Combination of Tide Gauge Benchmark Monitoring (TIGA) Analysis Center from repro2 solutions

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Recently the International GNSS Service (IGS) Tide Gauge Benchmark Monitoring (TIGA) Working Group (WG) has completed their repro2 solutions by re-analyzing the full history of all relevant Global Positioning System (GPS) observations from 1995 to 2015. This re-processed data set will provide high-quality estimates of vertical land movements for more than 500 stations, enabling regional and global high-precision geophysical/geodetic studies. All the TIGA Analysis Centres (TACs) have processed the observations recorded by GPS stations at or close to tide gauges, which are available from the TIGA Data Center at the University of La Rochelle (www.sonel.org) besides those of the global IGS core network used for its reference frame implementations. Following the recent improvements in processing models, strategies (http://acc.igs.org/reprocess2.html), this is the first complete re-processing attempt by the TIGA WG to provide homogeneous position time series relevant to sea level changes. In this study we report on a first multi-year daily combined solution from the TIGA Combination Centre (TCC) at the University of Luxembourg (UL) with respect to the latest International Terrestrial Reference Frame (ITRF2014). Using two independent combination software packages, CATREF and GLOBK, we have computed a first daily combined solution from TAC solutions already available to the TIGA WG. These combinations allow an evaluation of any effects from the combination software and of the individual TAC parameters and their influences on the combined solution with respect to the latest ITRF2014. Some results of the UL TIGA multi-year combinations in terms of geocentric sea level changes will be presented and discussed.