

First experience with GNSS data quality monitoring in the distributed EPOS e-infrastructure

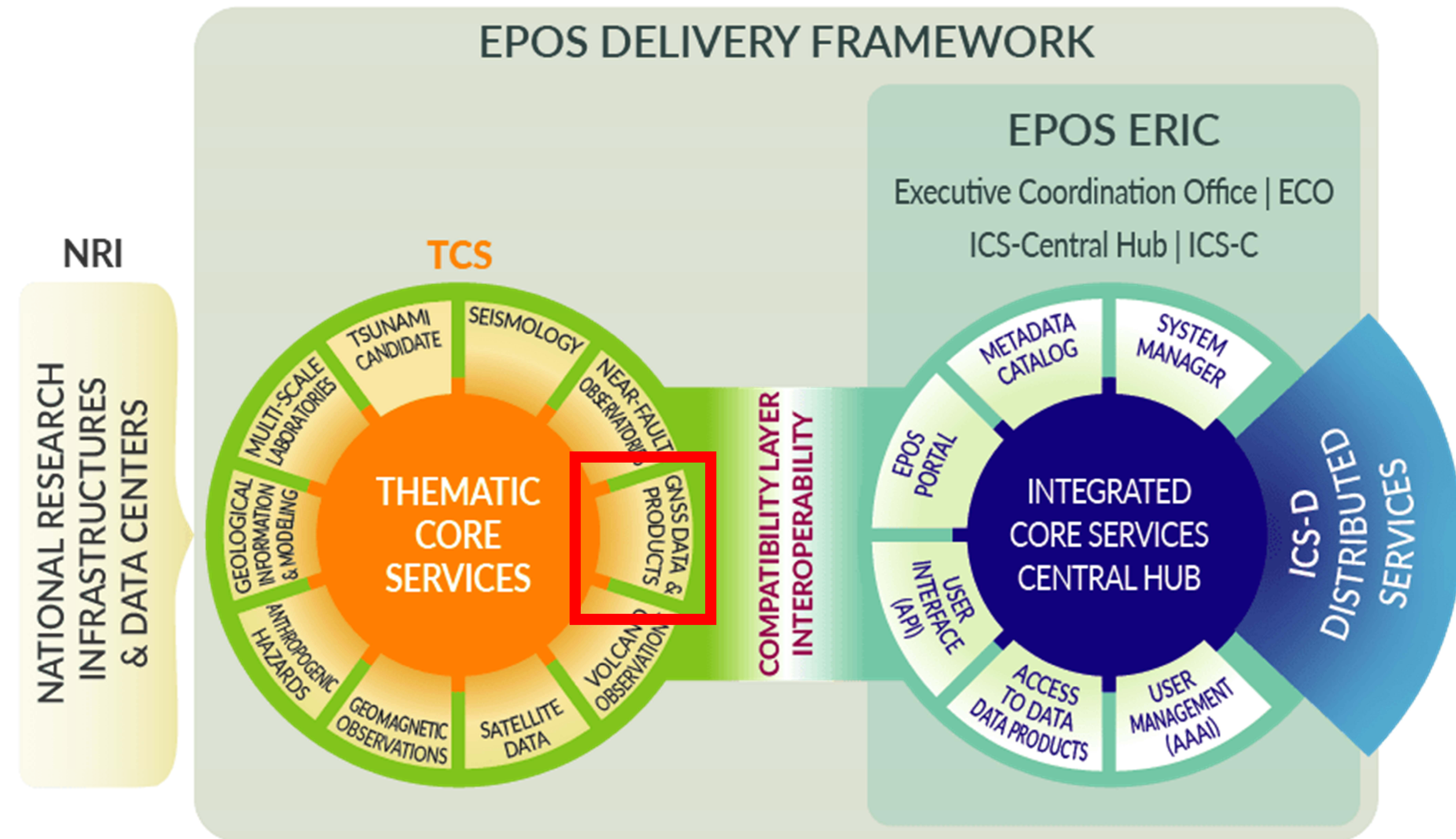
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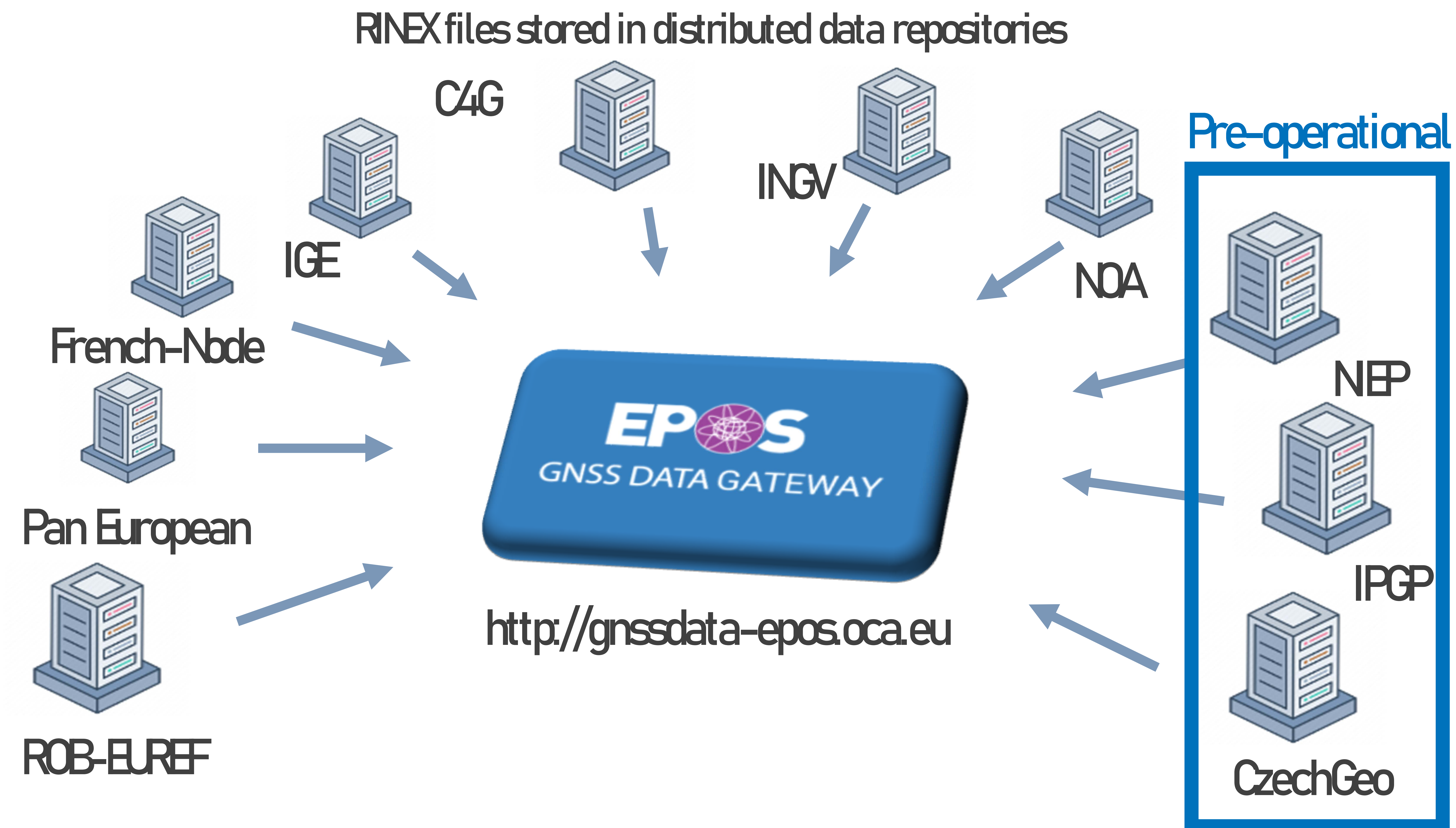
24 May 2022

