

# New instruments and data transmission of Tateno, Minamitorishima and Syowa

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ICM-11

# Status and plans of Tateno

- GDP for Meisei RS-11G and iMS-100 has been created in near-real-time
- Data transmission of Ozonesondes are in preparation
- GNSS raw data has been monthly uploaded since 2018 (manually)
- RS92 for dual sounding (comparison with iMS-100) will be replaced with RS41 in late 2019
  - MW41 will be also installed in late 2019
- The supplier stopped selling R23 and the stock for CFH sounding has remained up to 2 times ; new humidity reference sensor Meisei SKYDEW is tested

# GNSS Data stream issues

- GNSS receiver in Tateno is installed in 2009 and seems to be replaced with new one. JMA considers two plans:
  1. Replacement of the receiver at Tateno
  2. To use the received data by Geospatial Information Authority of Japan (GSI; TSKB), located about 6.5 km north of Tateno
- Discussion:
  - Problems in using data collected by other organization
  - Criteria of displacement from radiosonde launching site

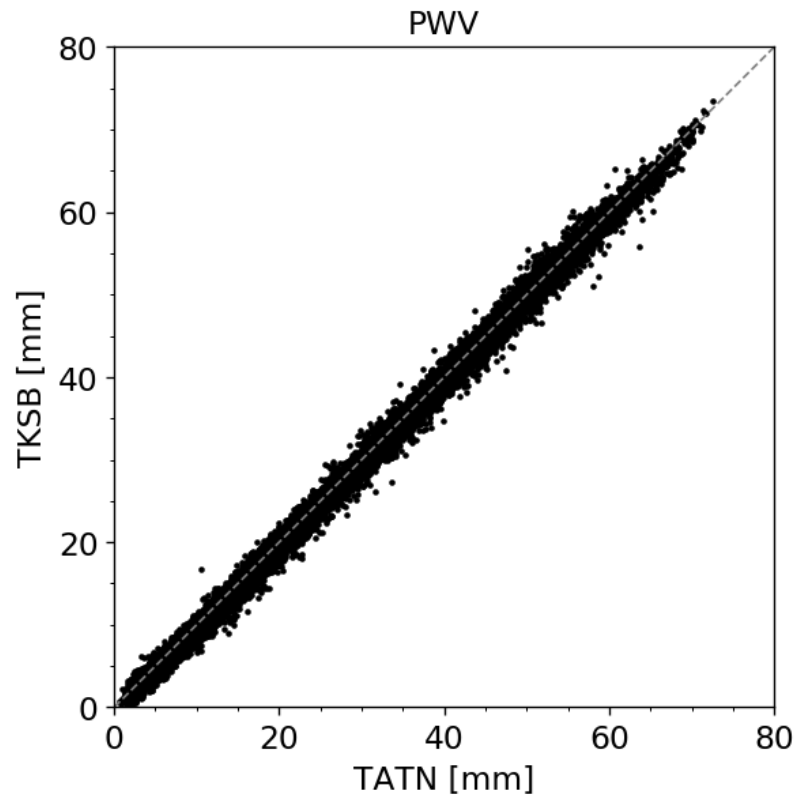
# Map: Tateno (TATN) and GSI (TSKB)



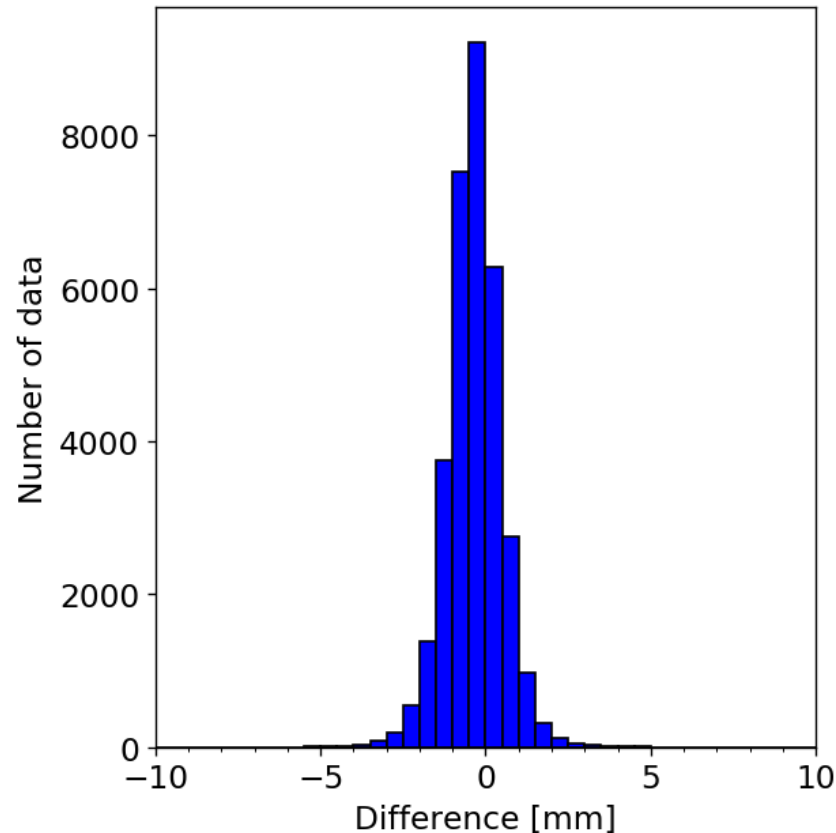
	Lat [degN]	Lon [degE]	Alt [m]	Dist [km]
TATN	36.05729236	140.12650241	27.7468	
TSKB	36.10611439	140.08719836	30.1300	6.47

