



WMO/IOC/UNEP/ICSU
GLOBAL CLIMATE OBSERVING
SYSTEM (GCOS)

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**7th GRUAN Implementation-
Coordination Meeting (ICM-7)**
Matera, Italy
23 February – 27 February 2015

Session 2

**Task Team progress report for February 2015 –
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 February 2015 – 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specific funding the main information sources are from the peer-reviewed literature, GRUAN documentation, and currently unpublished studies of which the group is aware.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 :

- Publication on the uncertainty due to temporal mismatch. When intercomparing different temperature profiles it is important to include the effect of temporal mismatch between the measurements. This paper addresses the coincidence uncertainty associated with using radiosonde results for intercomparisons with other temperature measurements using long term data records from Lindenberg and ARM-SGP sites and the high-density 6-month data set from Manus during the Dynamo campaign. The extension of the application to the global scale using model data is planned.
 - *Butterfield, D. and Gardiner, T.: Determining the temporal variability in atmospheric temperature profiles measured using radiosondes and assessment of correction factors for different launch schedules, Atmos. Meas. Tech., 8, 463-470, doi:10.5194/amt-8-463-2015, 2015.*

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 – work continuing on an ad-hoc basis. Disagreement between FPH and MLS in past 12-18 months has complicated analysis. Plan now is to disregard most recent data for the purposes of this paper.*

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

Main Contact: *Tom Gardiner*

Due Date: *30-Sep-13*

Status: *Completed*

Milestone: *Report on temperature scheduling requirements.*

Progress: *GRUAN report 3 'Review of Operational Requirements for Temperature Sonde Measurements' published in May 2014. 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*