

# ICM-8 Actions status

Peter Thorne

# Summary

- We had 36 agreed actions from last ICM. Of these ...
  - 12 are completed
  - 19 are in progress
  - 5 remain unaddressed
- We had 4 high priority items (1, 3)
- We had 10 actions related specifically to the RS92 transition (4, 6)

On a note of process for actions that involve multiple actors only the primary seems to be taking responsibility. All entities should feel ownership though?

High priority actions

# Autosondes

An assessment of the advantages and disadvantages of manual vs. autosonde launches written up and submitted to the peer reviewed literature.

TT radiosondes (Rigel Kivi, Fabio Madonna)

June 2017 (but original action existed in 2009!)

Note Friday am to update and discuss route forwards

# Multi-payload launches

A document detailing the operational challenges related to multi-payload soundings submitted either to peer-reviewed literature (first choice) or to WG-GRUAN for review as a GRUAN report. To be augmented by quantitative analysis of existing multi-payload flights

TT radiosondes, NOAA NWS, LC, TT Sites, Science Coordinators

May 2017

To discuss this week whether to go straight to paper submission

# Radiosonde documentation

Develop first draft of GRUAN radiosonde generic technical document omnibus

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

Nov 2016

Per LC report a substantive draft available but as yet incomplete

# RS92 product v3

Revise the RS92 datastream – revised version 3 including qc flags + data in different vectors (good, questionable, missing), including implementation of performance feedback to the sites. Validate new radiation correction using ancillary measurements to build confidence including GAIA-CLIM NWP feedback. Document v3 appropriately in peer-reviewed literature.

LC, TT radiosondes, TT ancillary measurements

Mar 2017

RS92 transition actions



# ARM campaign proposal

Put in an intensive observations campaign proposal to ARM to run dual launch programs at their sites of RS92 and RS41 to help quantify the effects for 1 year.

WG chairs, Ruud Dirksen, Doug Sisterson, **Lori Borg**, Tony Reale, TT sites

Mar 2017

Decision pending in (hopefully) early July

# Interim analysis of initial RS92 results

Initial analysis of current dual launch data to be reported to GRUAN ICM-8 participants by email

Alessandro Fasso, LC

June 2016

Reported to WG early 2017

# Payload configurations (dual launches)

Lead Centre to ascertain consistency or otherwise of payload configurations being undertaken by sites performing a dual sounding program and make a recommendation as to how to set the rigs to assure comparability to extent possible.

LL, TT sites

June 2016

Published as TN-7

# Darwin dual launches

Lead Centre to work with BoM to instigate an intercomparison campaign for RS-92-RS41 transition at the tropical Darwin site

LC, BoM, TT Radiosondes

Jul 2016

Discussions still in progress pending reorganisation of BoMs upper-air sounding program

# Scheduling incl. Golden match-ups

Lead Centre to provide guidance on when and under what conditions to undertake flights if not to a regular schedule. Night / day / cloud / clear, informed by early lab results. Including providing schedules for 'golden' launch times with polar orbiters / GNSS-RO

LC, TT radiosonde, Axel von Englen

Dec 2016

Might be worth considering folding the match-up prediction service into the GAIA-CLIM VO?

# Parallel soundings database

Lead Centre to instigate and populate a database of parallel soundings of RS92-RS41, including where possible satellite co—locations, raw and black-box processed raobs profiles. Served through LC and available to GRUAN community for analysis.

LC, TT radiosondes, Tony Reale

Aug 2016

Parallel soundings available, but not, yet the satellite colocations?

# 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

Sep 2016

Advanced draft with Lead Author (Ruud) for completion?

# LC – Sterling collaboration

Lead Centre and Sterling facility to undertake coordinated lab characterisation of the RS92 and RS41. Formal report at ICM-9.

LC, NWS Sterling

Jun 2017

LC hosted a visit in August but discussions ongoing



# First comprehensive analysis

Interim analysis of the radiosonde overlap observations completed and reported at ICM-9

LC, TT radiosondes, Science Coordinators, Alessandro Fasso

Jun 2017

Interim analysis to be presented tomorrow pm

# Satellite inferences

Interim analysis of the insights that can be bought by the use of satellite data to the characterisation of the change between RS92 and Rs41 based upon the paired launches

LC, TT ancillary measurements

Jun 2017

Analysis to date to be reported upon in Bomin's talk tomorrow

Remaining actions

# Reporting over WIS

All sites with capability to report BUFR over GTS in NRT. Advice and technical support to be provided by LC / WMO / GCOS on a sit-by-site basis to all certified and candidate sites not currently reporting BUFR to attempt to enable.

Lead Centre, GCOS, WMO, TT Sites

ICM-9

Some progress evident in site reports.

