



## **The use of satellite altimetry in the description of oceanic events at different time scales in the Bay of Biscay**

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The objective of this study is to evaluate the best way to use altimetric data to describe the main oceanographic structures in our study area, and how to combine them with other remote sensing products, as sea surface temperature data and ocean colour data. Sensors working in the infrared or in the visible have the handicap of not being capable to measure optimally sea surface radiance in the presence of clouds. On the contrary, altimetry provides sea level measurements under any meteorological condition, and as the selected region for this study (Bay of Biscay), is a cloudy area, this property is essential to make an operational oceanic description.

For this purpose, maps of sea level anomaly from November of 1992 to January of 2004 are selected. To characterize the variability of the Bay of Biscay we perform a statistical analysis that includes the computation of mean and standard deviation as well as monthly climatologies. Finally, daily maps are used to describe specific features. To evaluate the reliability of these products, a comparison with oceanic events described in the bibliography or observed by the other sensors is done.

The most important result we have obtained is that there is a relationship between the sea level anomalies and the wind regime in the study area: prevalence of positive sea level anomalies with southerly winds and negative with northerly winds. This is especially relevant in monthly climatologies. At weekly temporal scale, some oceanic events reflected in the sea level anomalies maps, such as eddies, are also found in the sea surface temperature and in the ocean colour images.