



QC/QA + flagging

QTF team,
assembled by Tzvetan Simeonov
GRUAN Lead Centre, DWD

15th GRUAN Implementation and Coordination Meeting (ICM-15)

Bern, Switzerland

Session 8, 14 March 2024

- Radiosondes
 - Largest discussion group, largest number of interested parties

- GNSS

- Lidar

- MWR

Method-specific approach

- Sites + Manufacturers

Status from last meeting in ICM-14

- RS92-GDP.2 → some rules are defined by LC → incl. assessment
- RS41-GDP.1 → updated rules are defined by LC → incl. assessment
- RS-11G-GDP.1 → other rules are defined by PC → NO assessment
- Until now → NO GRUAN-wide scheme and NO general rules for controlling & assessment are defined yet

➤ The Lead Centre should not dictate such rules!

- Group of interested persons assembled,
 - Discussed and agreed on QA/QC flagging in RS of some variables during ICM-14

➤ No progress since ICM-14

- Status ICM-14:

New TN on the way

- Status ICM-15:

No new TN, but

New RS-TN on the way

- Upcoming RS GDP's:
 - **CFH / FPH / Skydew**
 - Graw DFM-09, DFM-17
 - Huanyuntianyi GTH3
 - Modem M10, M20
 - RS92 GDP v3
 - **iMS100 v2 ???**
 - **RS11G v2 ???**



**GCOS
Reference
Upper-
Air
Network**

GRUAN Technical Note X

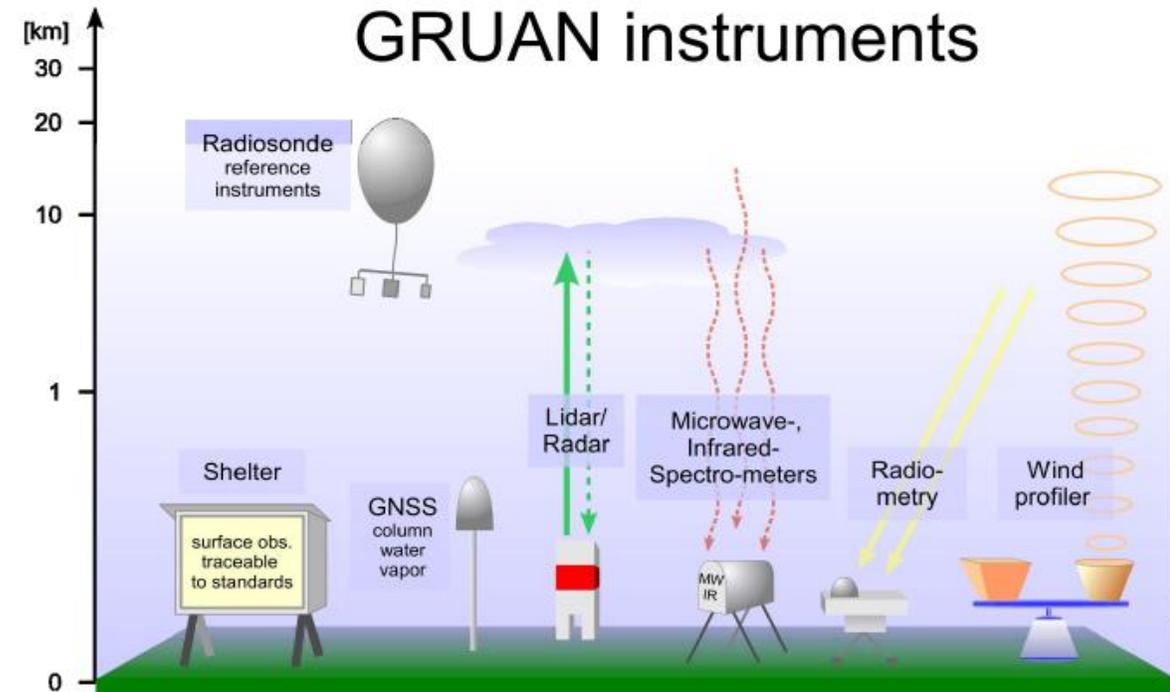
GRUAN Data Product variable naming
convention, flags and uncertainties

- Flagging:
 - Consensus: Temperature + Coordinates / Altitude
 - TBD: Relative humidity + Pressure
- Uncertainties budget
- Naming convention
- Not binding to OSCAR/GCOS criteria

QA/QC team assembly for RS-TN

Regular meetings every 2/4
weeks until RS-TN release

- Work on GNSS-GDP is continuous
 - NRT GNSS GDP
 - Reanalysis GNSS GDP
- Open for discussion with all Remote sensing techniques
- QA/QC methodologies will be developed in close cooperation with GDP makers
- Rules in separate TN



New step in GDP development?

- Tier I – GRUAN Provisional Data Product (GPDP):

- Outliers + Flagging
- Interpolation in agreed cases
- Uncertainties & corrections

GDP maker
Following new TN

- Tier II GDP (QC/QA & Scientific dissemination):

- Long-term monitoring
- Comparisons with existing GDP's

TT+LC
General public

Sites + Manufacturers feedback and reporting

- Monthly report on data upload + QA/QC dissemination
 - Performance of recent flights (month or last 30 flights)
 - Performance of last 6/12 months
- Check functionality of all mailing lists
- Look for GRUAN.org sites solutions

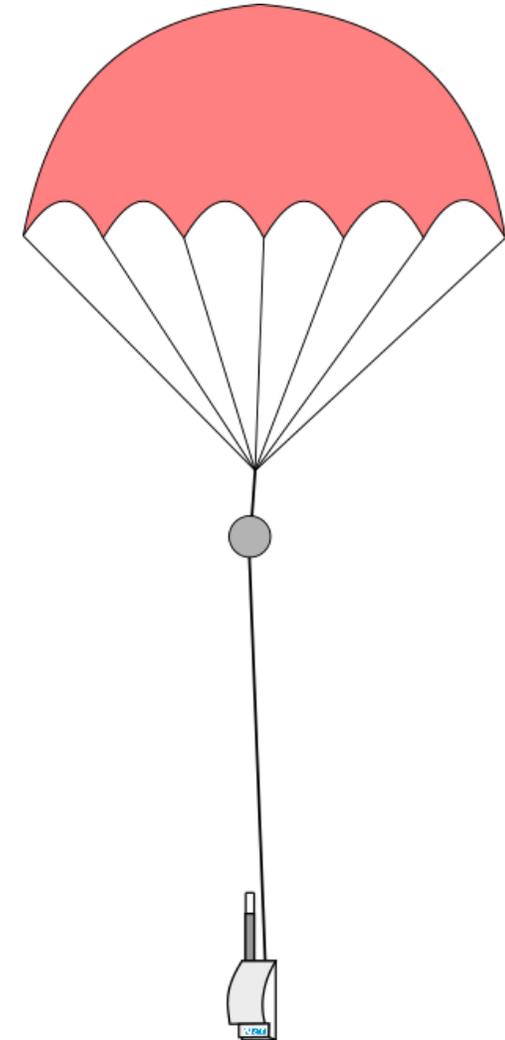
Task Team on Site Intercommunication and Reporting

Co-chairs: Dale Hurst & Marion Maturilli

Representing GRUAN sites

Thanks to QTF team

- Gratitude for contributions from Alessandro, Antoine, Axel, Christoph, Dale, Frederic, Gianni, June, Masatomo, Michael, Nico, Shunsuke, Tom, Fabio, Marco, Jo, Johannes, Galina, Peter, Peteri, Richard and Tony



Breakout session