What is EPOS?

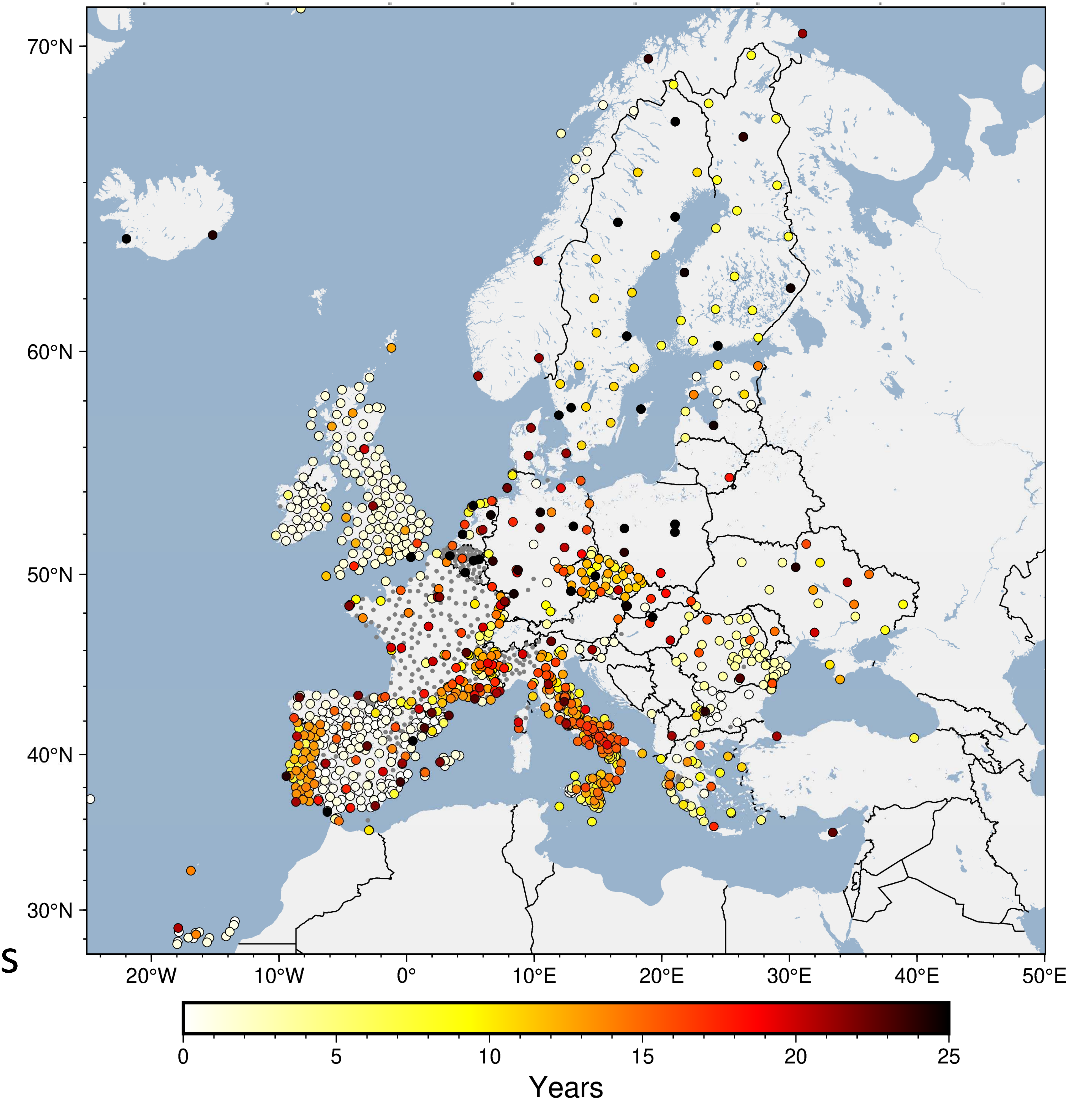
The European Plate Observing System (EPOS) a very large and complex European e-infrastructure that provides pre-operational access to a first set of datasets and services for Solid Earth research.



