



USE OF GPS BASED DRIFTERS IN THE STUDY OF COASTAL CURRENTS

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Abstract: One of the goals of project NICC is the spatial analysis of the Northwest Iberian Coastal Current. With that purpose, dedicated satellite based drifters were deployed with the possibility to acquire information about its trajectory and velocity and transmit it via GSM.

In order to evaluate also the estuarine/ocean interaction, those drifters were launched inside the Douro estuary and monitored on their track all the way to the ocean.

The drifter design allowed one to guarantee that the main driving effect is the current although also the wind and other meteorological conditions should be taken into account when analysing the trajectories.

Several experiments were done, in different tide conditions, and under different runoff forcing. The results obtained allow us to conclude that the local surface current pattern, derived from the drifters monitoring, is compatible with the information obtained with an ADCP moored in the neighbourhood on the inner shelf.

The analysis of the free trajectories of the drifters in the different campaigns allowed us to draw some conclusions about the characteristics of the estuarine flow, the effects of bathymetry and the transitions between inner and mid shelf.

The use of the drifters has shown to be appropriate for the definition of the Coastal Current Field. The velocities and evolutionary patterns revealed were in agreement with the observation from the fixed ADCP station.

Key words: Coastal currents, drifters, estuarine flow, GPS, ADCP.

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