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GLOBAL CLIMATE OBSERVING
SYSTEM (GCOS)

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Coordination Meeting (ICM-8)**

Session 3

Boulder, USA

25 April – 29 April 2016

Task Team progress report for April 2016 – Scheduling Task Team

(Submitted by Tom Gardiner and Dave Whiteman)

Summary and Purpose of Document

Progress report from the task team Scheduling.

Task Team progress report for April 2016 – 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specific funding the main information sources are from the peer-reviewed literature, GRUAN documentation, and currently unpublished studies of which the group is aware.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 task described below, other activities this year have included :

- Following publication on the uncertainty in temperature measurements due to temporal mismatch (*Butterfield, D. and Gardiner, T; AMT; 2015*) work has continued on the planned extension to other GRUAN sites. This is based on ECMWF reanalysis data following a comparison of the mismatch statistics of the actual and model results for the previously studied high-density sonde data sites (Lindenberg and ARM-SGP). Work is also underway to assess the actual and model water vapour mismatch uncertainties using similar analysis methods.
- A review has been carried out of the peer-reviewed literature which includes consideration of the coincidence uncertainty between two non-satellite measurement methods. Only papers that set collocation criteria have been included, and a brief summary is only given on those papers that discuss the effect of collocation on the results comparison results. It is planned to publish this review as a GRUAN Technical Note.

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' was submitted to Journal of Geophysical Research - Atmospheres. 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: *Some issues raised by reviewers need further investigation. Ongoing disagreement between FPH and MLS has complicated analysis. Work is effectively on hold until more information is available on the causes of the disagreement.*