



Improved satellite altimeter mapped sea level anomalies in the Mediterranean Sea

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The new gridded Mediterranean sea level anomaly product recently released by AVISO (DT14) is evaluated and compared with the earlier version (DT10) at which it is aimed to substitute. Differences between the two products are found along coastal regions, where the new version captures more variability (up to 10% more) and trends locally differ by up to 1 mm/yr for the altimetric period. Coastal tide gauge observations have therefore been used as the basis for quantifying changes in DT14. Correlation and variance reduction in available monthly tide gauge time series are improved in more than 80% of the selected sites, resulting in an overall higher skill to recover coastal low frequency sea level signals. Results for higher/lower order percentiles were also explored and showed different performances depending on the site, although with a slight overall improvement. A comparison with tide gauges on a daily basis using wavelet analysis reveals that altimetry gridded products are still far from recovering higher frequency coastal sea level signals despite some advances have been achieved thanks to the daily temporal sampling of DT14.