EPOS-GNSS data distribution



- Centralized access through EPOS-GNSS Data Gateway
- RINEX files stay at the EPOS-GNSS data nodes
- Each data node generates data quality metrics using G-Nut/Anubis
- 1133/1562 EPOS-GNSS stations have quality metrics



EPOS-GNSS Data Quality Monitoring



<https://gnssquality-epos.oma.be>

Retrieves information from DGW and data nodes

Monitor:

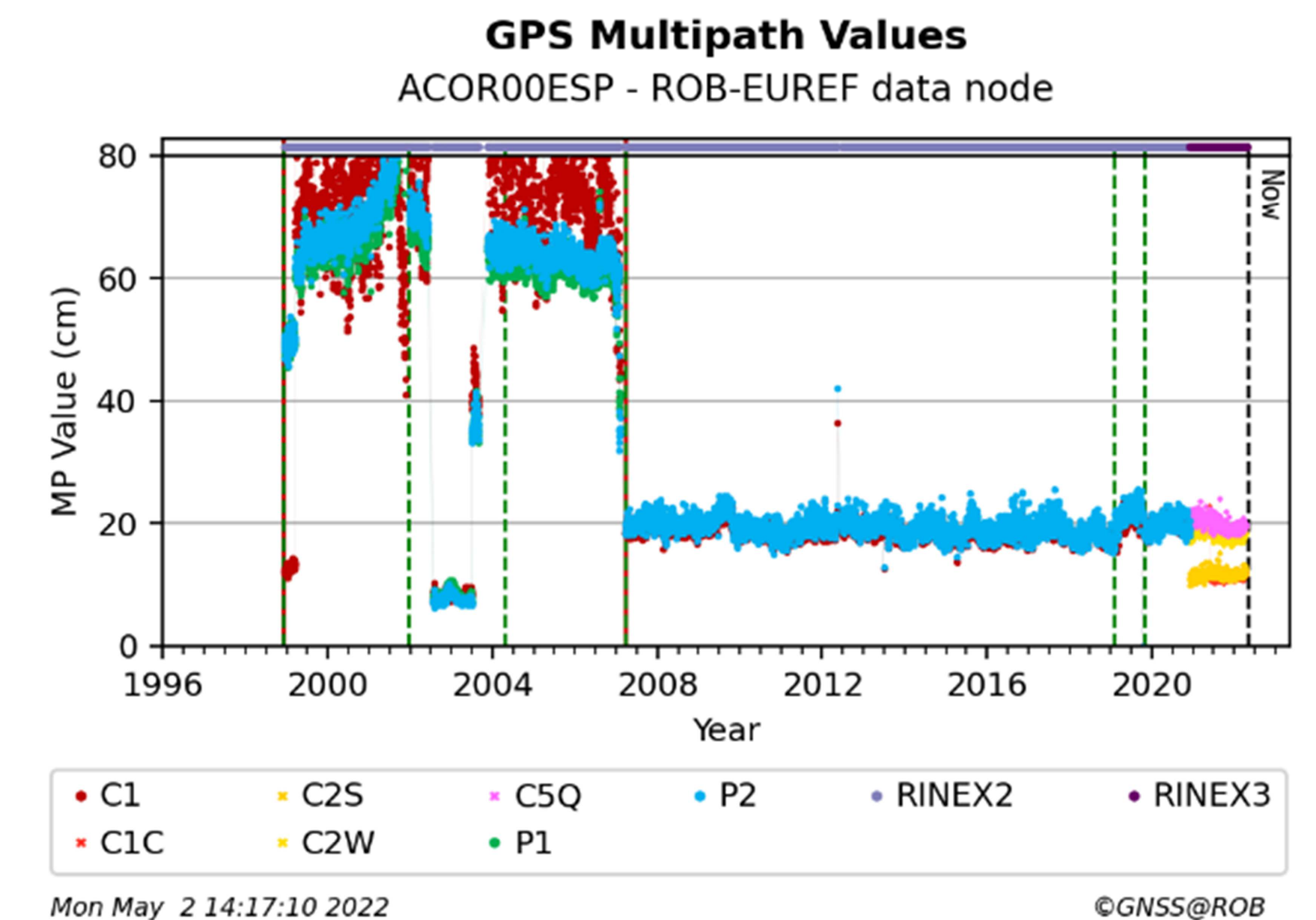
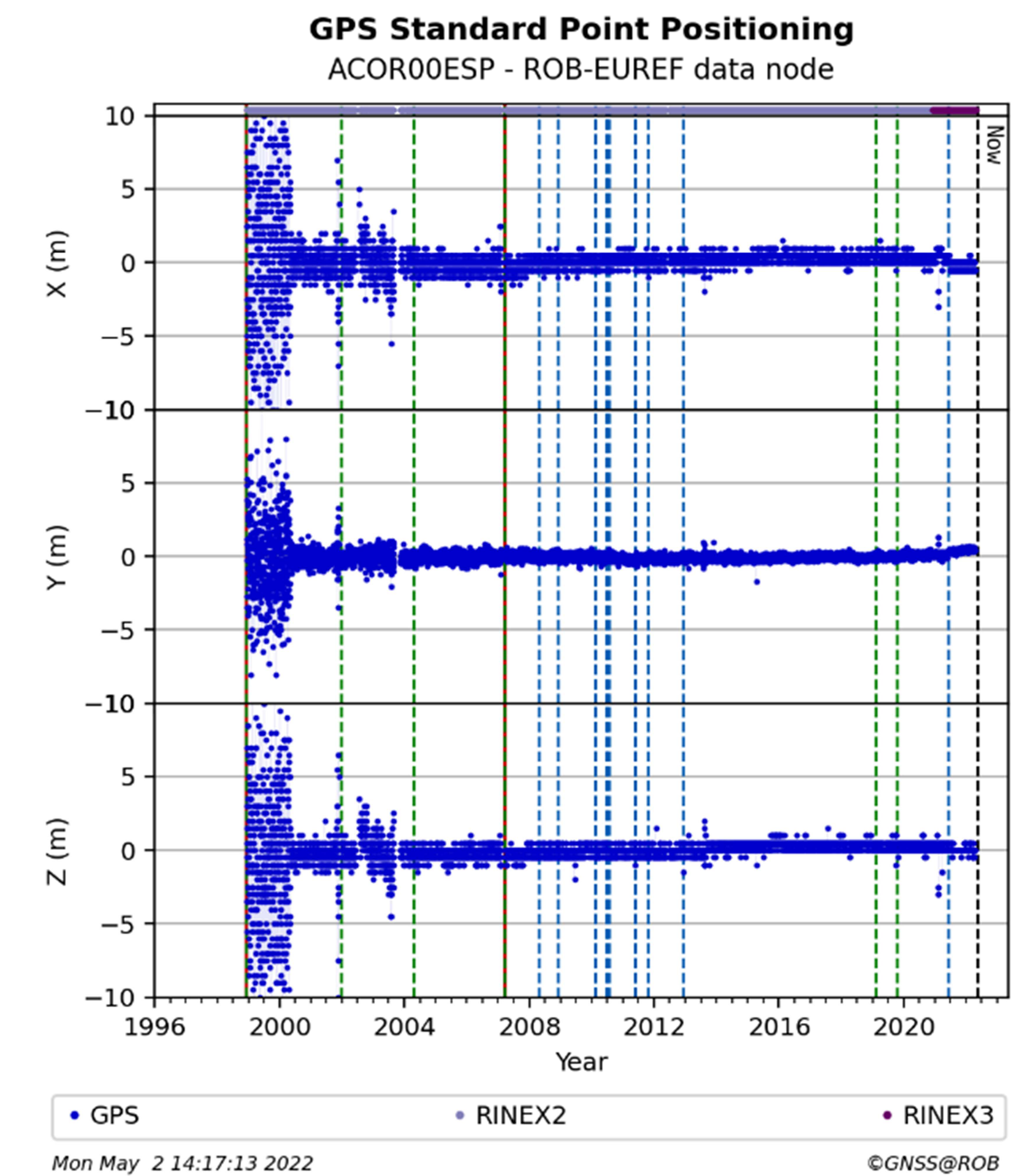
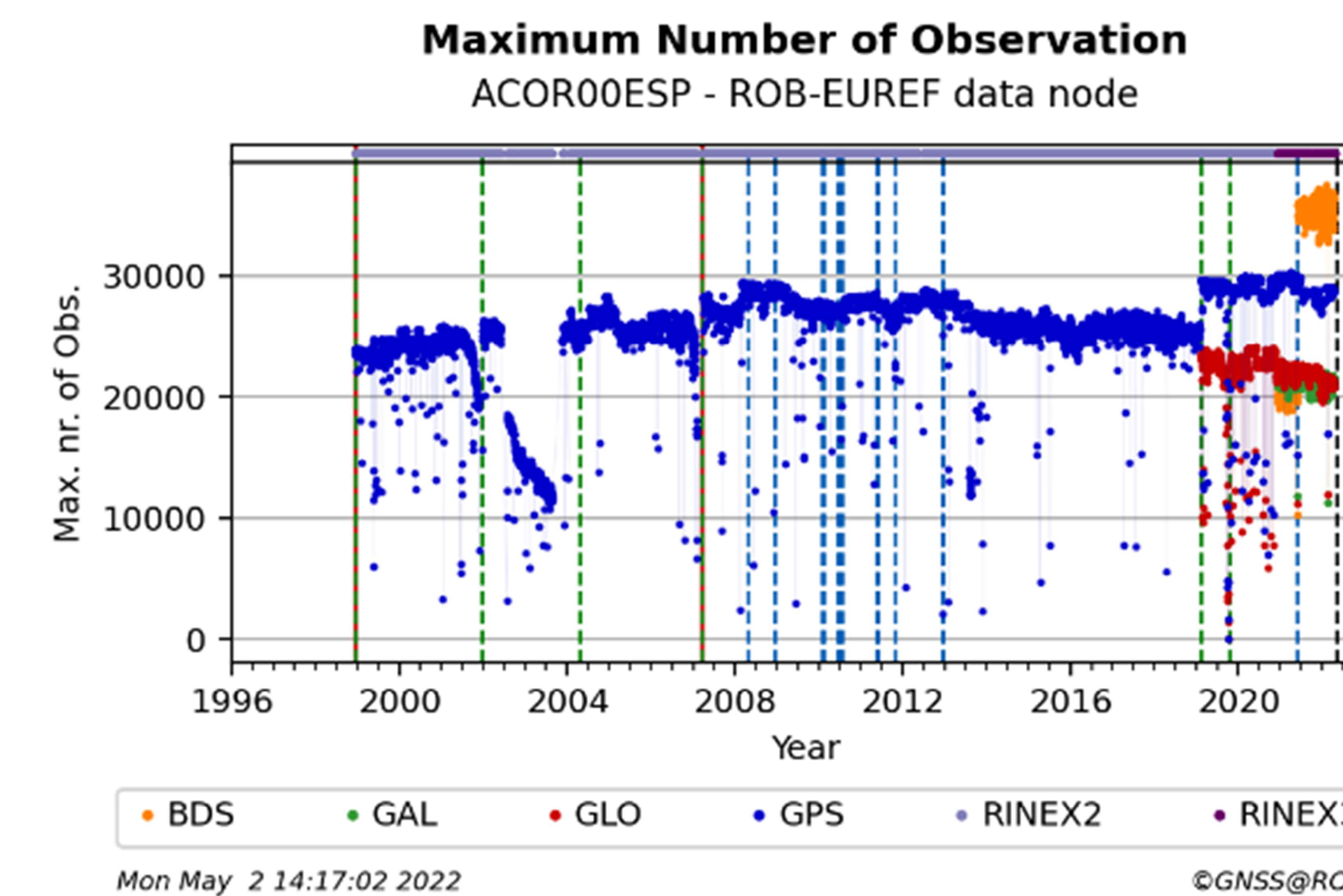
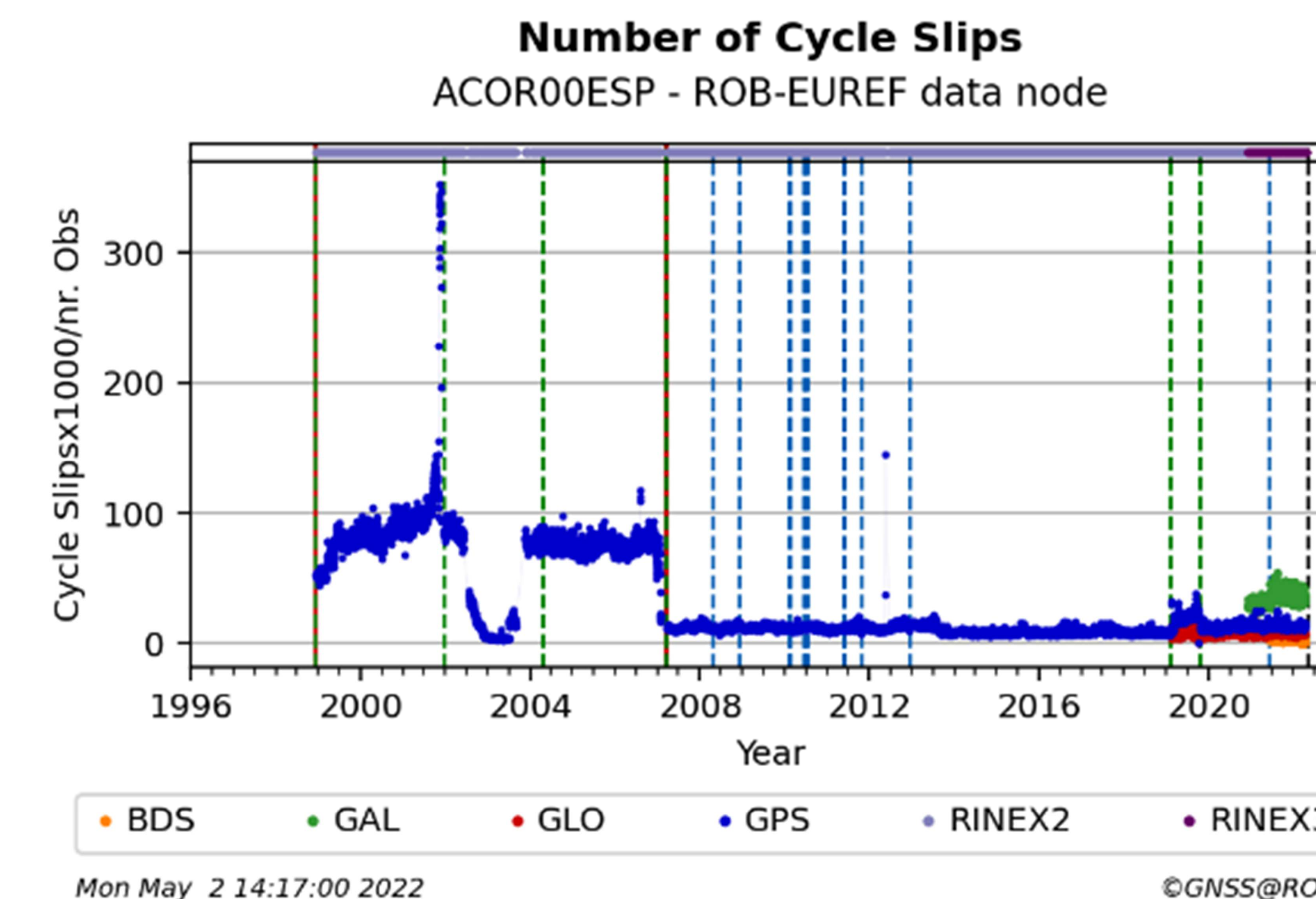
