The C4G/UBI contribution for the EPOS GNSS Products Dissemination

Abstract
Europe is covered by a few thousand GNSS stations, maintained by different agencies with different technical and scientific objectives. Many of these are part of regional networks to provide support for geo-referencing applications such as surveying. One of the objectives of the European Plate Observing System (EPOS) project is to collect all these GNSS data, perform quality control, harmonize the format and present the data and their derived products at a data & product portal, see https://www.epos-ip.org/tcs/gnss-data-and-products, all in close collaboration with EUREF. We present here the efforts carried out by C4G/UBI in the framework of the EPOS project to support the harmonization and dissemination of products: position time series, velocity fields, and strain rate maps.

The GNSS product portal within EPOS

Flow of GNSS EPOS products

The GNSS EPOS product portal

Fig 3. The left panel shows the flow of GNSS data inside the GNSS Thematic core service which makes use of GLASS (GNSS Linkage Advanced Software System). The products can be obtained directly by users visiting the product portal or by using its GLASS – API environment. The latter is used to integrate GNSS data in the overall EPOS portal (see right panel).

Validation of GNSS EPOS products

Current Timeline and Status

Fig 5. The provision of Products is already available through the Products Gateway, however this is still a prototype and some reserves should be taken into consideration when downloading products.

https://gnssproducts.epos.ubi.pt

Products provided

The GNSS products are generated by EPOS/EUREF Analysis Centres:
- CNRS-UGA (Université Grenoble Alpes, France)
- INGV (Istituto Nazionale di Geofisica e Vulcanologia - Centro Nazionale di Teremoti, Rome, Italy)
- BFKH (Department of Geodesy, Remote Sensing and Land Offices - Government Office of the Capital City Budapest)
- WUT (Department of Geodesy and Geodetic Astronomy, Warsaw University of Technology, Poland)
- ROB (Royal Observatory of Belgium, Belgium)
- LM (Lantmäteriet - the Swedish mapping, cadastral and land registration authority)

CNRS-UGA and INGV will produce dedicated daily solutions for all EPOS stations, which will be combined by BFKH with the EUREF solutions produced by WUT, Poland (based on several individual EUREF Analysis Centers) and in the reference frame materialization provided by ROB. At velocity level, BFKH will compute a velocity field including stations for which data are not made available (EUREF densified solution). CNRS-UGA and INGV will also produce dedicated velocity field based on their solutions. The latter will also compute a combined velocity field for the EPOS stations. Finally, LM will be responsible for the operationalization of the computation of strain rate maps.