

# Progress check against ICM-4 Agreed work plan

Peter Thorne

Check against the major and minor within year action items in the ICM4 report

- Major items numbered 21
  - Completed: 6
  - Partially completed: 13
  - Not completed: 2
- Take home: We need to perhaps be a little more realistic as to what is attainable this time?
- Minor items we'll very quickly cover.

# Major items

- Set up an online repository of all actions, whether they rise to work plans, within year report commitments or Implementation Plan items. Community owned. Managed by WG-GRUAN chairs. (Greg)
  - Greg created a spreadsheet and shared this. Uptake rates have varied
  - Do people feel this is useful or would they prefer to revert to WG / TT / LC specific lists managed locally? (show of hands yes / no to continuing this)

- Discuss with Task Team chairs and WG-GRUAN members how to proceed on creation of metadata task team (metadata that is not necessarily instrument specific, but necessary for complete understanding; ensuring metadata consistency between data streams). Report via the blog. (LC, co-chairs)
  - A proto terms of reference has been circulated with the meeting materials. See later item for further discussion.

- To process 4 or more sites with a focus on those who may benefit from early certification to undertake certification. Work with TT site representative co-chairs in this. (LC, WG, TT sites)
  - One site certified, one application in process, two additional solicited. Discussed later.
- RS-92 pre-launch documentation to be revised and submitted as a TD by the summer (LC, TT radiosondes)
  - Require additional information from some sites to complete.

- Assessment of RS92 (and others?) time lag humidity corrections, comparing the GRUAN processing to other published approaches to be undertaken and submitted to a journal (LC, TT radiosondes)
  - Pending additional input from Lead Centre.
- Document detailing the issues surrounding multi-payload soundings to be drafted and submitted either to peer reviewed literature (first choice) or to WG-GRUAN for review. (TT radiosondes)
  - Require additional input from several groups / sites to complete.

- Assessment of auto-sounder influence vs. manual launches to be written up and submitted to the peer reviewed literature (TT radiosondes)
  - Information has now been collated and this should be completed by summer.
- Provide the theoretical basis for GRUAN uncertainty estimates for GNSS-PW. Submission to peer reviewed literature. (TT GNSS-PW)
  - There has been some significant progress but it is not ready for submission yet.

- Report on discussions with LC and others on starting the GNSS-PW data flow. Data collection client requirement? Central processing facility? (TT GNSS-PW)
  - See GNSS-PW Task Team report and presentation
- Develop and publish online tools using the NPROVS system to visualize the GRUAN products (incl. uncertainty) and collocated satellite data (GPROVS?) and possibly SASBE products. (TT-AM)
  - Progress will be summarized in TT-AM talk



- GRUAN Lidar Technical document (incl. all species) submitted for WG-GRUAN review. (TT-AM)
  - Version almost ready for formal review after internal TTAM review
- Complete the matrices of measurements started and try to be as detailed as possible taking into consideration new updates, changes, etc. available at the [gruan.org](http://gruan.org) web site. (TT sites, LC)

- Collocation. Identify if the instruments at a site are collocated or distributed and details of the distribution (distance, ownership, etc). Include maps etc. (TT sites)
  - Some work on collocation for a subset of sites and its ramifications has been undertaken.
  - Queries after production of report led to uncertainty in what was envisaged / required.
- Submission of a peer-reviewed paper about the topic "Quantify the value of complementary measurement" (GATNDOR)
  - Paper being drafted

- Development of initial frostpoint hygrometer product and associated technical document. Initial data and advanced draft of technical document available for consideration at ICM-5. (Holger / Dale)
  - See item later in meeting. No proto-documentation was provided in advance of ICM-5.
- Post online monitoring reports, graphics etc. and link from the NCDC ftp area to make aspects more accessible to the end users. Also link to a (still under development) 'GPROVS' portal. (LC)
  - To my knowledge no update but willing to be informed otherwise

- Work with sites not launching RS-92 to further development of the processing streams for their standard radiosondes. Report at ICM-5 on progress.
  - See talk later
- Create a formal amendment to the Implementation Plan. To cover through 2016. To be submitted by September 1st to GCOS (AOPC) for consideration as a GCOS report. Owners: WG-GRUAN co-chairs.
  - Discussed later today. Redraft extends through 2017

