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Publication of PWV and ZTD time series and models of PWV and nPWV over Slovakia and vicinity

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More than 50 permanent GNSS (Global Navigation Satellite Systems) stations are processed continually within the Central European Permanent Network at the Slovak University of Technology, Department of Theoretical Geodesy. Zenith Total Delay (ZTD), one of the processing outputs, reflects delay of the GNSS signal caused by troposphere. Precipitable Water Vapour (PWV) is calculated if ground meteorological observations are available. Model of PWV over Slovakia and vicinity is produced using digital terrain model data for height correction in grid points. Real variation of PWV over the area shows model of normalized PWV (nPWV) created from PWV values reduced by theoretical PWV value corresponding to altitude and latitude of the station. Mathematical background for computing PWV and nPWV models will be presented. All computations on the way from discrete ZTD values to PWV time series and models are realized using Perl scripts.
Time series of ZTD and PWV since 1996 and models of PWV and nPWV are published on the server freely available in the internet using Web Map Service, PHP, JavaScript and other web technologies. All the data are available in one hour interval. Data are continually updated and can be downloaded for scientific applications.