



A new implementation of the ETRS in the Czech Republic – some consequences and benefits

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In the Czech Republic the ETRS89 has been used, as one of the mandatory geodetic reference systems, since the beginning of nineties. Its realization was based on the first EUREF post-campaign of 1991 and on some subsequent densification GPS campaigns. The new realization of the ETRS89 gets benefit from an advanced state of the EPN as well as from the existence of the relatively dense national permanent GNSS network. The coordinates of the CZEPOS national permanent GNSS network, which became the top of the national geodetic network hierarchy, were computed following the recent EUREF guidelines on EPN densification providing a new national ETRF2000(R05) reference frame. This frame was further densified in a three-step densification process: reference GNSS network (176 stations, re-observed in 2007 – 2008), „selective maintenance“ (about 3,100 points, observed in 1997 – 2008), detailed densification (about 43,000 points, observed in 1994 – 2007). As a result, some 46,500 points with both ETRF2000(R05) and national user coordinates are available. The new ETRS realization was used for the rectification of the national terrestrial user geodetic system. The methodology of the implementation is described and some results are presented.