

GRUAN governance and outcomes of CBS expert team review

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Fourth GRUAN Implementation and Coordination Meeting
Tokyo, Japan, 5-9 March 2012

Meeting details

When: 25-27 January 2014

Where: WMO headquarters Geneva

Organized by: GCOS and WIGOS/CBS/CIMO

Purposes of the meeting:

- Update the WMO Manual and Guide on the Global Observing System based on the GRUAN manual. Ensure that the relevant material is in the GRUAN manual so that it can be taken up into WMO regulatory material.
- Develop a proposal on how GRUAN can best be governed as it becomes an operational network in the future.

The meeting was initiated by a request from CBS in 2010

- Scope was broadened by CBS Management Group in 2011 to include governance.

Things to keep in mind

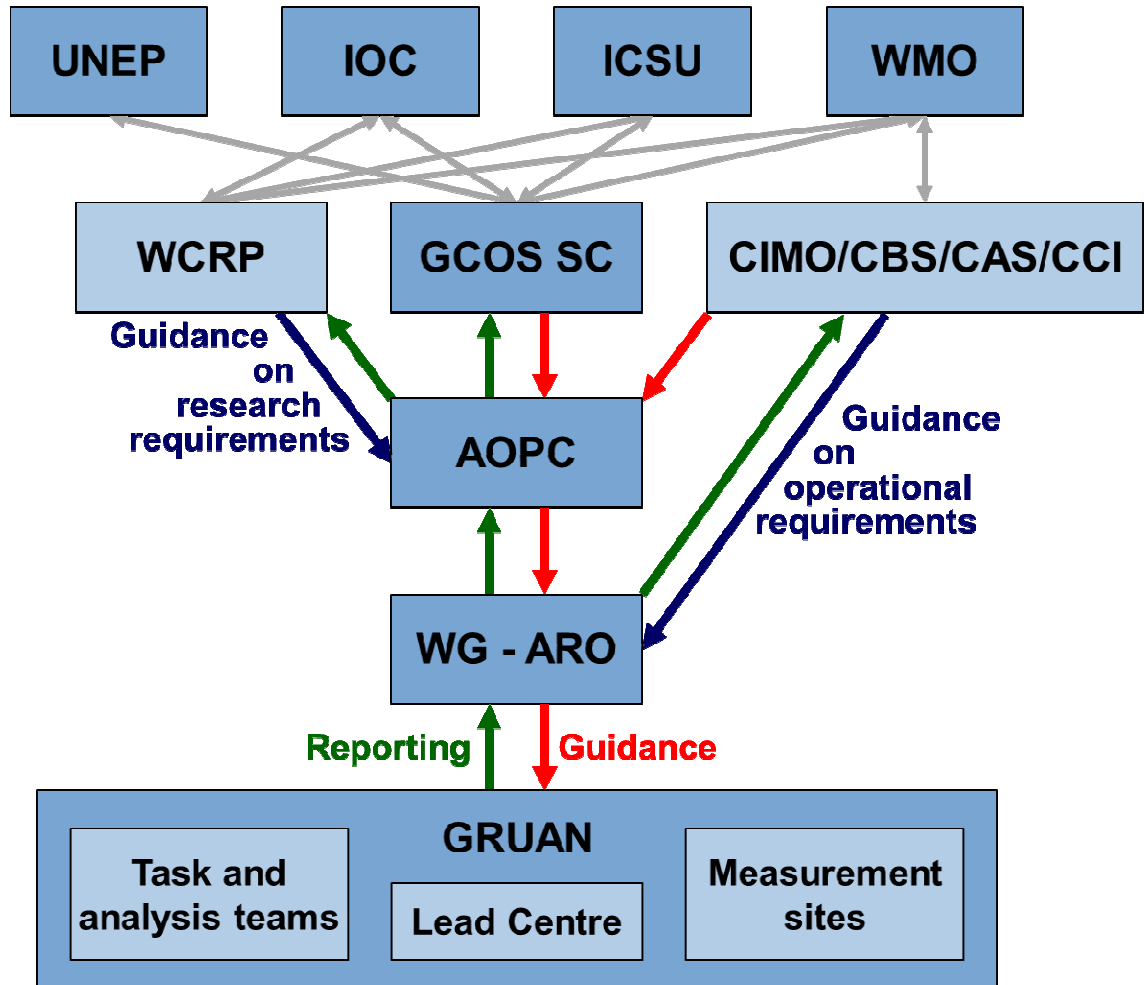
- GRUAN is a pilot WIGOS (WMO Integrated Global Observing System) project and is one of the first hybrid monitoring networks including sites from both research and operational meteorological services. Some issues arise from these two different groups using terms with well defined meanings in the context of each group e.g. use of the word 'operational'.
- Sites within GRUAN run as NMHS sites stand to gain by having strong operational requirements placed on the site. This gives the site a mandate to request additional resourcing from its parent body. Setting GRUAN entrance requirements too low is a disservice to these sites. At the same time we don't want to alienate sites that operate more as 'research sites'.

