



## **A reference GNSS tropospheric dataset over Europe.**

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The present availability of 18 years of GNSS data belonging to the European Permanent Network (EPN, <http://www.epncb.oma.be/>) is a valuable database for the development of a climate data record of GNSS tropospheric products over Europe. This dataset has high potential for monitoring trend and variability in atmospheric water vapour, improving the knowledge of climatic trends of atmospheric water vapour and being useful for global and regional NWP reanalyses as well as climate model simulations. In the framework of the EPN-Repro2, a second reprocessing campaign of the EPN, five Analysis Centres have homogeneously reprocessed the EPN network for the 1996-2013. Three Analysis Centres are providing homogeneously reprocessed solutions for the entire network, which are analyzed by the three different software packages: Bernese, GAMIT and GIPSY-OASIS. Smaller subnetworks based on Bernese 5.2 are also provided. A huge effort is made for providing solutions that are the basis for deriving new coordinates, velocities and troposphere parameters, Zenith Tropospheric Delays and Horizontal Gradients, for the entire EPN. These individual contributions are combined in order to provide the official EPN reprocessed products. A preliminary tropospheric combined solution for the period 1996-2013 has been carried out. It is based on all the available homogeneously reprocessed solutions and it offers the possibility to assess each of them prior to the ongoing final combination.

We will present the results of the EPN Repro2 tropospheric combined products and how the climate community will benefit from them.

Acknowledgment. The EPN Repro2 working group is acknowledged for providing the EPN solutions used in this work. E-GEOS activity is carried out in the framework of ASI contract 2015-050-R.0.