Geophysical Research Abstracts
Vol. 17, EGU2015-11728, 2015
EGU General Assembly 2015

Multi-Year Combination of Tide Gauge Benchmark Monitoring (TIGA) Analysis Centre Products

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In 2013 the International GNSS Service (IGS) Tide Gauge Benchmark Monitoring (TIGA) Working Group (WG) started their reprocessing campaign, which proposes to re-analyze all relevant Global Positioning System (GPS) observations from 1994 to 2013. This re-processed dataset will provide high quality estimates of land motions, enabling regional and global high-precision geophysical/geodetic studies. Several of the individual TIGA Analysis Centres (TACs) have completed processing the full history of GPS observations recorded by the IGS global network, as well as, many other GPS stations at or close to tide gauges, which are available from the TIGA data centre at the University of La Rochelle (www.sonel.org). Following the recent improvements in processing models and strategies, this is the first complete reprocessing attempt by the TIGA WG to provide homogeneous position time series. We report a first multi-year weekly combined solutions from the TIGA Combination Centre (TCC) at the University of Luxembourg (UL) using two independent combination software packages: CATREF and GLOBK. 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. Some major results of the UL TIGA multi-year combinations in terms of geocentric sea level changes will be presented and discussed.