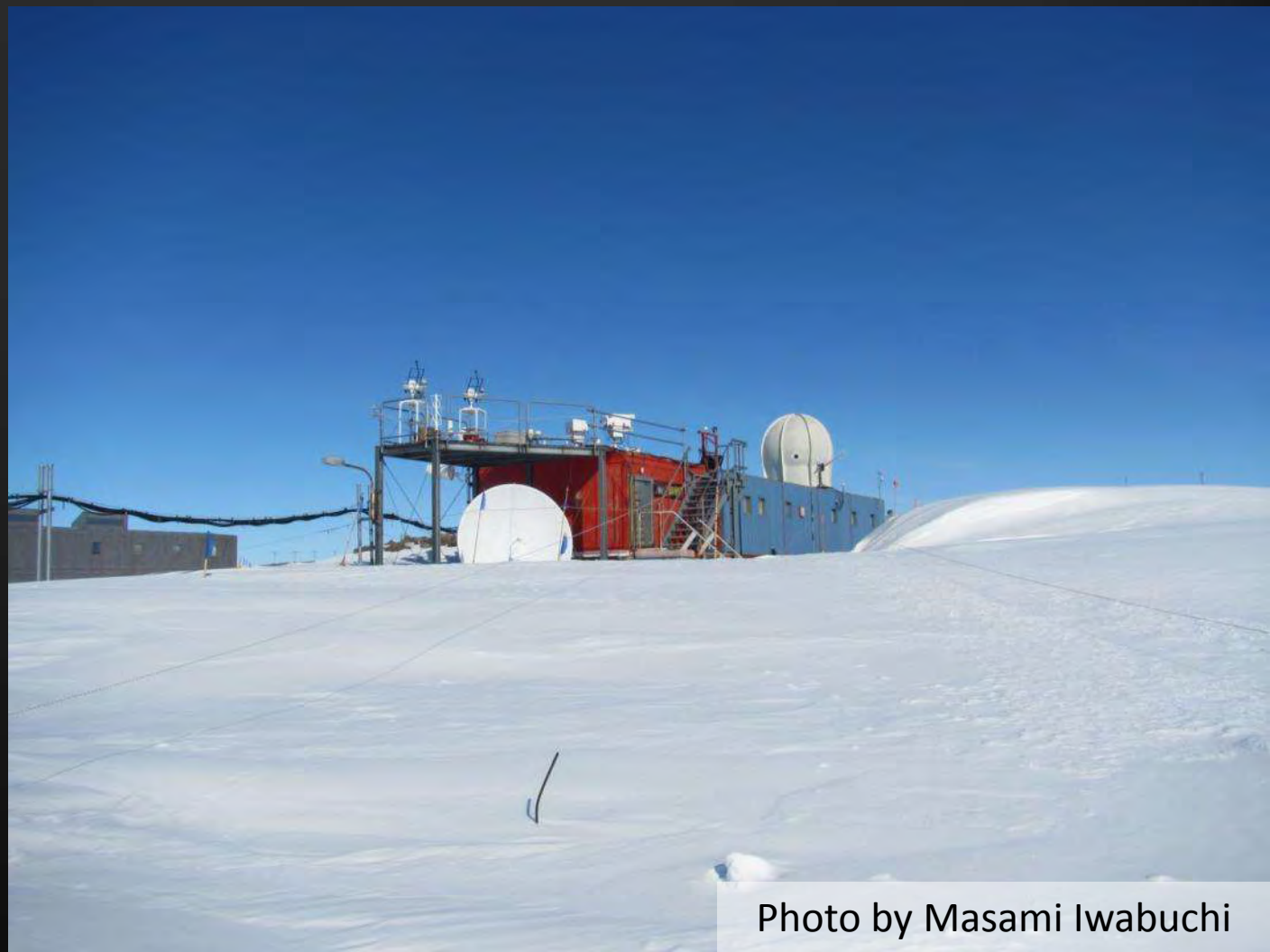
