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The EPOS GNSS Data Gateway: concept and access to data and metadata

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In the framework of the geodetic GNSS component of the European Plate Observing System (EPOS), a central data gateway is designed for accessing data and metadata of ∼2000 GNSS stations from different local data centers. This uppermost node of the EPOS GNSS data flow architecture is running the GLASS software package (developed by five European institutions in the framework of the EPOS-Implementation Phase project) without related local data repository, unlike the lower nodes that are most often associated to data repositories. The GNSS data gateway also hosts the centralized station metadata database. The current request estimate on this central data gateway envisions about 500 queries per day. The GNSS data gateway will be located at Geoazur/OCA, France, and maintained by CNRS, France.
A user will be provided two ways to search and download EPOS GNSS data and metadata through a GLASS-API webservice: a web client and a command line client. The web client displays the metadata in the form of tables and maps, and allows users to make queries to filter, visualize and download data and metadata. For a user exploring which GNSS station is available, accessibility and speed are key words, and a clear and simple interface with few choices should be very efficient. However, for advanced users, it is necessary to provide a more complete choice of options for the queries. The web client thus provides: 1) a quick and simple way to perform queries based on a limited set of parameters that are pre-loaded and therefore allowing real-time interaction, and 2) the possibility to make more advanced requests (e.g. station, file and Quality combined metadata queries) that needs an interaction with GLASS-API.
After outlining the GLASS network system concept based on physical layers (distributed repositories) and virtual layers (GLASS nodes and GNSS data gateway), we will present the GNSS data gateway focusing on the data web client, its functionalities and its interface.