



Relative sea level trend and variability in the central Mediterranean in the time span 1872-2014 from tide gauge data: implications for future projections

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We used tidal data collected in the time span 1872-2014 from a set of historical and modern stations located in the central Mediterranean, along the coasts of Italy, France, Slovenia and Croatia. The longest records span across the last two or three centuries for the tidal stations of Genova, Marseille, Trieste and Venice. While data from Bakar, Dubrovnik, Rovinj and Split, all located along the coast of the Adriatic sea, provide valid records for a time span about 50 years long. In addition to these stations, since 1998 become available for the Italian region new sea level data from the dense national tidal network (www.mareografico.it). These digital stations are collecting data continuously at 10 minute sampling interval with a nominal accuracy at 1 mm. Therefore, in addition to the historical stations, we have the opportunity to analyze a sea level data set that cover about the last 16 years.

In this study we show and discuss the results of our analysis of sea level data for the central Mediterranean, providing new insights on sea level trend and variability for about the past 140 years. Finally, based on sea level data and IPCC reports, we provide future sea level projections for this region for the year 2100 with implications for coastal flooding of lowland areas.