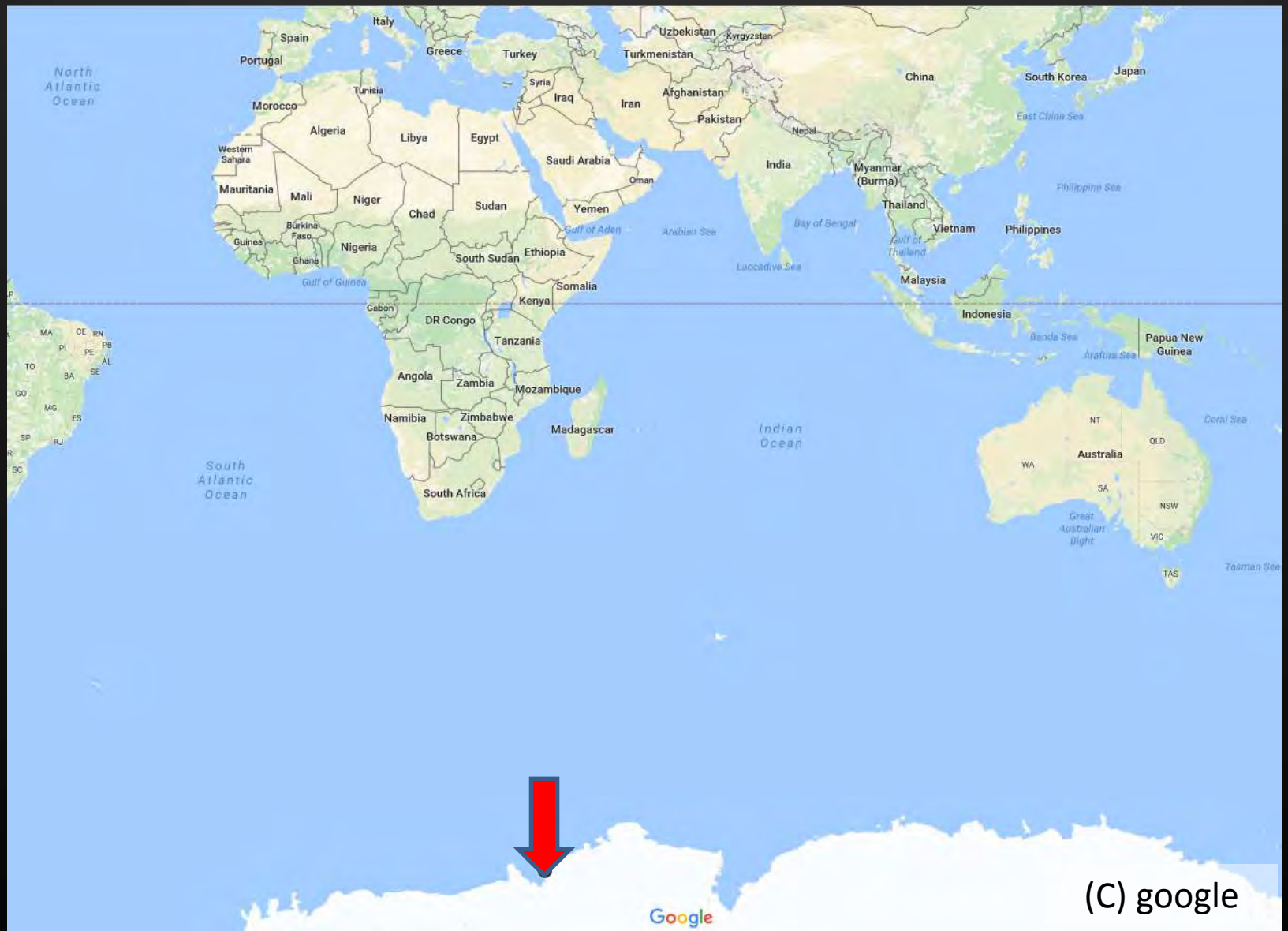


