

# ICM-9 proposed actions

Peter Thorne

## Summary

- 4 high priority items (incl. closure of 2 from last time)
- 8 RS92-RS41 transition actions (incl. closure of 3 from last time)
- 13 other items (incl. closure of 5 from last time)

## Notes

- ICM-10 is only 10 months hence
- Following discussions it was agreed to finalise an RS92 v3 product after the RS41 v1 product is completed (gap mitigation and <risk a v4 required)
- Please all (re-)read GRUAN TN4 (on [gruan.org](http://gruan.org))
- There are a number of BAU items not recorded as actions e.g.
  - Review and updates to website
  - Backfilling membership and co-chair vacancies on TTs
  - Revision of WG ToR following WG meet outcomes in consultation with AOPC and GCOS Secretariat
  - Reflect on science coordinator discussion outcomes
  - Data management and serving issues

Proposed high priority actions  
(including carry of 2 from ICM-8  
list)

## First draft version of RS41 GDP available for review at ICM-10

Lead Centre to provide a first cut at the RS41 GDP by no later than ICM-10 and provide to GRUAN community for analysis (alpha / beta). Use the GAIA-CLIM traceability chain approach developed by NPL and applied for RS92v2 product to guide product creation and consideration of correlated, structured random and random components. Session on RS41 GDP preparation at ICM-10.

Lead Centre, TT radiosondes

Apr 2018

## Qualify new data streams

Qualify currently available candidate data streams available via the LC (Meisei and SRS) according to the guidance in GRUAN-TN4. Requires the steps denoted in TN4 to be satisfied. Either data served via NOAA NCEI or action plan for each stream of required further steps available by ICM-10

WG-GRUAN, LC, TT sites, TT radiosonde

Apr 2018

## Autosondes

An assessment of the advantages and disadvantages of manual vs. autosonde launches written up and submitted to the peer reviewed literature. First define the critical questions to answer which would appear to be at least: i) Can we create a GDP?; ii) Is there a bias between manual and autolaunched?; iii) Does the random uncertainty change?; iv) impact of lifetime in launcher (quality, SHC repeatability, and height attained);. Could compare manual / autosonde dual against LC arisen database of manual/manual dual launch to get at iii)

TT radiosondes and LC

Aug 2017 to define small set of well posed questions to be addressed

Dec 2017 to submit manuscript

*Note: original action existed in 2009!*

## Radiosonde documentation

Develop first draft of GRUAN radiosonde generic technical document omnibus. Available for review.

LC, TT radiosondes, non-instrument experts, WMO ET (to review)

Jan 2018

## RS92 to RS41 transition actions

### Community approach paper

Paper describing the GRUAN change management replacement strategy submitted to peer-reviewed journal (GI) to increase visibility of effort and get broad community buy-in.

LC, TT radiosondes, WG-GRUAN

Jul 2017

## Parallel soundings database augmentation with satellite / ancillary

Lead Centre to augment parallel soundings of RS92-RS41 with satellite co-locations and 'ancillary' measurements (CFH, FPH, lidar, MWR, satellites, cloud observations (incl. BSRN) within +/-2 hours).

LC, TT ancillary measurements, TT sites, TT GNSS-PW

Oct 2017 (satellites plus Lindenberg)

Apr 2018 (all sites)

## Darwin dual launches

Lead Centre and Greg Bodeker to continue to work with BoM to instigate an intercomparison campaign for RS92-RS41 transition at the tropical Darwin site recognising current lack of a sustained tropical characterisation assessment.

LC, BoM, Greg Bodeker

Dec 2017

## UKMO / BAS ascents inclusion

Arrange for the inclusion of MO and BAS parallel soundings data in the RS92-RS41 transition. Report at ICM-10. Particular interest in St. Helena given paucity of tropical locations.

LC, Tim Oakley

Apr 2018

## GUAN / GRUAN coordination

GRUAN WG, Lead Centre and GCOS secretariat to draft letter to send to countries hosting GUAN sites that run / ran RS92 to survey plans and advocate to undertake some degree of parallel measurements and submit to GRUAN Lead Centre collection. Letter to go from Tim as GCOS network manager to GCOS focal points.