# Comparison: TATN and TSKB

PWV comparison



TSKB - TATN



Every 30 minutes  
Since Dec. 2016  
to Oct. 2018

$N = 33276$   
 $\text{BIAS} = -0.342$   
 $\text{MAE} = 0.678$   
 $\text{RMSE} = 0.892$

Notice: For TSKB, the surface temperature and pressure are interpolated from data within 300 km.

# Status and plans of Minamitorishima

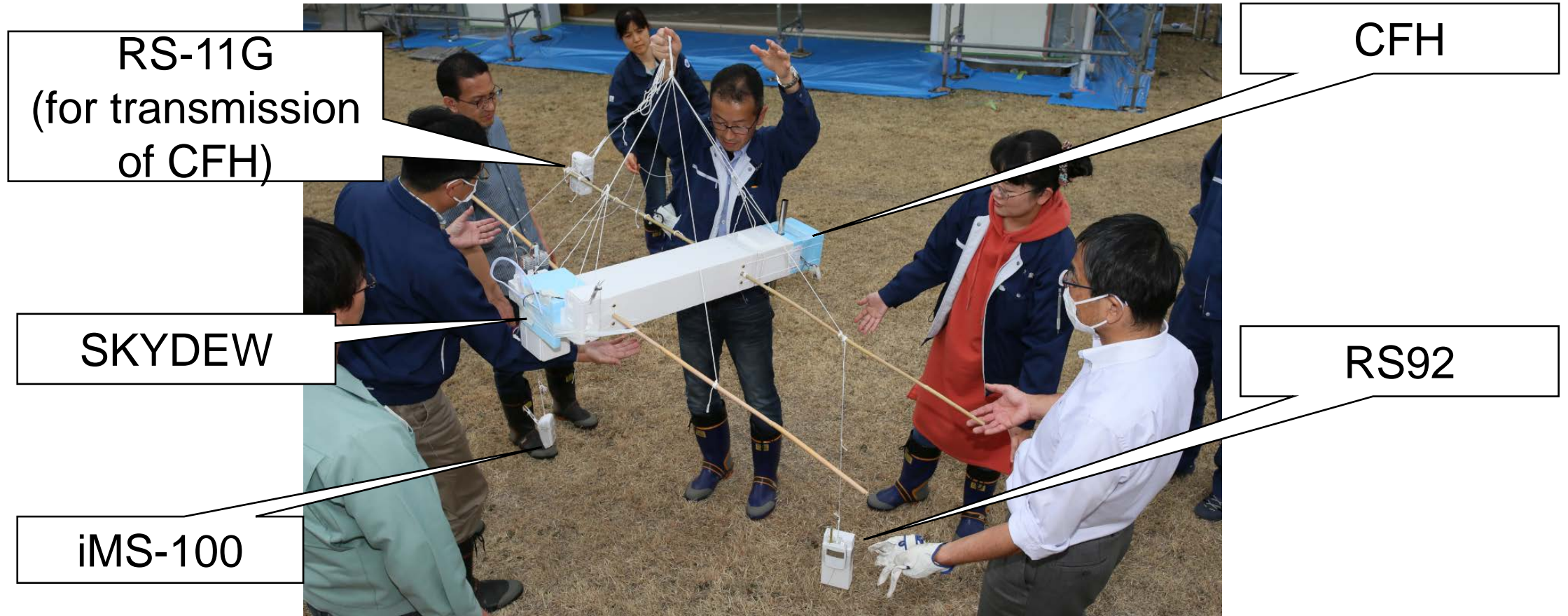
- GDP for Meisei iMS-100 has been created since 2018-01-01
  - The data are copied to DVD-ROM, shipped to JMA HQ and sent to the FTP server in LC manually by month
- Total column ozone observation by spectrometer has been terminated in January 2018.

