

ICM-15 Action status

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Summary

There were 25 actions from ICM-14 of which we believe ...

- 9 are completed and closed
- 13 are in process
- 3 have had zero or minimal progress

As ever the default will be that actions which have not been closed will be carried over to the ICM-15 workplan

High priority actions

3 completed

2 in progress

HP1 Improved management and reporting

- Manage agreed ICM-14 Actions, with a focus to progress High Priority Actions. Ongoing after ICM-14 to ensure a proactive engagement by the GRUAN chairs and GCOS Sec in the management of ICM-14 actions. Regular meetings with the task teams and the Lead Centre.
- At least quarterly meetings to discuss progress, report issues and update as agreed.
- GCOS Secretariat, WG co-chairs
- Continuous to ICM-15
- Done although meetings in reality happened less frequently. Do we convert this to something more standing? Discuss during week with Fabio and Secretariat

HP2 R23 Replacement

- Ongoing after ICM-14 as a viable replacement for the R23 in the frost-point hygrometer instruments has not been agreed. Audit of GRUAN stations who are reliant on R23 show that 6 stations currently have no supply issue, 2 stations have limited capability and 1 stations have stopped soundings. (Note 1 GRUAN station has already switched to using the Skydew instrument). Update at ICM-14 showed several promising improvements but further tests & analysis are required.
 1. By end of December 2022 check with manufacturers for availability of test instruments
 2. Test flights with dry ice / ethanol CFH instruments at a midlatitude site. (BOU/LIN)
 3. Test flights with dry ice / ethanol CFH instruments at a tropical site. (REU/Costa Rica)
 4. Test flights with dry ice / ethanol CFH instruments at a high-latitude site. (SOD)
 5. Report at ICM15
- Completed. Clear pathway forwards in terms of replacement coolant. Is a follow on implementation action warranted?

HP3 Standard Humidity Chamber (SHC)

- Finalise the activity to justify the use, and document the procedures, for SHC
 - Submit paper to justify the use of the SHC in terms of the data quality and the benefits and including need for standardisation of operating procedures.
 - Complete TN to describe procedural requirements (e.g. operational procedure; quality of the applied references in the SHC).
 - TT-sites, LC
 - By March 2024
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- A proposed outline has been provided but limited progress beyond that

HP4 Justification for high ascent attainment

- Ongoing after ICM-14 as experts are needed to draft chapter text for the paper. A draft structure of the report was presented.
 - TT radiosondes to progress an analysis of the additional benefits of high-altitude attainment.
 - Paper submitted
 - By Dec 2023
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- Substantial progress on draft but some further work required still.
Masatomo to present later in the week

HP5 GRUAN Implementation Plan

- Publication of new GRUAN IP to cover 2024 to 2030, starting with the draft prepared by June.
 - (a) Secretariat to review current version.
 - (b) Feedback from GRUAN experts.
 - (c) Final IP for approval
 - By Oct 2023
- GRUAN Implementation Plan completed and published

GDP related actions

3 completed

3 progressed

2 no / minimal
progress

A1 Microwave Radiometer GDP progression

- Assessment of viability of use of the developed ACTRIS data products (L1 and L2) once available as a GRUAN product.
- Milestones in the development of the Microwave Radiometer GDP
- Assessment by TT-GB and the Lead Centre of the ACTRIS product once available (nominally Dec 2023) as to whether it meets GDP requirements.
- TT GB, LC
- By ICM-15

- Some progress which will be reported by Nico

A2 LIDAR GDP progression

- Implement data flow from sites to LC and on to Table Mountain.
- Milestones in the development of the LIDAR GDP
 - (a) Write a document explaining the procedure for sites to send data to LC – TT. (Feb 2023)
 - (b) Lead Centre work with sites and Thierry to set up a dataflow of data from the initial candidate sites. (Dec 2023)

Some data flow is occurring.

A3 Frostpoint Hygrometer GDP progression

- Set up data processor for chilled mirror techniques and consider the need for different processing / uncertainty estimation depending upon cooling technique and instrument configurations
- Milestones in the development of the Frostpoint Hygrometer GDP
- Institute processing based upon existing techniques. Evaluate the extent to which coolant techniques / choice of coolant and instrument configuration exert a control on the data and / or uncertainty
- Lead Centre, Holger Vömel, Poltera Yann, Takuji Sugidachi
- No progress, need to discuss in later agenda item how to progress

A4 Modem M10 progression

- Perform assessment of data quality issues highlighted in Payerne parallel flights and assess whether it is feasible that M10 sondes can be processed to GRUAN products
 - Further assessment of Modem M10 characterization including various parallel flights including M10-M10 paired flights to fully understand data repeatability
 - Modem, Meteo-France, IPSL, Lead Centre, MeteoSwiss
 - By ICM-15
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- Significant progress on understanding cause. Verification of resolution ongoing

A5 QC flagging, nomenclature, infilling

- Progress issues around qc flagging, variable nomenclature and infilling protocols.
- Produce one (or more) technical note(s) on standardization of qc flagging, variable names and variable types, and rules for infilling of profile data for missing values.
- TT Scheduling, Lead Centre
- ICM-15
- No substantive progress

A6 GNSS-PW data product serving (netcdf files)

- Finalise production of netcdf format files including reprocessing of PoR for GRUAN sites
- Agree netcdf format with Lead Centre and then provide the period of record reformatted.
- GFZ, TT-GNSS
- Jun 2023

- Still in progress

A7 Ozonesonde GDP progression

- Further progress ozonesonde GDP
 - Standardise ground checks, pump efficiency measurement checks, continue on GRUAN TD and processing algorithm.
 - Holger & Richard, Lead Centre, TT radiosondes, TT sites
 - Further update at ICM-15
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- Update will be given so formally achieved but has there been sufficient progress?

