

# The importance of documentation in GRUAN

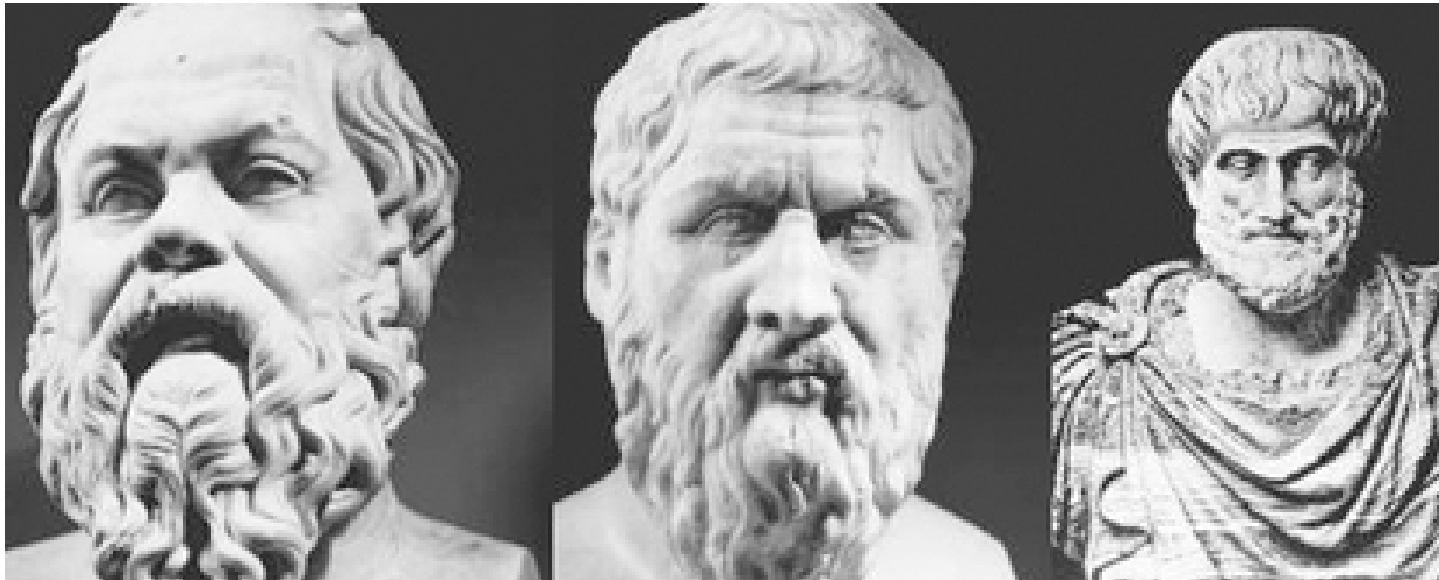
Ruud Dirksen,  
GRUAN Lead Center

ICM-8  
26 April 2016



# Documentation, why?

- Documentation is fundamental to GRUAN
- Essential for traceability
  - For the present and future (continuity)
- Link between the GRUAN philosophy and practical implementation




- Knowledge transfer
  - Defines procedures & best practices (new and current sites)
  - Essential to warrant quality of the measurement data
  - Description of (meta) data
  - Description of data processing/correction algorithms

Without documentation:





- Time-consuming
- Not very exciting
- No tangible scientific result
  - A TN/TD can become a scientific publication
- Technical documentation is essential to keep GRUAN alive and moving forward. Contribution to the network


**Definition of "Reference Observation"**  Deutscher Wetterdienst  
Wetter und Klima aus einer Hand

A GRUAN reference observation:


- ✓ Is traceable to an SI unit or an accepted standard
- ✓ Provides a comprehensive uncertainty analysis
- ✓ Maintains all raw data
- ✓ Includes complete meta data description
- ✓ Is documented in accessible literature
- ✓ Is validated (e.g. by intercomparison or redundant observations)



 Meteorol 

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**GRUAN is about...**  Deutscher Wetterdienst  
Wetter und Klima aus einer Hand

- Providing long-term reference observations of upper air essential climate variables
  - Quantified uncertainties
  - Well documented
  - Verify in redundant observations
  - Change management
  - Traceable
- Being a network
  - Gaining & sharing knowledge (task teams, lab-facilities)
  - Interaction with user community (annual meeting)



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## GCOS Reference Upper-Air Network



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The Global Climate Observing System (GCOS) Reference Upper-Air Network (GRUAN) is an international reference observing network, designed to fill an important gap in the current global observing system. GRUAN measurements will provide long-term, high-quality climate data records from the surface, through the troposphere, and into the stratosphere. These will be used to determine trends, constrain and calibrate data from more spatially-comprehensive observing systems (including satellites and current radiosonde networks), and provide appropriate data for

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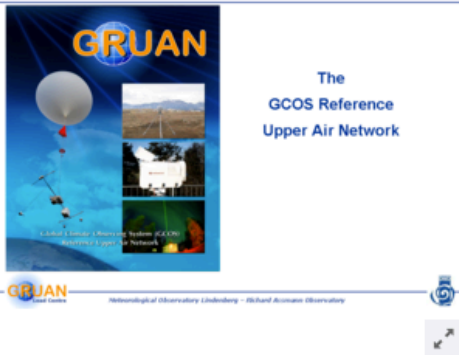
## Documents

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### GRUAN-Presentation

Please feel free to adopt this presentations to your own needs. If you need to change the layout, please acknowledge the GRUAN Lead Center at the DWD Meteorological Observatory Lindenberg.

GRUAN presentation (ppt, 2MB, Not barrier-free file.)



- GCOS reports
  - ICM reports
  - Implementation plan, Manual, Guide
- Technical documents
  - TD1 - Manual for the Data Management in GRUAN
  - TD3 - User Guide of GRUAN RsLaunchClient
  - TD4 - Brief Description of the RS92 GRUAN Data Product (RS92-GDP)
  - TD6 - GRUAN Ground-based GNSS Site Guidelines

- Technical notes
  - TN1 - Establishing Data Products For New Radiosondes in GRUAN
  - TN2 - AOPC WORKING GROUP ON GRUAN (WG-GRUAN), Guidelines on the Structure of Instrument Specific Technical Documents for GRUAN
  - TN3 - Essential Meta-data of New GRUAN Stations
  - TN4 - Guidelines on requirements for the initial development of a GRUAN data product
  - TN5 - Procedures for (re)certifying a GRUAN measurement programme at an existing GRUAN-certified site
- Task Team reports etc.



**Documentation is important and essential for GRUAN**





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