Changes in GRUAN governance

Why change?

- Having GRUAN better integrated into WMO allows GRUAN to tap the expertise available in WMO technical commissions: CBS, CIMO, CAS, CCI. These technical commissions can also foster support amongst WMO Members for ongoing operation of GRUAN and establishment of new sites.
- Having GRUAN sites fall within the mandate of the PRs of member countries with WMO opens an additional channel for resources to support the operation of GRUAN.
- Integration into WIGOS better connects GRUAN to other WIGOS initiatives such as GSICS (Global Space-based Inter-Calibration System).

Changes in GRUAN governance



Notes

1. WCRP identifies scientific and research requirements for GRUAN. WMO identifies operational requirements.
2. Composition of WG-ARO determined in short term by Chair of AOPC in consultation with WMO. Includes representative from each of CIMO, CBS, CAS and CCI. These representatives will be responsible for reporting back to their respective Technical Commission.
3. WG-ARO reports to AOPC
4. GRUAN measurement sites are contributed by member countries of WMO.

Changes to the GRUAN manual

Meeting outcome: WMO input to the meeting suggests significant changes made to existing draft of the manual to provide information required to facilitate preparation of WMO regulatory material for implementation of WIGOS.

The former manual has now been split into:

- The **GRUAN manual**: a short (11 pages) prescriptive document that outlines the higher level mandatory practices that must be adopted within GRUAN. This emerged from what was previously the executive summary of the manual.
- The **GRUAN guide**: a longer document (91 pages) that provides more detailed guidelines on GRUAN's operation.

I will be making a 1.5 hour presentation on Tuesday afternoon on the most recent version of the manual and guide and so won't go into too much detail here.

Submission of near real-time data

Generation of high quality GRUAN data products requires centralized processing, cross-validation using independent measurements, capture and archival of comprehensive meta-data, and careful manual quality control. This is not conducive to near-real-time (NRT - 2 hours) data submission.

However, there are many advantages to be gained by GRUAN sites submitting data in NRT:

- Submission of NRT data of operational quality (e.g. radiosonde profiles processed using standard commercially available software) from GRUAN sites would become a valuable source of information the provision of a wide range of meteorological services.
- Increased use of NRT data likely to provide additional encouragement to WMO Members to fund existing sites and new sites required for GRUAN expansion.

Submission of near-real-time data

- Better connects GRUAN measurements to GUAN.
- Allows for use of measurements from GRUAN stations in NWP assimilation. Feeds back in terms of providing valuable QA/QC meta-data.

Agreements on submission of NRT data

The meeting agreed that (main points):

- GRUAN sites should be required to provide data of operational quality in NRT wherever possible (noting that non-compliance with this requirement would not automatically exclude a site from GRUAN participation).
- This operational quality data should be flagged as such prior to transmission in NRT to avoid confusion with GRUAN-quality data processed later in non-real-time;
- An intermediate GRUAN data level definition is required to describe the NRT data.
- In return for NRT data transmission, NWP centres may be able to provide additional information on data quality (further consideration is required of the mechanism for this, and GRUAN will look to WMO to provide leadership on this matter).

Agreements on submission of NRT data

- It is likely that the costs associated with transitioning to an operational NRT programme at many GRUAN stations would not be large.
- It is possible that at many sites little more would be required for extension to NRT operations than assignment of a WMO station number, NRT data transmission via the WIS, and training, as required, in how to routinely carry this out.
- Any such changes to the existing GRUAN programme must be made in full consultation with current GRUAN participants.
- For NRT transmission, only 'best available in NRT' is required, not best estimate plus estimated uncertainty.