# Stars in their eyes

Complete and disseminate promotional video for GRUAN

Greg Bodeker, Lead Centre

May 2017

# Stratospheric wv trends

Extend trend sensitivity studies to stratospheric water vapour.

TT Scheduling

Dec 2016

As entirely dependent upon external funding retire?

# Does my site look big in this?

Site photo surveys to be uploaded to new website. LC to instigate mechanism to remind sites to submit new photos. Several snapshot series available from each site on web at time of ICM-9

TT Sites, Lead centre

Jun 2017

Some sites have provided photos per TT report. Not clear whether web uploaded yet?

# 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.

CNRS, Lead Centre, TT Radiosondes

Mar 2017

Talk this afternoon shall clarify state of play



# SHC justification

Technical Note on the appropriate techniques for manufacturer independent ground checks using the SHC. Paper submitted to peer review documenting scientific rationale.

Lead Centre, Science Coordinators

Dec 2016

No luck in finding a student or short-term funding opportunity to move forwards

# How to lidar

Technical documentation for GRUAN lidar stream (lidar Guide)  
submitted for review by WG-GRUAN

TT Ancillary measurements

Dec 2016

See talk later today

# How to GNSS-PW (I)

Develop a GRUAN GNSS-PW product. Technical Documentation completed for GNSS-PW measurements (GNSS-PW Guide)

TT GNSS-PW

Dec 2016

Substantial progress reported by TT but not complete

# How to GNSS-PW (II)

Define to GNSS-PW data collection client requirement, initiate data flow

GFZ, Lead Centre, TT GNSS-PW, TT Sites

Apr 2017

# How to Ozonesonde (I)

Develop a GRUAN ozonesonde data product in consultation with NDACC and GAW. Completed technical documents.

Greg Bodeker, Jacquie Witte, Lead Centre

Oct 2016

I believe not reviewed hence showing as incomplete, also we need to have a publication describing the product?

# How to ozonesonde (II)

Define the ozonesonde data collection client requirement, identify the central processing facility, and initiate data flow

Greg Bodeker, Lead Centre

Apr 2017

# What to do about aerosols?

Determine how best to work with NDACC and GAW to bring in measurements of aerosol properties into GRUAN. Produce a short document outlining a proposed strategy.

WG Chairs, WG Members, TT ancillary measurements, Potenza, earlinet

Jun 2017

No time available. Do we keep or retire to potentially pick up later?

# GRUAN data transmission via BUFR

Complete proposal for transmitting GRUAN uncertainties over BUFR and required modification of BUFR tables and report to IPET-DRMM

Sasha Kats (RIP), Kizu-San, TT Radiosondes, TT Sites, Lead Centre, CBS

Nov 2016

New fields in BUFR but TT Radiosondes report outlines some work is still needed?



# Uncertainty structures in RS92 v3 product

Version 3 release of RS92 to include correlated uncertainty information and subsequent work to consider an emulator that can create N profiles consistent with the uncertainty information.

LC, TT Radiosondes, science coordinators

Mar 2017

See also talk on GAIA-CLIM GRUAN processor which is heavily linked

# Task Teams ToR

Task teams to revise terms of reference to reflect current status and required work plans and submit to WG for approval

TT Chairs and members

Jun 2016

To go live online once some membership issues that have arisen attended to

# Certified site audits

Greg to draft and circulate guidelines for certified site auditing to WG and TT reps. Agreed versions to become a GRUAN TN

Greg Bodeker

Jul 2016

To audit Lindenberg and Ny Alesund shortly

# GRUAN IP

Complete and publish new GRUAN IP after publication of the GCOS IP to ensure consistency with this 'parent' document

Peter Thorne with input from WG-GRUAN, LC, TT Chairs

Dec 2016

# Ecosystem of upper-air systems

Paper on the ecosystem of upper-air systems co-drafted with principals of NDACC, TCCON etc. as submission to NDACC special issue

WG Chairs, principals of remaining networks

Nov 2016

No resource, this action now cannot be carried out as written as special issue closed. Greg instead presented at AGU

# Failsafe back-up

LC and processing centres to evaluate options with regard to failsafe back-up to ensure data archival and processing software redundancy. Technical Note produced

LC / processing centres

Dec 2016

Partially addressed by Fabio's new Copernicus project but processing centre capabilities and some streams shall remain vulnerable to SPOF

# Website review

WG members to review the beta website and discuss and provide feedback on any necessary structural innovations to Lead Centre on the next WG call. Then provide feedback at ICM-9 based on use

WG-GRUAN

Jul 2016 for call, Jun 2017 for feedback

Note optional review session on Thursday morning

# CIMO TECO

GRUAN abstracts to be submitted to CIMO TECO and MMC2 in Madrid in late September

Attendees

May 2016, presented Sept 2016



# SASBEs

Report on SASBE development activities at ICM-9

TT Scheduling, TT ancillary measurements, Science Coordinators

Jun 2017