Session 2 - New GRUAN data products

2 - 1 20:00 - 20:20 GNSS-PW (Galina Dick)
2 - 2 20:20 - 20:50 Modem M10 GDP (Jean-Charles Dupont et al.)
2 - 3 20:50 - 21:00 Lidar (Thierry Leblanc)
2 - 8 21:00 - 21:10 ASOPOS 2.0: Involvement GRUAN together with GAW-NDACC and IOC (Herman Smit)
2 - 4 21:10 - 21:30 Meisei IMS-100 (& RS11G) (Shunshuke Hoshino)
Flash updates
2 - 5 21:30 - 21:35 MWR (Nico Cimini)
2 - 6 21:35 - 21:40 Ozone (Richard Querel)
2 - 7 21:40 - 21:45 Graw (Ruud Dirksen)
2 - 9 21:45 - 22:00 Wrap up chair

Please send a summary (1-2 paragraphs) of your presentation to June Wang (jwang20@Albany.edu) by Nov 23, 2020
Call for papers

Special Issue Atmosphere (MDPI)


The Global Climate Observing System (GCOS) Reference Upper-Air Network (GRUAN) and its Applications

Guest Editors
Dr. Fabien Carminati, Dr. Ruud Dirksen

Co-Guest Editors
Dr. Giada Alessandroni

Deadline
25 May 2021
## GRUAN Data Products

**Certified GRUAN data products**
- Vaisala RS92 v2
- Meisei RS-11G v1

**Certification in progress**
- GNSS-PW
- Meisei IMS-100
- Modem M10
- Vaisala RS41
- Graw DFM-09 & 17 ECC Lidar MWR

### GDP in development
- GRUAN Technical Document
- Peer-reviewed paper
- Central data processing facility identified
- Trial run of data stream (beta)
- Data review

### Path to GDP Certification

<table>
<thead>
<tr>
<th>Product</th>
<th>TD</th>
<th>PRP</th>
<th>CDP center</th>
<th>Beta</th>
<th>Data Review</th>
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<tbody>
<tr>
<td>GNSS-PW</td>
<td>TD-6</td>
<td>Tong et al (2016)</td>
<td>GFZ</td>
<td>Yes</td>
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<tr>
<td>RS41</td>
<td>In progress</td>
<td>In progress</td>
<td>LC</td>
<td>Yes</td>
<td>Yes?</td>
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<td>IMS-100</td>
<td>TD-5</td>
<td>?</td>
<td>JMA</td>
<td>Yes</td>
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<td>M10</td>
<td>?</td>
<td>Dupoint et al (2020)</td>
<td>IPSL</td>
<td>Alpha 1</td>
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<td>Graw</td>
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<td>LC</td>
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<td>Lidar</td>
<td>JPL?</td>
<td>Yes</td>
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<td>MWR</td>
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<td>ECC</td>
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Data processing of radiosoundings

Converting of original raw data files to NetCDF
- RS92 (MWX, DC3DB) → @ LC (Lindenberg, DE)
- RS41 (MWX) → @ LC
- M10 → @ IPSL (Trappes/Palaiseau, FR)

Processing of GRUAN Data Products (GDP)
- RS92 GDP.2 → @ LC
- RS41 BETA.1 (GDP.1 in prep.) → @ LC
- RS-11G GDP.1 (GDP.2 in prep.) → @ JMA (Tateno, JP)
- iMS-100 BETA.1 (GDP.2 in prep.) → @ JMA
- M10 ALPHA.1 (GDP.1 in prep.) → @ IPSL

Future GDPs
- DFM-09 (experiments ongoing) → @ LC
- DFM-17 (experiments ongoing) → @ LC
B1 Meisei IMS GDP product

TD completed, data stream in beta mode and paper submitted by time of ICM-12

TT Radiosondes (Meisei)

ICM-12
B2  Modem sonde GDP progression

Take steps necessary to further develop the Modem product (TD completion, uncertainty characterisation, papers); update to be given at ICM-12.

TT Radiosondes (Modem)
ICM-12
B3  GNSS-IWV GDP certification

TD finalized and the product certified and flowing from all qualified sites by year end

TT GNSS-PW; GFZ; Lead Centre; WG

TD resubmitted by TT and published July 2019
Certification package prepared by LC and sent to WG-Chairs Sept 2019
Certified product Nov 2019
B4 Ozonesondes GDP progression

Update on progress towards an Ozonesonde GDP to be given at ICM-12 including consideration of TD issues raised at ICM-11 and outcomes of further discussions with the community.

Richard Querel, WG Chairs
ICM-12
B5 Microwave Radiometer GDP progression

TT-AM to further progress the MWR product and present on progress at ICM-12

TT-AM
ICM-12
B6 Lidar GDP progression

Report on beta testing outcomes and progress of a v1 data stream at ICM-12. If beta testing shows no issues then aim to have finalised TD and be in a position to certify one or more initial lidar data streams.

TT-AM Thierry, Arnoud, Fabio
ICM-12
B7 Frostpoint hygrometer GDP progression

Provision of update on progress towards a GDP for frostpoints covering at a minimum: 1. whether a single version can be applied to all frostpoint techniques; 2. questions around the Voemel et al analysis raised at ICM-11

Frostpoint hygrometers ad hoc team
ICM-12
GRUAN data products

- Vaisala RS92 (2014)
- GNSS (GFZ & TT)*

- Under development (Tuesday & Friday sessions)
  - Vaisala RS41 (LC)
  - Modem Radiosonde (J-C Dupont)
  - Meisei iMS-100 (Shunsuke Hoshino)
  - Lidar (Thierry Leblanc)
  - MWR (Nico Cimini)
  - Ozone (Richard Querel)
  - Graw (LC)
  - CFH (Dale Hurst & LC)