

STATUS OF THE EUROPEAN REFERENCE FRAME (EUREF)

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EUREF (www.euref.eu) is the IAG (International Association of Geodesy) Reference Frame Sub-commission for Europe integrated in Sub-Commission 1.3, Regional Reference Frames, of Commission 1, Reference Frames, of the IAG.

The activities carried out by EUREF are related with the definition, realization and maintenance of the European Reference Frame, focusing on both the geo-spatial and the vertical components, and have the participation of almost all the European countries. Furthermore, EUREF works in close cooperation with the pertinent IAG components and EuroGeographics, the consortium of the NMCA (National Mapping and Cadastre Agencies) in Europe.

This paper describes EUREF, its missions and activities, aiming at upgrading European-wide geodetic reference systems to support both scientific and continental geo-referencing activities, and presents an overview of the status and recent developments related with its core projects.

The geo-spatial component of the frame is formed by the EUREF Permanent Network (EPN) and the network of high-precision geodetic reference sites determined by various GPS campaigns.

The EPN contributes to the maintenance of the European Terrestrial Reference Frame (ETRF) and the International Terrestrial Reference Frame (ITRF) and is being used as a basis for the development of special projects, namely 'EPN Time Series Monitoring', 'Creation of a Troposphere Product' and 'EUREF-IP', this last one dedicated to the development of the standards and the operational means to disseminate GNSS data over the Internet, in the context of the efforts within the IAG towards real-time data dissemination.

The vertical component of the frame is the Unified European Levelling Network (UELN), that is being densified and extended by new observations. Similarly to the ETRS89 (European Terrestrial Reference System), a system related to the vertical component is defined, the European Vertical Reference System (EVRS).

An overview of the European Combined Geodetic Network (ECGN) is also presented, as a contribution to the IAG project GGOS (Global Geodetic Observation System).

The status of the adoption of the systems defined by EUREF - the European Terrestrial Reference System (ETRS89) and the European Vertical Reference System (EVRS) - by the European countries and organisations as official systems will be presented as well.

1. GS001 Reference Frames
2. EUREF, Regional Reference Frames, GNSS Permanent Networks
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