

Agreement on tasks for upcoming year

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General plea

- Lets try to make these deliverables measurable and self contained
 - Owner
 - Timeline
 - Product / output
 - Acceptance criteria (if applicable)
- No generic actions that will be difficult

Start with latent actions from last year

- Consult with the satellite community (GSICS EP, SCOPE-CM EP, CM-SAF, CGMS Working Groups) on better linkage to GRUAN.
 - Open issue. Is this too much BAU and therefore to be dropped?
- Agree a protocol for dealing with any site offers arising in the interim.
 - WGARO / LC assigned. Agreed protocol here. CLOSED?
- Develop definition for optimal GRUAN site to decide on future sites (optimal location/climate zone, institution etc.).
 - Proposed modified to be a workshop. ISSI hosted. Assign Greg to take forwards on behalf of WG?
 - By ICM4?
 - Where?
 - Or leave to WG discretion?

- Foster GAW, BSRN, NDACC representation in WG- ARO and Task Teams and seek for international representation of members.
 - Address in WGARO refresh and new terms of reference by early summer.
- Agree and implement data usage acknowledgement protocol.
 - Open. Needs a solution ...

- Implement final version of data dissemination structure
 - In progress, bring over with ICM4 hard deadline. LC ownership. What is acceptance criteria?
- Develop a draft GRUAN guide of operations in liaison with Task Teams; draft to be approved by WG-ARO
 - Superseded by new endorsement structure agreed here. Redraft accordingly and replace in new work plan.

Big issues

- Assessment and certification criteria to be fleshed out by WGARO, LC, in consultation with sites reps TT. Draft for adoption in time for ICM4
- GRUAN manual adoption by Jan 2012. Adoption requires LC acceptance and 2/3 majority acceptance of WG-ARO and TT site reps.
- WGARO refresh and new terms of reference including assessment role and co-chairs.

Things agreed in this workshop?

Data retention

- NCDC to be asked to consider viability as acting for a central repository of site metadata and data not yet congruent with GRUAN measures so they can be fully reprocessed in future.
 - Howard?
 - By September?

Data presentation and user registration

- NCDC / LC to consider viability of a graphical user interface to RS-92 measures and report to WG-ARO by Oct 2011
- NCDC to consider viability to place a voluntary user registration on data usage making clear the benefits of being made aware of periodic reprocessing and likely impacts. Report to WG-ARO by Oct 2011

CIMO intercomparison

Action on writing up to peer reviewed literature?

Action on looking at the remote sensing and
satellite data?

Other?

GATNDOR specific (not covered elsewhere)

- Value of complimentary observations.
Observation strategy manuscript.

Sites issues actions?

- Funding case. Is There an action in this? On WGARO and LC?
- Consideration of different controlled descent methods and conclusion? Concentrate on Temp descent issues. TT Site Reps, TT radiosondes + LC? ICM4 written report and presentation.
- Consideration of value of COBALD type measures on strat wv soundings? LC and TT radiosondes? Payerne? Sodankyla? ICM-4 presentation.

Surface measurements

- Need to formulate and articulate surface observation requirements
 - Sampling
 - Instrumentation
 - Redundancy
 - Parameters required
 - In support of UA measures
 - WGARO / LC?
 - By ICM4?
 - Written TD for adoption

Radiosonde ground check

- TT on raobs
- Report on groundcheck recommendation including survey of current approaches for ICM4.

Radiosonde meta-intercomparison

- Best practice guidance on multi-launch payloads. How people do it and why, what practical difference it makes. TT on radiosondes. Presentation at ICM4

Site reps TT

- A matrix of sites and current capabilities hosted on website. TT on site reps / LC. By Sept?
- Protocol for acceptable instrument changeover criteria as a TD / paper? How many sites? Geographic issues? Site spread. How to characterize. Day / night, sun angle, synoptic to allow a reasonable transfer? Role of the redundant technology and managed change? GATNDOR / sites / LC?

- LC to provide generic advisory on instrumentation priority list. By when? How does this link with GATNDOR plans?

IP related activities

- Complete measurement guidance for GNSS-IWV (Task Team GNSS) as TD. By December 2011.
- Complete measurement guidance for lidar (Task Team ancillary measures) as TD. By ICM4.
- Replace ...
 - Roll out measurement guidance to meet GRUAN requirements to all GRUAN site instrumentation based upon prevalence of instrument types.

- Include in manual expanded section on how a station may go about expanding from priority one variables.
- Replaces ...
 - Prepare a position paper on expansion to full column characterisation to meet all stated GRUAN measurement requirements.

Still open?

- Assessment of the value and utility of satellite coincident in-situ and remote sensing measurements vis-à-vis standard times for satellite cal/val. TT scheduling. Report to ICM4
- Initial set of temporal sampling guidance for in-situ and remote sensing instrumentation based upon a quantitative assessment prior to network expansion, including superseding of GCOS-121 documentation for in-situ measurements. TT scheduling. Report ICM4

- Formulate generic guidance on the collocation issue based upon quantitative evidence wherever available and for priority one variables. Includes a toolbox and paper for submission. By ICM4. LC/GATNDOR.
- Replaces
 - Formulate generic guidance on the collocation issue based upon quantitative evidence wherever available and for priority one variables.

- Develop an instrument replacement protocol for radiosondes with a solid quantitative basis.
- Consider role of ancillary measures [Is this really an action?]
- Replaces ...
 - Develop an instrument replacement protocol for all instruments with a solid quantitative basis
 - Recognition that this will be instrument specific so generic is going to be impossible.

- Design and instigate a framework to investigate, report and resolve data quality and instrument issues in real- time. LC, by ICM4.

- Work with HMEI to scope possible workshop aims and requirements and discuss whether CIMO involvement etc. makes this redundant. WG-ARO / LC w/HMEI. Decision by October 2011.
- Replaces
 - Workshop with manufacturers under the joint auspices of GCOS and HMEI.

Contentious?

- Note in meeting report discussions that agreed to fundamental science value of intercomparisons / travelling standards appropriately targeted.
- Replaces
 - Assessment of utility against cost and logistical overhead of regular site specific intercomparisons / travelling standards to intercompare sites.

- Brief scientific community on GRUAN.
 - WCRP open science conference
 - IUGG
 - AMS / AGU / EGU?
 - Powerpoint presentation usage?
 - Critical review and revision?
 - More prominent display
 - Expanded expectation on WG-ARO members and whole community
 - Poster and powerpoint generic by July 2011. LC / WGARO

TT actions for next year we are missing?

- ???????
- Radiosondes – auto launcher
- GPS vs. pressure height

Next steps

- LC and WG-ARO write up this meeting report and 2011/12 workplan and disseminate for endorsement. Then send on to AOPC. Targets:
 - Text draft to all by May 1st
 - Text to AOPC by June 1st
- WG-ARO revise terms of reference and membership (in consultation with LC?) and seek endorsement by AOPC.
 - Target May 1st for submission to AOPC

- Based upon previous interactions assume changes and work plan will be endorsed, try to avoid hiatus.
- ICM 4
 - Plausibly may be last year US GCOS Office can participant support, at least for now
 - Value in being tied to a host site reaffirmed this time
 - Volunteer sites?
 - Tatenno?
 - Sodankyla?
 - Potenza?

Critical feedback on this workshop

- A big thank you to NIWA, the NZ Met Service and particularly Paul and Graeme for fantastic facility and local support.
- What worked?
- What didn't?
- How can we do better next time?