Photo by Masami Iwabuchi

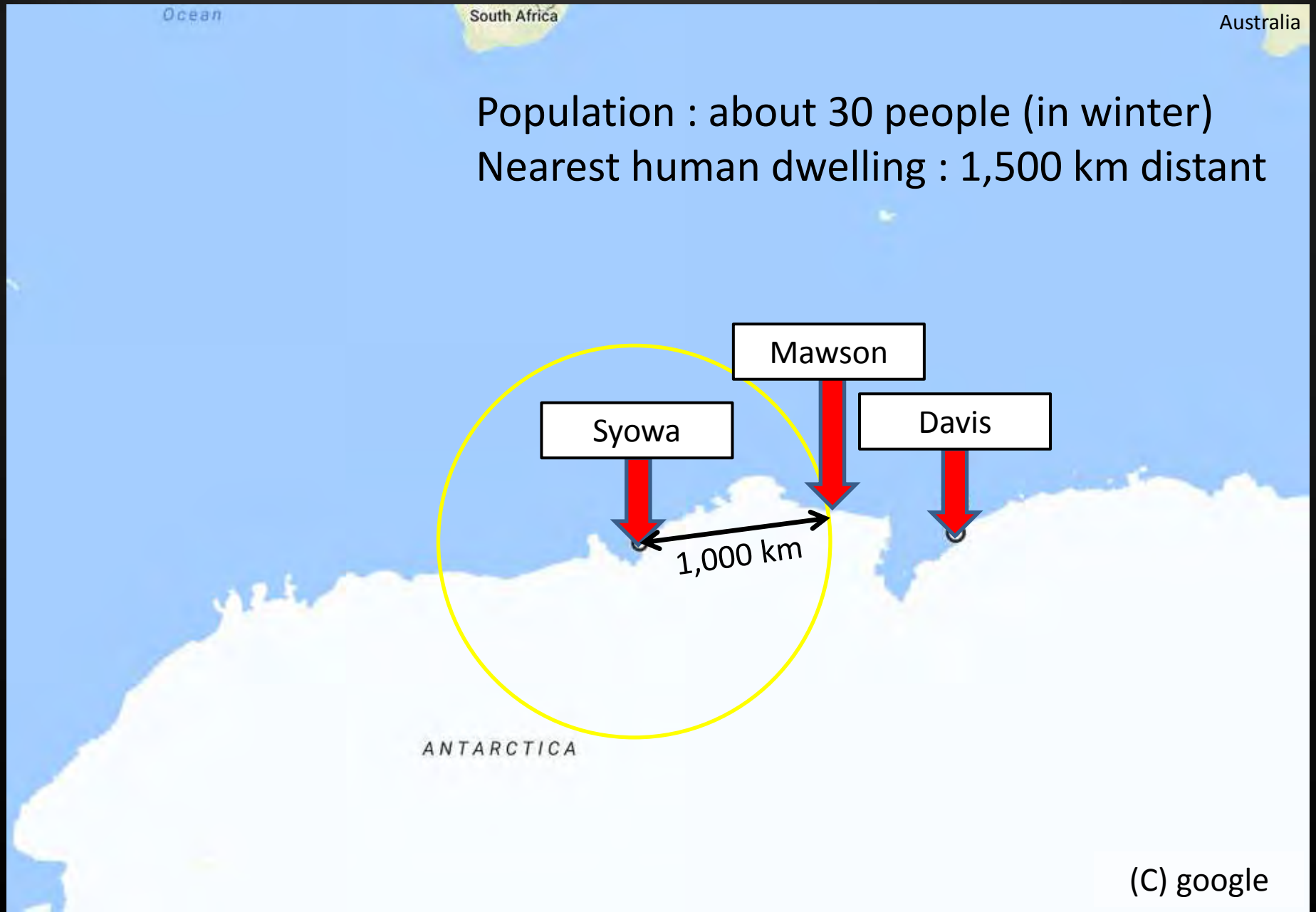
Syowa : Location (1)

Location : 69.01S, 39.58E, 18m



(C) google

Syowa : Location (2)



Syowa : Full view (1)

