



An homogeneously reprocessed Zenith Total Delay long-term time series over Europe

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Homogeneously reprocessed observations from permanent GNSS stations have high potential for monitoring trends and variability in atmospheric water vapour which will enable evaluation of systematic biases from several instruments, improve the knowledge of climatic trends of atmospheric water vapour and be useful for global and regional NWP reanalyses and climate model simulations. The present availability of more than 15 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. We are homogeneously reprocessing the whole EPN network for the period 1996-2013. GNSS data are analyzed with GIPSY-OASIS II 6.2 in PPP mode applying the state-of-the-art models and the JPL reprocessed IGS08-products. These reprocessed ZTD time series over Europe will be compared with radiosonde data, VLBI and IGS zenith delays for collocated stations. The ongoing reprocessing efforts is part of the EPN Repro2 initiative and will provide a GNSS climate data record for the WG3 'Use of GNSS tropospheric products for climate monitoring' of the COST Action ES1206 'Advanced Global Navigation Satellite Systems tropospheric products for monitoring severe weather events and climate (GNSS4SWEC)'.