



WMO/IOC/UNEP/ICSU  
GLOBAL CLIMATE OBSERVING  
SYSTEM (GCOS)

Doc. 2.1  
(22.II.2024)

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

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Session 2

Bern

11 March - 15 March 2024

## Task Team Progress Report for March 2024 – GNSS-PW

*(Submitted by Kalev Rannat and Jonathan Jones)*

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### **Summary and Purpose of this Document**

Progress report from the task team on GNSS Precipitable Water (GNSS-PW).

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## TT composition

The GNSS TT (as in February 2024):

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Kalev Rannat (co-chair)	Tallinn University of Technology, EE
Jonathan Jones (co-chair)	Met Office, UK
John Braun	UCAR, USA
Galina Dick	GeoForschungsZentrum Potsdam, DE
Gunnar Elgered	Chalmers University, SE
Rosa Pacione	E-GEOS, IT
Yoshinori Shoji	Meteorological Research Institute, JP
Jens Wickert	GeoForschungsZentrum Potsdam, DE
George Liu	Hong Kong Polytechnic University, HK
Olivier Bock	IGN, FR

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## Summary

The GNSS TT has worked on topics listed on the GRUAN Master Action Item list re-scheduled after ICM-14.

### **Task A6: GNSS-PW data product serving (netcdf files)**

*GFZ to progress provision of a netCDF format version of the GNSS GDP*

The data converter is technically ready for GNSS GDP. The question (thus far) has been in negotiating and fixing technical requirements. A common practice in software development and implementation is to deliver a beta-product and starting a test phase for getting feedback from users community. If necessary, minor changes will be made and delivered a final product v1.0. In course of time new (downwards compatible) versions can be delivered. The current status and outlook will be presented at the ICM-15.

**Status:** in progress (mostly completed).

## Task B8: Metrological closure of GNSS-PW and radiosondes

*For GRUAN sites that perform both GNSS-IWV measurements and radiosoundings, Analyse the comparison of the GRUAN data products (and their respective uncertainties) for these data streams to establish whether metrological closure is attained.*

A lot of practical work is done (before and after ICM-14) with joint forces from GFZ, LC, TUT, MetOffice, IGN. Claiming or defining a metrological closure between GNSS and RS PW needs additional scientific efforts. More detailed overview about the progress, outlook and supporting projects will be given in oral presentations by Galina Dick, Tzvetan Simeonov and Olivier Bock.

**Status:** in progress

## GRUAN GNSS data processing (as in February 2024)

### Stations in routine processing

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cbw1	(Cabauw)
ena0	(ENAO, Graciosa)
hubc	(Beltsville)
ldb2 + lin0	(Lindenberg)
ldrz	(Lauder)
nya2	(NyAlesund)
paye	(Payerne)
sctb	(Scott Base)
sgpo	(SGPO, Billings)
msl1	(Singapore) - GNSS receiver has been renamed starting from July 19, 2022. Old name was mss1.
soda + sodf	(Sodankyla)
tfeg	(Tenerife)
tskb	(Tsukuba, for Tateno)
utqi	(Barrow)

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## Stations on the waiting list

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Xilin Hot (XIL)	no contact
Paramaribo (PMO)	GNSS hardware is transported by KLMI to Paramaribo by ship, GFZ will help to install GNSS as soon as hardware will arrive to Paramaribo.
Dakar	no contact
Hong Kong (HKO)	Hong Kong Observatory plans to install GNSS. MarkusRamatshi is in contact with HKO.
Potenza (POT)	some issues with RINEX data flow
Trappes/Palaiseau (TRP)	no contact
La Reunion (REU)	GNSS will be in processing soon
Australia	no data
Dolgoprudnyj	no contact

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