WG Chairs, GCOS secretariat, LC

Jul 2017

## Scheduling by conditions

Lead Centre, based upon results to date to advise sites of whether particular conditions are most uncertain and therefore when (under what conditions) launches of dual configurations may derive most value. The parallel soundings as a whole should represent a wide variety of conditions across the network and at each site.

LC, TT radiosonde, TT sites, Alessandro Fasso's ad hoc group

Oct 2017

## Updated analysis of dual launch holdings

Several techniques to be pursued (including use of satellites, NWP, ancillary) to analyse the effects of the transition both on manufacturer processed and GRUAN processed (when available for RS41) data products arising from dual flights. Updates available for ICM-10 (2-page written summaries a month in advance and talks in transition session)

Science Coordinators (or TT on RS92/41 transition analysis), LC, TT radiosondes, TT ancillary measurements

Apr 2018



## Capability to create RS92v2 GDP from MW41

Given agreed priority of RS41 GDP over RS92v3 product generation develop short-term 'fix' to enable v2 processing to be applied to RS92 soundings lodged using the MW41 ground equipment.

Lead Centre

October 2017

## Remaining actions

## Does my site look big in this?

Technical note on guidance on site survey photos and upload instructions. Current site photo surveys to be uploaded to appropriate area of website. LC to instigate mechanism to remind sites to submit new photos.

Lead centre, TT Sites

Apr 2018

## New modem product

Develop GRUAN data product and processing stream for Modem radiosondes. First draft of technical document describing processing streams for all Modem radiosondes. Initial data stream available for evaluation by Lead Centre.

CNRS, Lead Centre, TT Radiosondes

Apr 2018

## How to lidar

Take necessary steps to be in a position to qualify the Lidar GDP starting after ICM-10. Remaining steps are finalisation and review of Technical Document and provision of a beta test data stream to LC.

TT Ancillary measurements

Apr 2018

## How to GNSS-PW

Take necessary steps to be in a position to qualify the GNSS-PW GDP starting after ICM-10. Remaining steps are finalisation and review of Technical Document and provision of a beta test data stream to LC.

TT GNSS-PW

Apr 2018

## How to Ozonesonde

Take necessary steps to be in a position to qualify the Ozonesonde GDP starting after ICM-10. Remaining steps are review of Technical Document, peer reviewed description of product and provision of a beta test data stream to LC.

Greg Bodeker, Jacquie Witte, Lead Centre

Apr 2018

## Failsafe back-up

LC and Bodeker scientific to instigate failsafe backup of the raw data that is offsite of Lindenberg

LC / Greg Bodeker

Oct 2017

## Golden overpass

Lead Centre to create a filter that spits out to each site a list of the likely overpass coincident times within a defined radius based upon the EUMETSAT occultation forecast product. Emailed weekly.

LC, TT Sites

Aug 2017

## CFH roadmap

Prepare a strategy document (2-sides max) to address the remaining steps required for instigation of a frostpoint hygrometers GDP for presentation and discussion at ICM-10

Lead Centre, TT Radiosondes, TT sites

Apr 2018

## Certification and auditing

WG-GRUAN and LC to ensure certification and auditing of sites on the agreed upon timetables and verify against these targets at ICM-10

Greg Bodeker, Lead Centre

Apr 2018

## Annually based reporting

Lead Centre to provide automated reports on 2017 performance no later than Jan 20<sup>th</sup>. Sites to append site report no later than Feb 15<sup>th</sup> to inform ICM-10. WG-GRUAN members to read site reports prior to ICM-10

TT Sites, Lead Centre, WG-GRUAN

Feb 2018

## Australian sites composition and certification

Greg to respond to suggestion to move Alice Springs site to Brisbane and to advocate for certification.

Greg Bodeker

Aug 2017

## Letters on behalf of sites

WG-GRUAN chairs to review site reports and initiate letters from appropriate parties accordingly. TT sites to be tasked with raising such requests intersessionally rather than solely at ICMs.

WG Chairs, TT Sites

Aug 2017

## Update on radiation chamber results

Lead Centre staff to consider the various feedback and suggestions received on the issues raised at ICM-9 on the radiation chamber results. To the extent resources, technical and practical considerations permit perform further experimentation and report a substantive update at ICM-10

Lead Centre

Apr 2018

And finally

Resolution of an action rests with all  
actionees ... and not simply the lead!