A8 Other Radiosonde GDP Development

- Development and updates of other relevant radiosondes, including existing GDPs.
- Development and updates of other relevant radiosondes: Vaisala RS92 GDP V3; GRAW DFM-09/DFM-17; Modem M20; iMS100-TD
- Lead Centre, Vaisala, GRAW, Modem, Meisei
- Further update at ICM-15

- Updates will be given in relevant sessions

Other timebound actions

3 completed

6 progressed

1 little or no progress

B1 RS92-RS41 Parallel soundings database augmentation with ancillary data

- Sites to submit relevant parallel soundings information to Lead Centre
- Technical Note for sites with guidance revised by end of Jan 2023, reviewed by sites by end of April, published summer 2023, and then initial submissions by ICM-15
- David Smyth, TT Sites, Lead Centre
- Some progress but no data submissions yet and TN not yet published on website (it is agreed)

B2 Satellite co-locations with RS92/RS41 pairs (in first instance)

- Progress the how to associate appropriate satellite co-locations with special ascents starting with the RS92/RS41 database
- Work with Lead Centre to implement improved radiosonde database search capabilities wrt satellite overpasses.
- Initial discussion meeting planned.
- TT-SAT, LC
- Feb 2023

- Some progress but not complete

B3 Sites photographs

- Complete audit that all GRUAN sites who are actively sharing data have uploaded site photos
 - Verification that sites are submitting photos. Work to improve sites inputs on a sustained basis.
 - LC, TT Sites
 - Jun 2023
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- Some progress but some issues remain

B4 GRUAN data usage hosting, serving and tracking

- Continue to explore options that are more fit for purpose. Including DOI's and usage tracking options.
 - Lead Centre and Secretariat to continue to explore data hosting options that may enforce better citation, DOI's and data usage tracking.
 - Lead Centre, GCOS Sec, TT Sites
 - By ICM-15
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- Updates to be discussed and outlined through the week

B5 Data policy for development versions of GDPs

- Instigate method(s) of data service that respect the sites requirements and the new WMO unified data policy for specialized data and different development versions of GDPs.
- Produce a Technical Note describing / formalizing a data policy for consideration and adoption by sites.
- LC, TT sites
- Dec 2023
- No progress due to limited bandwidth at LC. To be discussed throughout week

Silent stations

- WG, LC and Secretariat to propose a review mechanism for retention of sites which remain silent and never progress to certification.
- Technical Note to be prepared on protocol to identify and engage with sites. Note prepared by March 2023, reviewed by TT sites by September 2023, fully adopted by ICM-15 and process initiated for longest standing silent sites.
- Lead Centre, WG, TT Sites, GCOS Sec
- Completed. Process now in progress for the 1 truly silent site

B7 Resolve data reporting for sites unable to use RSLaunchclient

- Work with those sites making observations but not currently able to submit for technical reasons to find solutions
 - Ongoing discussions to find an acceptable technical solution that does not put too much onus on the Lead Centre on an ongoing basis
 - Lead Centre, WG, TT Sites, GCOS Sec
 - By ICM-15
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- Some progress but not yet fully resolved for all sites. Major challenge is BoM sites which we need to chase again via AOPC member Blair Trewin

B8 Metrological closure of GNSS and radiosonde GDPs

- Formal metrological closure assessment of GNSS-PW and radiosondes
 - Using the method of Immler et al. and the approach from Payerne in the intercomparison to compare radiosonde GDPs.
 - Submission to journal
 - TT-GNSS, TT-radiosonde
 - By ICM-15
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- Some progress which will be covered in the GNSS-PW session

B9 RS92-RS41 comparison paper

- Complete the preparation and submission of RS92-RS41 comparison papers taking into account feedback received to extent possible
 - Submission to journal
 - Lead Centre
 - April 2023
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- Progress but not submitted

B10 GRUAN sites

- Certification of new sites and recertification of existing sites during the period to the next ICM
- Sites certification and recertification which should be completed before/by the next ICM.
- BOU, LAU, PAY, POT, SGP, SNG, SOD
- LC, TT Sites, GCOS Secretariat

- All sites recertified

Actions where progress required but not
timebound

2 some progress

C1 Radiosonde fundamental documentation

- Completion of radiosonde fundamental TD
- Continued drafting of the TD
- Lead Centre, TT Radiosondes
- Some limited progress

C2 Refresh of presentation materials

- Revise and refresh various materials (flyer for sites, brochure, poster, PowerPoint)
- Identify a priority list of materials to be refreshed and revised and do this as time permits. Improved documentation of status and revision needs (document lifetimes). Consider videos or other methods.
- WG, Lead Centre
- Fabio and Simone have started to progress this