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Session 4

Task Team progress report for March 2014 – Scheduling Task Team

(Submitted by Tom Gardiner/ Dave Whiteman)

Summary and Purpose of Document

Progress report from the task team Scheduling.

Task Team progress report for March 2014 – Scheduling Task Team

SUMMARY

The primary objective for the Task Team is to develop defensible, quantifiable, scientifically-sound guidance for GRUAN sites on measurement schedules and associated site requirements, in order to meet the GRUAN objectives.

In terms of scientific outputs from the Task Team, while the activities of the team remain a voluntary one without specific funding the main information sources are from the peer-reviewed literature, GRUAN documentation, and currently unpublished studies of which the group is aware. Some limited new analyses are being undertaken by Team members using existing data sets to start to address areas where critical gaps exist that prohibit scientifically defensible choices.

In addition to the progress on the tasks described below, other activities this year have included :

- the publication of a summary of Scheduling TT and GATNDOR research linked to the earlier presentation at ITS 9 : *Sampling and measurement issues in establishing a climate reference upper air network ; T. Gardiner, F. Madonna, J. Wang, D. N. Whiteman, J. Dykema, A. Fassò, P. W. Thorne, and G. Bodeker ;AIP Conf. Proc. 1552, pp. 1066-1071; doi:http://dx.doi.org/10.1063/1.4821422, 2013.*
- Research lead by NPL on the use of multiple daily sonde launch data to predict temporal mis-match uncertainties as a function of altitude and season. This study has looked at long term data records from Lindenberg and ARM-SGP sites and the high-density 6-month data set from Manus during the Dynamo campaign. It is planned to submit a paper on this work in 2014, and the option to use modelling outputs to extend the application to the global scale has been discussed with ECMWF.

PROGRESS ON CURRENT TASKS

Task: *Extension of trend sensitivity studies to include stratospheric water vapour and also extension of trend studies into the LS.*

Main Contact: *Dave Whiteman* **Due Date:** *31-Dec-13* **Status:** *On-going*

Milestone: *Paper on extension of trends sensitivity studies analysis to stratospheric water vapour and submission to a peer reviewed journal.*

Progress: *A draft paper on 'Lower Stratospheric Water Vapor Trend Detection – Needs and Current Assessment' has been prepared. This studies the needs for and current capabilities of water vapor trend detection in the lower stratosphere using data from balloon-borne frostpoint hygrometer (FPH) and Microwave Limb Sounder (MLS).*

Issues: *An application for funding in this area was unsuccessful, so work has had to continue on an ad-hoc basis.*

Task: *Review of temperature scheduling requirements (as already done for WV in the Guide) for scheduling decision support.*

Main Contact: *Tom Gardiner* **Due Date:** *30-Sep-13* **Status:** *Completed*

Milestone:

Progress: *The review has been completed, and a draft GRUAN report on its outcomes has been submitted to the lead centre : 'Review of Operational Requirements for Temperature Sonde Measurements'. This review brings*

together the information in the peer-reviewed literature to provide guidance to the GRUAN community on the requirements for sonde temperature measurements, covering aspects such as measurement scheduling, measurement uncertainty, change management and network design.

Issues: *None*