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Session 3

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Task Team Progress Report for June 2017– Scheduling

(Submitted by Tom Gardiner and Dave Whiteman)

Summary and Purpose of this Document

Progress report from the task team on Measurement Schedules and Associated Instrument-type Requirements.

Task Team progress report for June 2017 – Scheduling Task Team

SUMMARY

The primary objective for the task team was to develop defensible, quantifiable, scientifically-sound guidance for GRUAN sites on measurement schedules and associated site requirements, in order to meet the GRUAN objectives. As a result of a review by the Science Coordinators of areas of common research interest across the network, and supported by discussions at the last ICM, it was decided to extend the scope of the task team to cover the issues surrounding measurement combination. This will involve developing methodologies to optimally combine measurements of ECVs from multiple instruments to meet all GRUAN objectives including climate trend detection, satellite calibration/validation, and studies of local mesoscale processes and events. Such tools will enable characterisation of the atmospheric column above each site through the combination of measurements from multiple instruments, taking into account relevant collocation effects, with a view to:

- providing the best available estimate of the vertically resolved atmospheric column above the site
- ensuring continuous measurements of an atmospheric parameter without temporal gaps;
- understanding and better quantifying the total uncertainty budget;
- optimising the operational costs.

As a result of this change in scope the task team terms of reference has been updated and the membership has been revised. In addition, Fabio Madonna has replaced Dave Whiteman as co-chair of the task team, with Tom Gardiner remaining in the other co-chair position. An updated set of Actions will be developed following discussions at ICM-9.

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specific funding the main information sources are from the peer-reviewed literature, GRUAN documentation, and currently unpublished studies of which the group is aware.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.

A talk on ‘Developing Best Estimates of the Atmospheric State from Upper Air Measurements’, which summarised the current activities in this area within the GRUAN network was presented by Tom Gardiner at the International Conference on Metrology for Meteorology and Climate (MMC 2016), linked to the WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (CIMO TECO), held in Madrid in Sept 2016.