- Create a draft technical document on surface meteorological measurement requirements (T, P, U) in support of in-situ and remote sensing activities at GRUAN sites to include aspects on frequency of reporting, calibration and upkeep. Lead: Peter Thorne. Draft submitted for consideration / discussion at ICM5
  - Has been stayed indefinitely pending resources being available

- Work with CIMO / HMEI to discuss how best to incorporate a GRUAN invited talk / talks / town hall / other as appropriate presence at the TECO meeting in Brussels in the autumn of 2012 to allow discussions with manufacturers. Report to WG-GRUAN. Holger / Bertrand/ WG-GRUAN chairs.
  - Holger attended and gave a talk

# The list of more minor work plan items (status is indicative only)

- Propose revisions to terms of reference and membership of WG-GRUAN to AOPC members prior to their late April meeting. WG-GRUAN chairs.
- Formally instigate and manage GRUAN Technical Documents review protocol as documented in the WG-GRUAN meeting outcomes.
- Assess the site application currently under consideration and others received as detailed in the site assessment and certification document.
- Manual and Guide finalized and signed off, formally adopted and published. (Bodeker)
  - Remove 'intermediate station' from guide section 5
  - Change name of 'fully compliant station' (work with sites Task Team to find acceptable terminology)
  - Tom Gardiner and Andrea Merlone to work with Greg on uncertainty language throughout.
  - Remove seasonally variant scheduling language from guide but retain language that this might be important later.

- Radiosonde Task Team to resolve second co-chair issue along agreed WG-GRUAN procedures.
- The radiosonde Task Team will circulate their CIMO intercomparison summary for wide review and then submit to formal review as a GRUAN report by WG-GRUAN by the summer.
- Further efforts will be made to assess controlled descent mechanisms for balloon payloads. A paper will be prepared on the Payerne solution. Topic to be discussed further at ICM-5. (Hurst, Philipona, Fujiwara)
- Develop guidance on GNSS-PW data through a GRUAN GNSS data and product table. September 2012. (TT GNSS members)
- Identify best practices in making and verifying GNSS observations. Report at ICM-5. (TT GNSS members.)
- Recommend practices on managing change in GNSS-PW measurements. Presentation at ICM-5. (TT GNSS co-chairs.)
- Review of temperature scheduling requirements (as already done for water vapour in the Guide) for scheduling decision support. Presentation at ICM-5. (TT co-chairs.)
- Retention of collocated satellite radiances within or linked from the GRUAN data archive to facilitate intercomparisons. Report at ICM-5. (Reale, Sommer)



- Investigate use of satellite collocation data as an additional QC/QA tool on GRUAN products over the coming year and report at ICM-5. (Reale, Sommer)
- Report on progress towards gaining a lidar data stream including run clients and uncertainty estimation. Presentation at ICM-5. (Leblanc)
- First draft of Technical Document on bringing microwave radiometer measurements into GRUAN, leveraging MWRnet expertise. Summer 2012 circulated to TT AM members. (N. Cimini and N. Kämpfer.)
- First draft of GRUAN FTIR Technical Document, leveraging MUSICA, made available to TT AM members for comment. Summer 2012. (Schneider, Hannigan)
- Inventory of AERI instruments to be compiled for TT AM consideration and report to GRUAN community on viability to bring AERI into GRUAN. By ICM-5. (Schneider, Hannigan)
- Inquire to EARLINET colleagues on the status of their Centralized Data processing Algorithm and study possible synergy between EARLINET and GRUAN. Report at ICM-5. (Apituley, Leblanc)
- Investigate essential “recipe” of GRUAN ancillary and sonde measurements (including uncertainties) to calculate SASBE with focus on atmospheric temperature and moisture for NPP satellite hyper-spectral products validation. Report to TT AM by ICM-5. (Tobin.)
- GATNDOR workplan published for coming year. To be published on the blog. (Madonna)
- Circulation of a Phd position for working on a new GATNDOR topic: "Assessment of the impact of comparison model error: use of GRUAN uncertainty covariance matrix and assessment of best vertical resolution to use in RTM modeling for improving satellite validation”.

- Extend trend sensitivity studies analysis to stratospheric water vapour and submit the resulting analysis to the peer reviewed literature. Until Dec 2012, dependent upon funding. (TT Measurement Scheduling, Whiteman lead)

## But remember ...

- Beyond the Lead Centre and some of Greg's time many of these activities are not directly funded.
- Progress needs to be assessed against dedicated resource ...
- Will return to this in IP presentation