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**6th GRUAN Implementation-
Coordination Meeting (ICM-6)**

Session 2

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Lead Centre progress report 01/2014
(Submitted by GRUAN Lead Centre)

Summary and Purpose of Document

Progress report from the GRUAN Lead Centre covering the period 08/2013 to 02/2014.

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Summary

Major tasks have been the distribution of individual data submission reports to sites and the start of the GNSS-PW data flow. The GRUAN Vaisala RS92 processing paper is almost complete and will be presented at ICM-6. A new version of the RsLaunchClient has been developed and is being distributed to the sites. The flow of GNSS raw data has started.

Health of network

One site (Nauru) has been closed. The closure of two other sites (Manus and Darwin) has been announced and is expected to occur this year. It is hoped that the radiosonde component of the site at Darwin can be maintained. ARM has established a new site in the Azores and may be able to bring this site into GRUAN. Network expansion is becoming urgent.

Progress against stated objectives

Open items	Summary of progress
Formally document what generic steps would be required to bring a new production sonde type into GRUAN as a GRUAN report. (Short report, submitted to review) (Jul. 2013)	Done. A technical note (TN-1) was completed and reviewed by the Task Team Radiosondes. It has been sent to all relevant GRUAN parties, who are planning to include new production radiosondes into GRUAN. Discussions have happened with Modem, Internet (USA) and CMA.
A short GRUAN report detailing the process implemented to provide feedback of observation minus background fields to the GRUAN Lead Center. (Nov. 2013)	This action is delayed due to staffing shortages.
Define a site reports format expectation and roll out to sites for formal annual progress reports (Roll out November 2013, site reports due by end of Jan 2014).(Nov. 2013)	Site data reports have been sent out to all sites. Comments have been received from some sites and have been included in the update of the site reports. These reports will be distributed to all sites prior to ICM-6

Revise the RS-92 data stream based upon feedback received - revised version 3 release including qc flags vectors and data in different vectors (good, questionable, missing). (Dec. 2013)	Version 3 of the data stream will be delayed. Several issues have been discovered and placed into the list of revisions.
TD omnibus of all things RS-92. (Dec. 2013)	To be discussed at ICM-6.
Technical documentation completed for frostpoint hygrometer measurements. (Dec. 2013)	Documentation as well as processing are well under way. A first draft will be available at ICM-6.
First report on data usage including items such as publications arising, queries received etc. (Feb. 2014)	This item is technically not doable, since currently no data tracking is in place and cannot be put into place due to the regulations at NOAA.
Paper describing the RS-92 product submitted to journal. (Feb. 2014)	Paper nearing submission

Achievements

Reports detailing the status of data submission, data quality and specific issues have been sent to all sites that have submitted data. These reports are generated automatically based on the data and meta data stored in the GRUAN data base. They list among other things the amount of data, the instrument source for these data as well as some quality checks for the Vaisala RS92 radiosonde, which are being processed at the Lead Center. Some comments have been received from the sites and the report format has been modified to take these comments into consideration. These reports will be resent to the sites with the request to submit them with their own station report to ICM-6.

The first initial data flow for GNSS data from a few selected sites to GFZ has started. GNSS data are not yet being processed as GRUAN data product, which still has to be developed. Initial discussions to accomplish this this task have taken place between GFZ and the Lead Center.

Lead Center operations

- The paper for the GRUAN Vaisala RS92 processing is nearing completion and will be presented at ICM-6.
- The Lead Center participated at the NDACC steering committee meeting in Frascati, Italy. This cooperation is seen as an essential partnership and was recognized as such by all. It was agreed to share frostpoint data with NDACC as well.
- Data flow with Lauder is currently in the process of being set up. Vaisala RS92 data flow from Payerne is in the process of being started, data flow for Meteolabor sonde data is not imminent.
- Maintenance of the GRUAN website and inclusion of the ICM-6 meeting page.
- Preparation of ICM-6, organizing committee discussions, handling the registration and participants list.

- Version 0.5 of the RsLaunchClient (RLC) has been finished and is currently being distributed to the sites. All sites starting data submission should use this version. The most significant feature is a validation of all meta data collected prior to data submission to minimize the amount of incorrectly submitted data.
- The documentation for this version of the RsLaunchClient is currently under review (GRUAN Technical Document TD-3).
- The LidarRunClient, which has been developed in cooperation with the Lead Center, has been installed at Payerne. This site is testing the features of this software.
- Herman Smit from the GAW ECC world calibration center in Jülich visited the Lead Center and discussed the further cooperation between both. It was agreed to cooperate with him on the development of the data product, which will include many of the topics currently being worked on in the framework of the SI2N ozone sonde homogenization effort. It was agreed to continue this cooperation informally. Formalizing this cooperation is not in the interest of either party and the expected bureaucratic overhead is considered excessive.

Training by Lead Center

- Training of AWI staff going to Antarctica and to Ny Alesund.
- The newly appointed ARM CFH instrument mentor visited the Lead Center and got a first glimpse of the CFH sounding operations.

Issues

- The number of tasks and projects is exceeding the resources available at the Lead Center. No additional staff are to be expected at DWD, which will limit the rate of development of the Lead Center. External funding cannot be acquired due to the very large bureaucratic overhead.

Work plan for next six months

- Finalize the GRUAN frostpoint data product.
- Begin development of version 3 processing of the GRUAN Vaisala RS92 data.
- The GRUAN website, which is hosted by DWD will need to move to a new web content management system. A significant work load is expected to make this transition smooth for external users.
- Several technical documents have to be developed to describe the GRUAN sonde preparation requirements and the requirements for other radiosondes.