# Status and plans of Syowa

- GDP for Meisei RS-11G has been created since 2018-03-20 in near-real-time
- Data transmission of Ozonesondes are in preparation
- The stock of R23 for CFH sounding has remained up to 6 times
- Transition from RS-11G to iMS-100 is planned



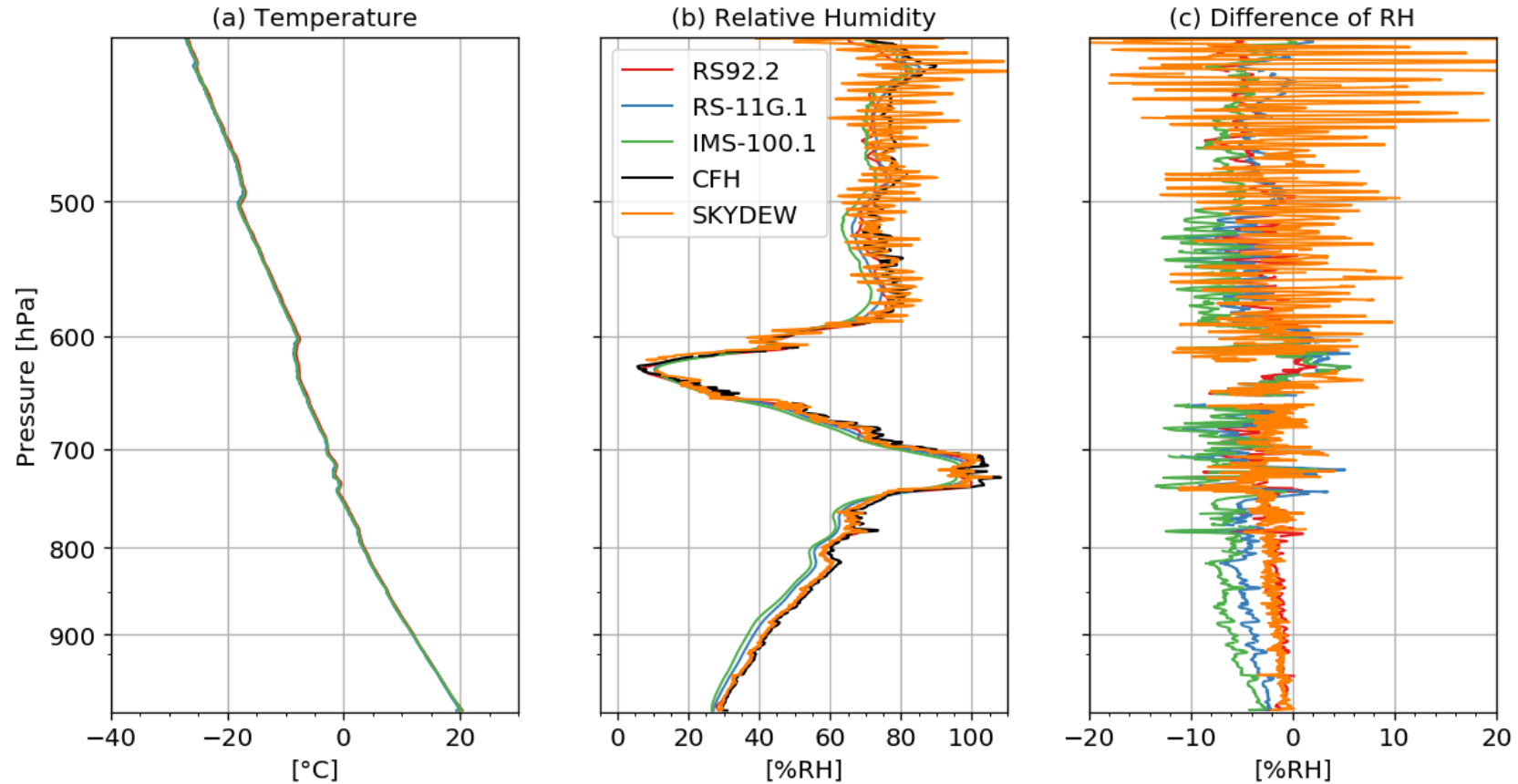
# Test flight of SKYDEW (Mar. 22<sup>nd</sup>, 2019)





# Test flight of Meisei SKYDEW

2019-03-22 06UTC (15JST)



# GRUAN-related research in Japan

- The paper for the intercomparison between RS92 and RS-11G is accepted:
  - Kobayashi, E., S. Hoshino, M. Iwabuchi, T. Sugidachi, K. Shimizu, and M. Fujiwara, 2019: Comparison of the GRUAN data products for Meisei RS-11G and Vaisala RS92-SGP radiosondes at Tateno (36.06°N, 140.13°E), Japan. Atmos. Meas. Tech. Discuss., 2019, 1–34, doi:10.5194/amt-2018-416.
- Reanalysis of GNSS-PW using REPRO2 and comparison with radiosondes in 1990s in Tsukuba (Shoji, 2018, in Japanese)