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)

<table>
<thead>
<tr>
<th></th>
<th>Lat [degN]</th>
<th>Lon [degE]</th>
<th>Alt [m]</th>
<th>Dist [km]</th>
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</thead>
<tbody>
<tr>
<td>TATN</td>
<td>36.05729236</td>
<td>140.12650241</td>
<td>27.7468</td>
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<tr>
<td>TSKB</td>
<td>36.10611439</td>
<td>140.08719836</td>
<td>30.1300</td>
<td>6.47</td>
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</table>
Comparison: TATN and TSKB

Every 30 minutes
to Oct. 2018

N = 33276
BIAS = -0.342
MAE = 0.678
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\textsuperscript{nd}, 2019)

- RS-11G (for transmission of CFH)
- SKYDEW
- iMS-100
- CFH
- RS92
Test flight of Meisei SKYDEW

2019-03-22 06UTC (15JST)

(a) Temperature
(b) Relative Humidity
(c) Difference of RH
GRUAN-related research in Japan

• The paper for the intercomparison between RS92 and RS-11G is accepted:

• Reanalysis of GNSS-PW using REPRO2 and comparison with radiosondes in 1990s in Tsukuba (Shoji, 2018, in Japanese)