Validation of coastal altimetry data along the west Iberian coast

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Satellite altimetry was devised for open ocean measurements, but its use on coastal areas is rapidly evolving. In this context, validation of coastal altimetry data is a fundamental activity. This work addresses the comparison of coastal altimetry data and in-situ tide gauge measurements along the west Iberian coast in the frame of project COASTALT. First the temporal variability and spatial pattern of range corrections is evaluated in order to assess temporal influences (e.g. sea state, atmospheric conditions,...) and local effects on the range corrections. Then along-track sea-level anomalies from satellite altimetry are compared with concurrent measurements of relative sea-level height at four tide gauges along the west Iberian coast. Validation is carried out using time domain as well as wavelet domain techniques for a frequency-dependent description of the relation between coastal sea-level variability as measured by altimetry and in-situ sea-level from the tide gauges.