



## **The Marseille Tide Gauge: Analysis of Sea Level Extremes during 1885-2007**

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Understanding sea level extremes is crucial for coastal planning and management and tide gauge records are a powerful tool to understand and investigate their features. In this study, we focus on the Marseille hourly sea level record because of its length (more than 100 years) which makes it suitable for long term high frequency analysis. In a first step the sea level time series has been quality checked for temporal drifts and outliers. Return levels and their associated uncertainties have been computed for observed sea level and for the tidal residuals. The temporal variability of these return periods has been examined and related to the different forcing mechanisms. This study has been integrated as part of the project "The Marseille tide gauge: recovery and analysis of high frequency sea level data from 1885", funded by the ESF MedCLIVAR Exchange Grants Program.