

NATIONAL REPORT OF PORTUGAL

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Abstract

The Directorate-General for the Territory (DGT) is the entity responsible for establishing and maintaining the National Geodetic Infrastructure.

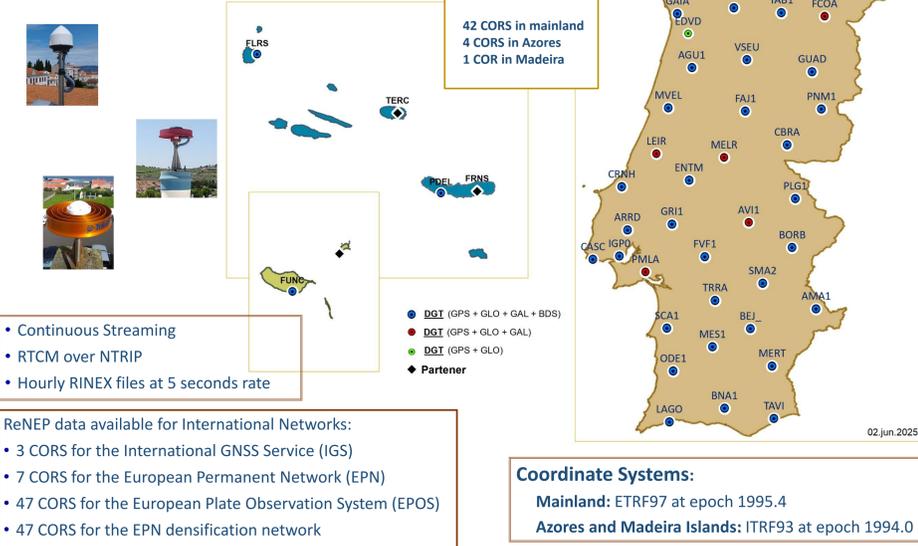
The DGT's GNSS CORS Network – ReNEP, already complete, consists of 42 stations on Portugal mainland, 4 in the Autonomous Region of Azores and 1 in the Autonomous Region of Madeira, being enough for an effective coverage of the national territory. In the continuous improvement of the service provided to the community, DGT updated the GNSS equipment for receive signals from GPS, GLONASS, GALILEO and BEIDOU constellations. The regional CORS networks are maintained by the Regional Governments of Azores and Madeira regions.

In order to update the coordinates of the geodetic network, DGT carried out multi-constellation observations at 130 geodetic marks. These observations and the old GPS observations will be used for a block adjustment and obtain new coordinates for the geodetic network.

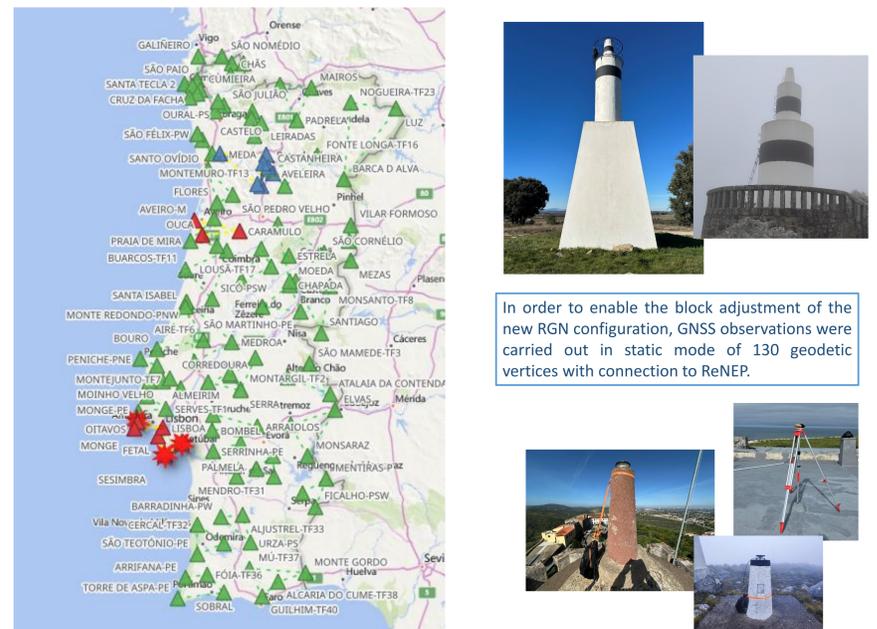
DGT continues to invest in the maintenance of Cascais and Lagos tide gauges, in order to maintain the definition of the vertical reference frame and to keep registering the mean sea level.

National Permanent GNSS Stations Network (ReNEP)

- Materialization of the national reference system
- Allows an accurate positioning



Geodetic Marks Network (RGN) GNSS Observation



Regional Permanent GNSS Stations Networks

REPRAA – Azores CORS Network



Madeira CORS Network and Geodetic Marks



Tide Gauges

- Definition of the vertical reference
- Determination of mean sea level

- RADAR technology for water leveling sensors
- Real-time data logging and uploading data to DGT servers and other users
- Sensors for measuring water temperature, air temperature and atmospheric pressure



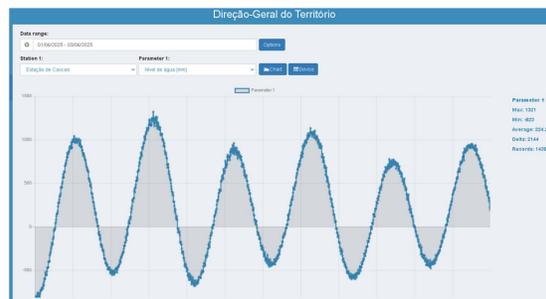
Annual observation of the tide gauges mark with High Precision Geometric Leveling for checking the stability of the reference marks



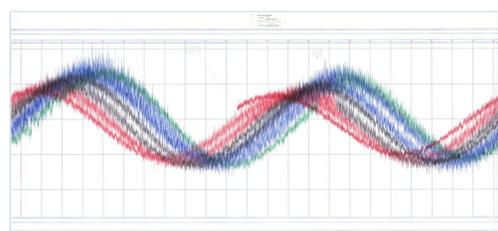
Observation data in 2024:

- Cascais: October 14-18;
- Lagos: November 11-15.

Digital charts of Cascais



Digitization of tide charts of Cascais



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Welcome to EUREF!

Our work is focused on:

- Definition, realization and maintenance of the European Geodetic Reference Systems;
- Promotion and assistance of the adoption and use of European Terrestrial Reference System (ETRS89) and European Vertical Reference System (EVRS) in our partner countries;
- Development and maintenance of the EUREF GNSS Permanent Network (EPN) which is the ground based GNSS infrastructure for scientific and practical applications in positioning and navigation (GGOS, IGS-RT);
- Development of strategies and technologies for the realization of geodetic reference systems.

EUREF provides all its products on the "best effort" basis and free of charge to the public.

EUREF Symposia 2025:

We are pleased to announce that the EUREF Symposia 2025 is scheduled for Wednesday-Thursday June 25-26, with a full day Analysis Workshop on Tuesday June 24. The location is Covilhã, Portugal, and the venue will be the campus of the University Beira Interior. Since the transport between Lisbon airport and Covilhã may take some hours by train or bus, we suggest to reserve Monday and Friday as travel days.

For more information visit: <https://euref2025.segal.ubi.pt>