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Session 2

Task Team Progress Report for March 2024 to October 2025 – Radiosondes

(Submitted by Evan Keeler, Christoph von Rohden and the team members)

Summary and Purpose of this Document

Progress report from the task team on Radiosondes.

Summary

Progress was made to varying degrees in all tasks, some need more community inputs and help. Task TT1 (Journal paper Justification for high ascent attainment) is closed.

Task team members

Current members (11) of the team.

Name	Affiliation	Status
Evan Keeler	Atmospheric Radiation Measurement (ARM), Dept. Of Energy, US	Co-chair
Christoph von Rohden	GRUAN Lead Centre, DWD, Germany	Co-chair
Hannu Jauhiainen	Association of Hydro-Meteorological Equipment Industry; Vaisala, Finland	HMEI representative
Rigel Kivi	Finnish Meteorological Institute, Finland	Member
Masami Iwabuchi	Japan Meteorological Agency, Japan	Member
Jean-Charles Dupont	Institut Pierre-Simon Laplace, France	Member
Sang-Wook Lee	KRISS, Korea	Member
Bruce Ingleby	ECMWF, UK	Member
David Edwards	Met Office, UK	Member
Gonzague Romanens	Meteoswiss, Switzerland	Member
Daniel Brewer	NWS, Sterling Field Support Center (SFSC), US	Member

Changes in TT-RS membership: Frank Schmidlin has retired. Yang Rongkang has left the TT in January 2025.

Progress on the main tasks

The following task list refers to ANNEX 1, Agreed ICM-15 Actions of the GCOS 262 report on ICM 15, `https://www.gruan.org/community/meetings/icm-15`).

Task GA1 (HP): M10 GDP Progression

Main Contact: J.C. Dupont (IPSL), A. Farah (Meteomodem), P. Jann (MeteoFrance), LC, TT Radiosondes
Due Date: Complete TD and start certification process for the M10 GDP by October 2024

Status: Ongoing
Milestone: Publication of TD, M10 GDP certification
Progress & Issues: Reproducibility issue has been resolved and addressed in current Beta version of M10-GDP. M10 TD manuscript reviewed by four reviewers and sent back to authors. Manuscript revised by J.C. Dupont and A. Farah; revised version currently under review at LC. Certification process to be continued with finalisation and publication of TD and evaluation of the GDP (current Beta version) as basis for recommendation for certification by the LC.

Task TT1 (HP): Justification for high ascent attainment

Main Contact: TT Radiosondes, IPET-OSDE
Milestone: Publication in the peer reviewed literature
Due date: Journal paper submitted before ICM-15
Status: Closed. Article published on 07 July 2025:
Justification for high-ascent attainment for balloon radiosonde soundings at GRUAN and other sites, AMT, `https://doi.org/10.5194/amt-18-2919-2025`, Author team: Fujiwara, M., Sun, B., Reale, A., Cimini, D., Larosa, S., Borg, L., von Rohden, C., Sommer, M., Dirksen, R., Maturilli, M., Vmel, H., Kivi, R., Ingleby, B., Kramer, R. J., Demoz, B., Madonna, F., Carminati, F., Lewis, O., Candy, B., Thomas, C., Edwards, D., Noersomadi, Shimizu, K., and Thorne, P. (four co-authors are members of TT-Radiosondes)

Task GA2 (HP): Graw DFM-17 GDP Progression

Main Contact: Graw (J. Frielingsdorf), LC, TT Radiosondes
Due Date: ICM-16
Status: Ongoing
Progress & Issues: LC finished laboratory measurements to characterise solar radiation sensitivity of temperature sensor. Low temperature time-lag measurements of humidity sensor will be performed at LC. GRUAN data processor established and technically working. Various radiosonde model specific adjustments with regard to the laboratory results still need to be made.

Task GA3: GTH3 GDP Progression

Main Contact: CMA, LC, TT Radiosondes
Due Date: ICM-16
Status: Ongoing

Progress & Issues: GTH3 sounding system installed and functionality tests performed in October 2025 at LC with personal support by China Meteorological Agency (CMA); first comparison flight performed. Laboratory experiments (solar radiation sensitivity of temperature sensor, low temperature time-lag measurements of humidity sensor) and further comparison flights in preparation.

Task LC3 (HP): Vaisala RS92 v3 GDP Progression

Main Contact: LC, TT Radiosondes, TT sites
Due Date: ICM-16
Status: Ongoing
Progress & Issues: LC finished laboratory measurements to characterise solar radiation sensitivity of temperature sensor and low temperature time-lag measurements of humidity sensor. Measurements of solar radiation induced dry bias of humidity sensor performed at LC. The aim of this new approach is to use the results for an experiment-based dry bias correction in the RS92-GDP.3. GRUAN data processor established at LC and technically working. Various radiosonde model specific adjustments with regard to the laboratory results still to be implemented.

Task TT2: GDPs profile uncertainty correlations

Main Contact: Tom Gardiner (NPL), TT-Satellite, TT Radiosondes, LC
Due Date: TN by December 2024
Status: Ongoing
Progress & Issues: Draft version of GRUAN-TN created (R. Ormane, T. Gardiner: GRUAN Data Product Uncertainty Covariance Matrix Calculations and Case Studies). Community feedback and more discussions of specific application options required.

Task TT4: GC for the autolauncher

Main Contact: Meteo Swiss, CNR, TT-Sites, TT Radiosondes, Manufacturers
Due Date: TN by ICM-16
Status: Ongoing
Progress & Issues: Discussion on first results with MeteoSwiss and LC in video meeting on 28 August 2025. Status to be reported at ICM-16.