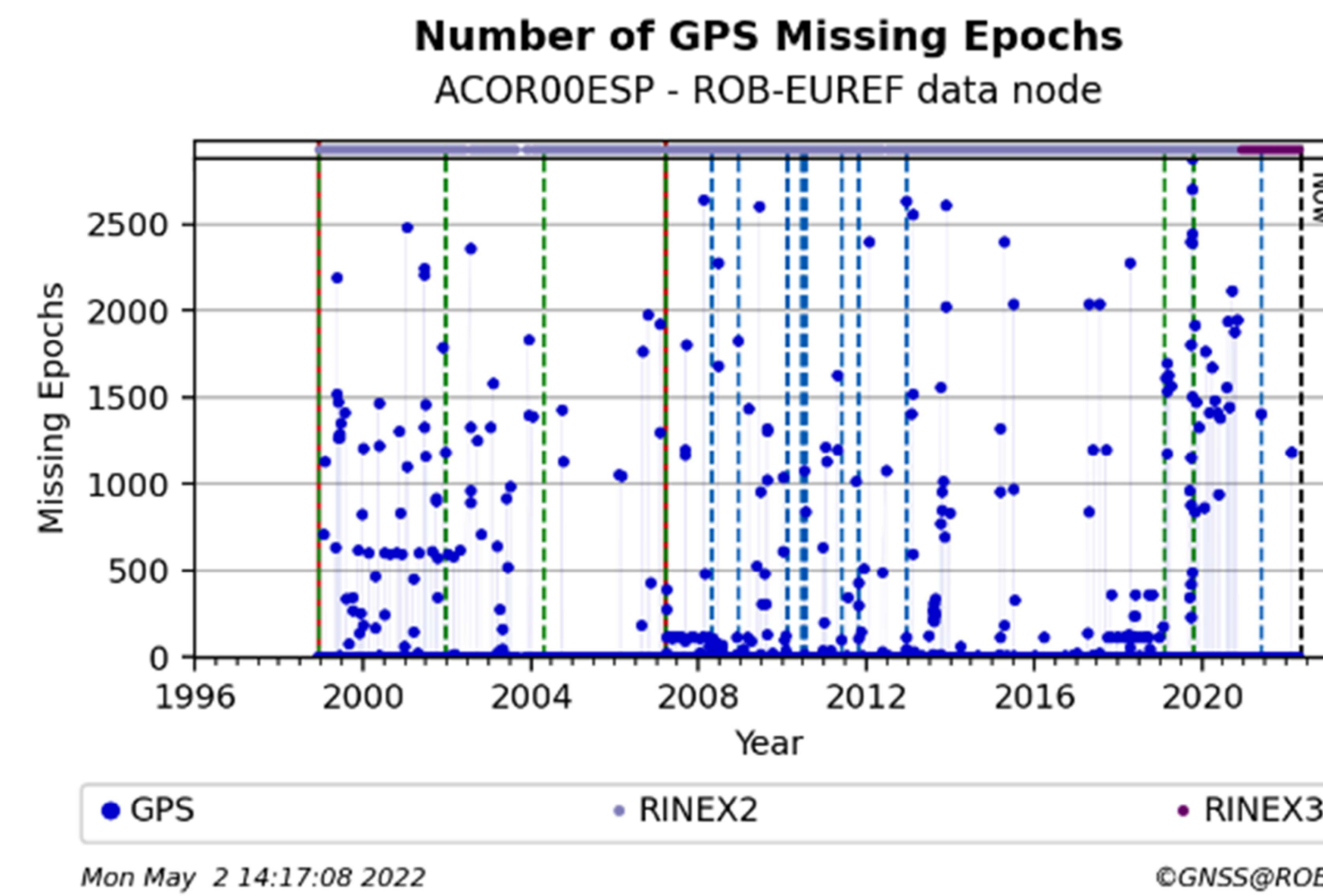
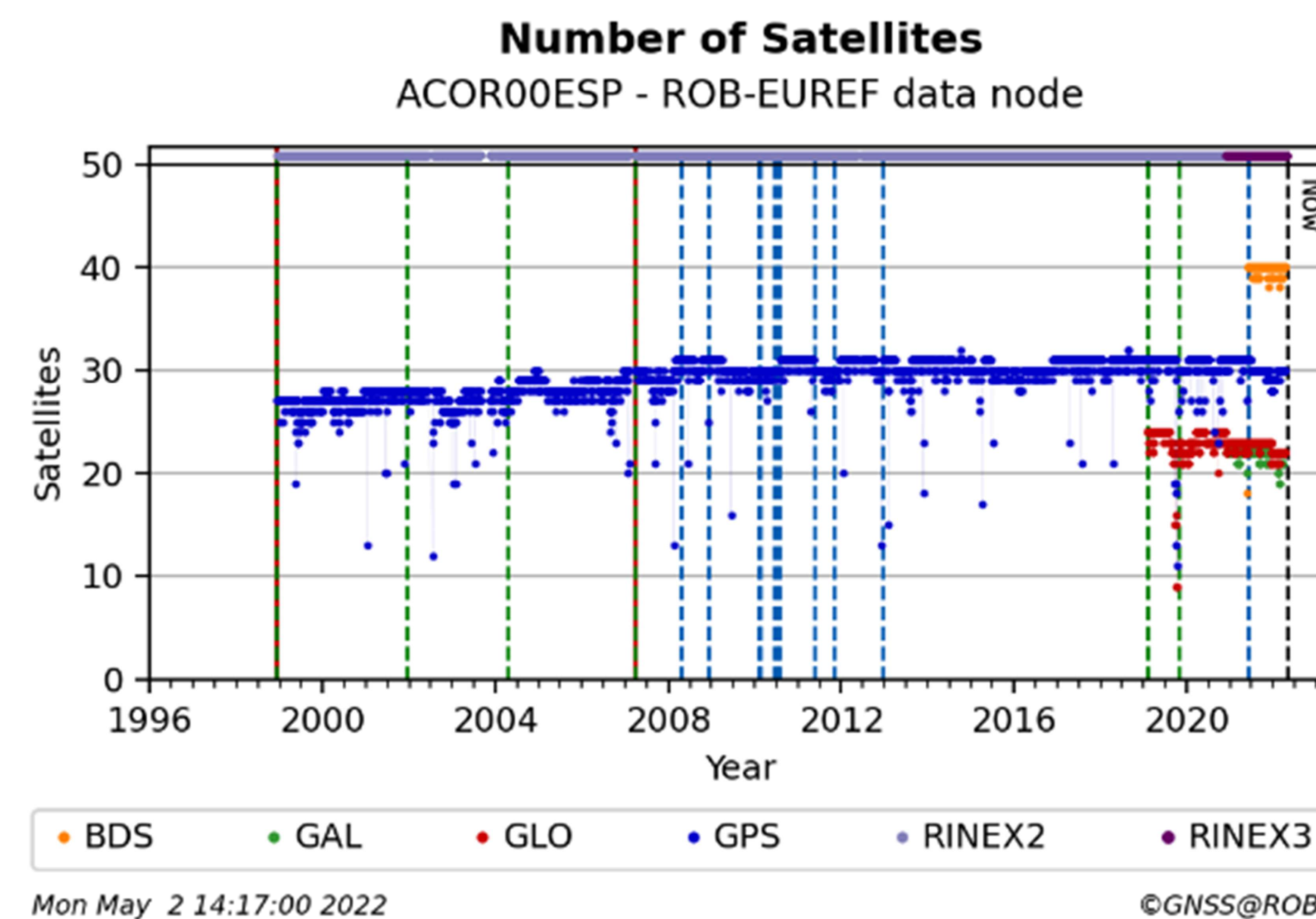
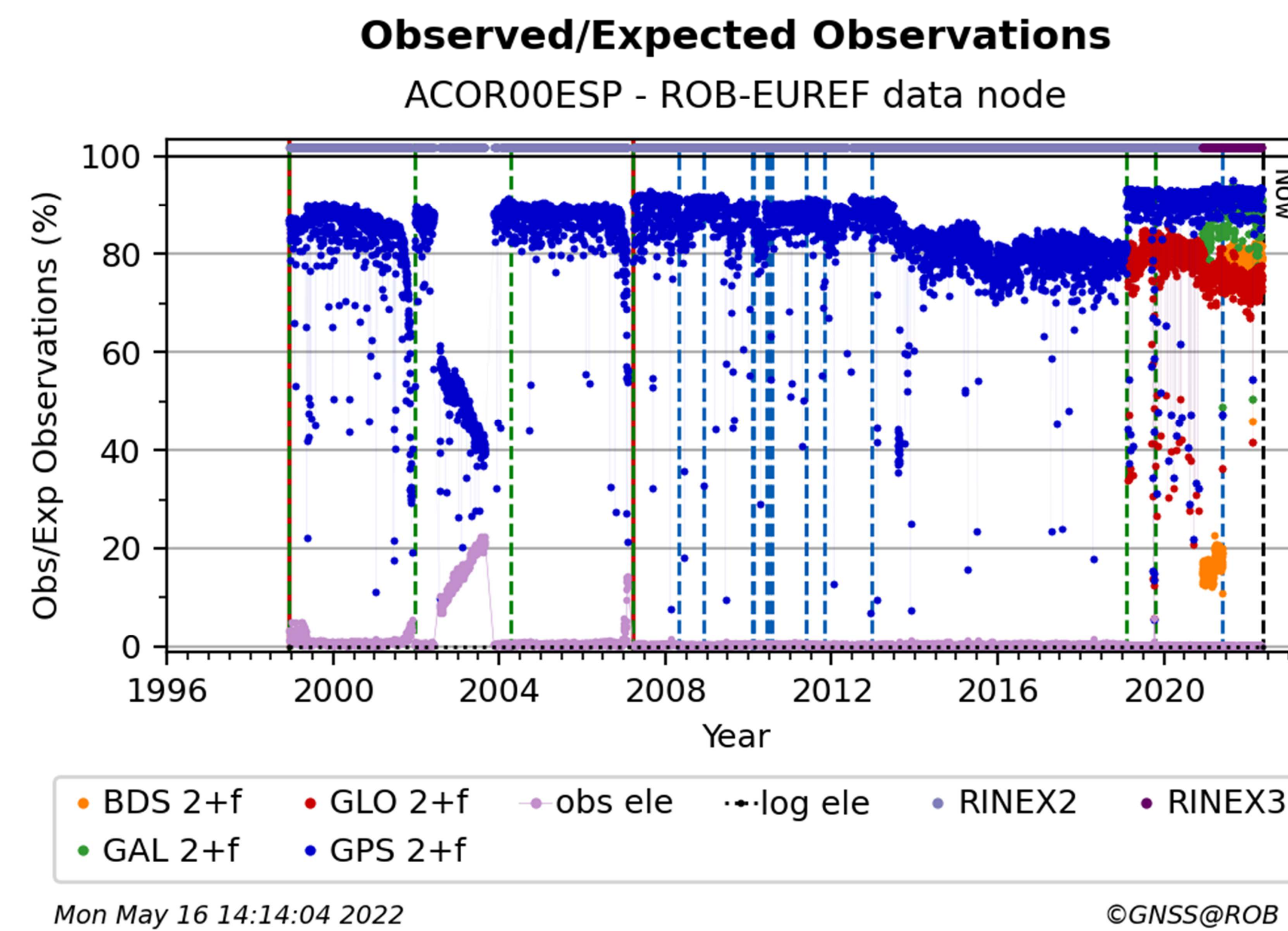
- RINEX Data Availability
- RINEX Data Quality
- Data Nodes

The web portal provide helpful information for node managers or station users to:

- assess and improve the EPOS-GNSS node's performance
- detect potential degradation of the RINEX data quality



DQI Plots



Conclusions

- Currently EPOS-GNSS Data Monitoring web portal (<https://gnssquality-epos.oma.be>) presents plots of the availability and the long-term tracking performance of 1000+ EPOS-GNSS stations
- Showing promising results to be used for high-precision GNSS analysis for geophysical or meteorological applications
- Please send your feedback and your ideas to epos@oma.be

Outlook:

- Investigate the possible usage of data quality metrics to detect unsuitable data
- Send notifications to station managers / nodes when problems occur with data availability/quality





Thank You

You can always contact us at epos@oma.be

Web Portal DOI: <https://doi.org/10.24414/ROB-EPOS-EGDM>