

Report from  
GRUAN science coordinators

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# Outstanding research topics / bottlenecks within GRUAN

- RS41-RS92 intercomparison should be our primary research topic
- GRUAN-collaboration in the upcoming JOSIE 2017 Ozonesonde campaigns (Oct-Nov.2017)
- SHC analyses and peer-reviewed publication
- Ideal sonde scheduling for satellite overpass golden-times (what's gained? How flexible are sites?)
- further SASBE development (T, U, O<sub>3</sub>, etc.)
- Best way of integrating Ancillary measurements into analyses
- Comparison of GRUAN-GNSS to GRUAN-radiosonde derived PWV (the only two official GRUAN products at the moment)
- GRUAN-GNSS is processed hourly, validation against NWP could be interesting
- Quantifying benefits of additional geographical locations but with a view of optimising measurement program combinations as well. So not only "where" would extra GRUAN sites be, but "what" would be their best combination of measured ECVs? Trying to be realistic though since sites certainly have budgets and restrictions as opposed to the dreamy GRUAN site that measures everything everywhere. An optimisation problem.

# GRUAN Measurement Scheduling and Combination Task Team

- extending the scope of the Scheduling Task Team to include the issue of combining different measurements and co-location uncertainties.
- new 'Measurement Scheduling and Combination' Task Team will aim to address one of the key goals of GRUAN – to combine data from different reference ECV measurement methods to provide the best estimate of the atmospheric profile above each GRUAN site.
- Tony's development of NPROVS+; Lori and Dave's work on optimised sonde launches for satellite validation at ARM sites; Jordis' study into dealing with spatially separated data sources; Alessandro and Fabio's work on collocation uncertainties, and a number of other examples. The Task Team will aim to share experience across the group, look for opportunities for collaborative research, and ultimately develop the tools the network will need to produce profile best estimates and their related uncertainties.