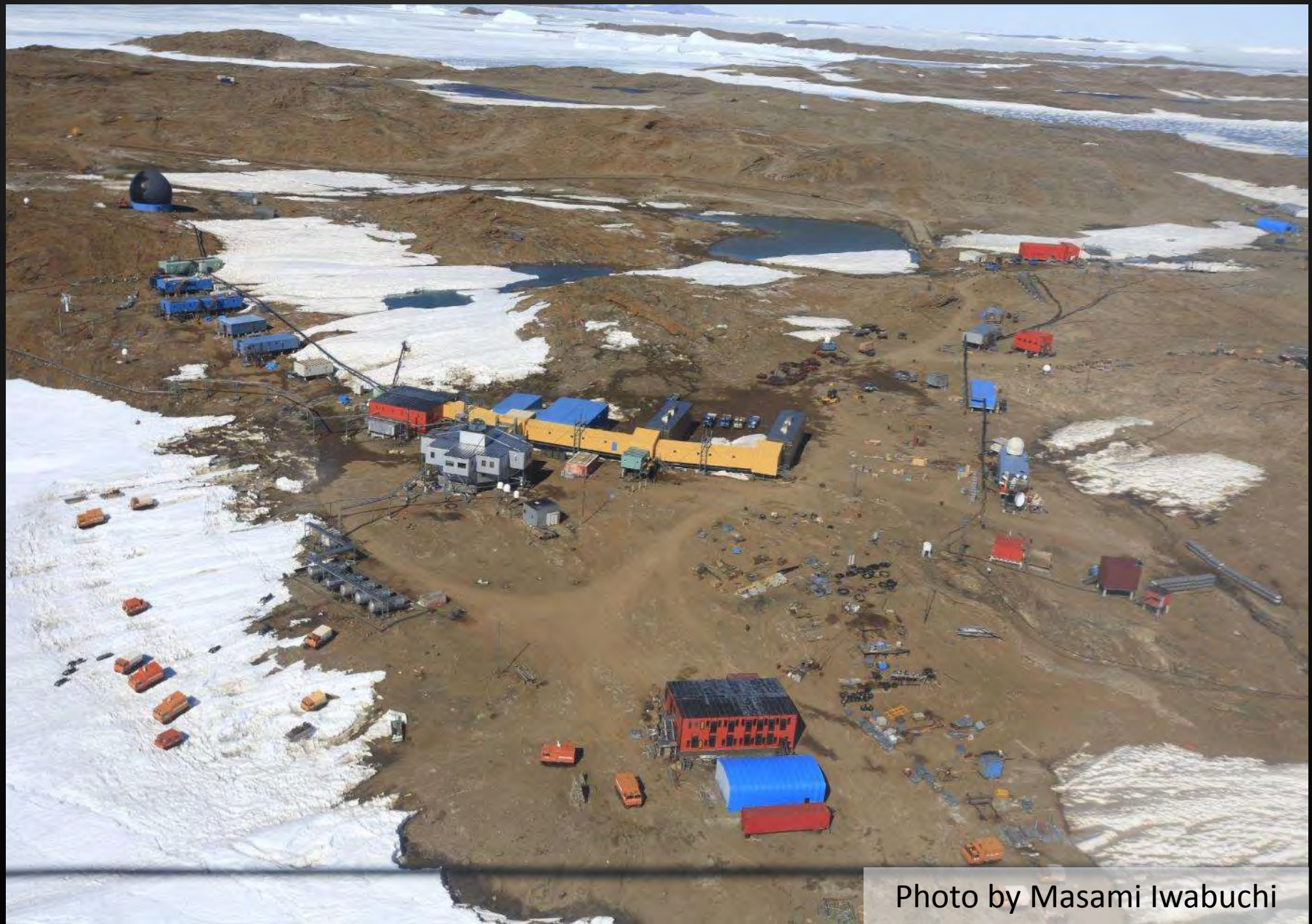


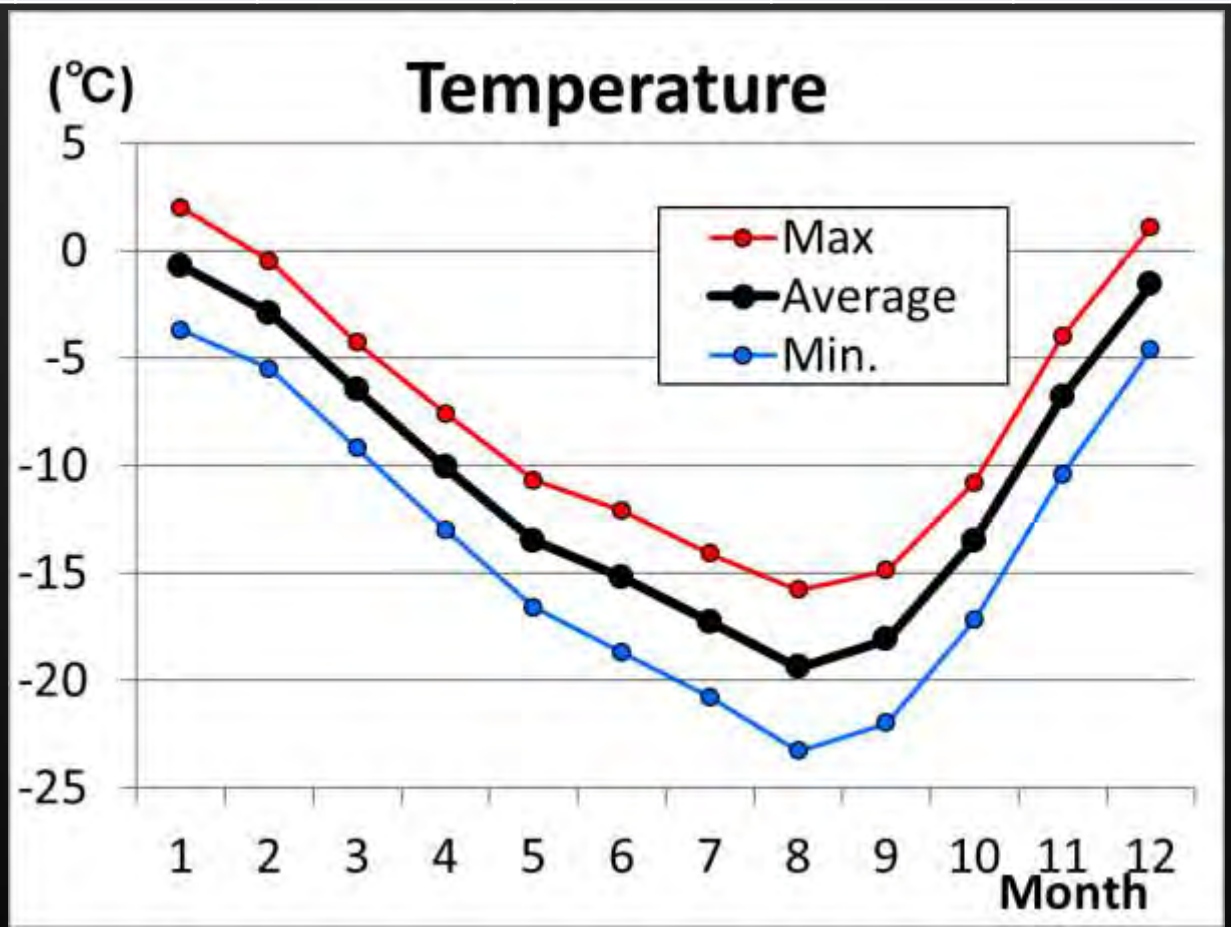
Photo by Masami Iwabuchi

Syowa : Full view (2)

Photo by JARE

Syowa : Climate

	Minimum Record	Minimum Moon	Annual Average	Maximum Moon	Max Record	Unit
Temperature	-45.3	**-19.4**	**-10.4**	**-0.7**	10.0	℃
Wind Velocity	0.0	**4.8**	**6.7**	**8.8**	47.4	m/s



Syowa : History

Year	Event
1957	Start of surface meteorological observation
1959	Start of upper-air observation
1961	Start of total ozone observation
1966	Start of ozonesonde observation
1982	Discovery of ozone hole
1991	Start of surface radiation observation
1991	Start of spectral UV observation
1997	Start of surface ozone observation

Belongs to BSRN

Syowa : Photo(1)

Photo by Masami Iwabuchi

Syowa : Photo(2)

Photo by JARE

Syowa : Photo(2)

Photo by JARE

Syowa : Photo(3)

Photo by Masami Iwabuchi