

## Data acquisition during the ESEOO operational exercises: results, progress and conclusions.

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### ABSTRACT

One of the most remarkable activities on the frame of the ESEOO project has been the regular participation within operational exercises simulating real scenarios of oil spill releases. A major contribution of the ESEOO members has been to promote the design and set up of a specialized unit named USyP (*Unidad de Seguimiento y Predicción*) to monitor and forecast the marine system during an emergency. Among other tasks related with the coordination of several forecast systems, the USyP is charged of organizing data acquisition through specific field measurement depending of the type of the emergency. The work presented here summarize the observational efforts done during three exercises (Balears-2005, Gijon-2006, Finisterre-2007) consisted basically on surface drifters deployment and XBT profiling. Concerning the drifters, the regular use of it has been showed to be very important and efficient for tracking purposes, validation and calibration of dispersion models. However some drawbacks arise concerning the drifter tracking system. Thus detailed analysis have shown that GPS-ARGOS tracked drifters are the most useful devices for long time tracking in emergency cases. The comparison between the forecasting of dispersion models and the trajectories followed by drifters has been in general acceptable, being particularly very successful in the case of Finisterre-2006 exercise.

In addition to drifters deployment, hydrographic measurements with XBT profilers have been introduced during the exercises. We could demonstrate that the operations needed for sampling with expendable probes can be carried out with few requirements in terms of instrumentation and boat facilities and do not interfere with the rest of operational actions (i.e. rescue and cleaning operations). As a major benefit, the combination of XBT data with climatological data is a simple and efficient way to retrieve the thermohaline structure and of great value to provide quick first diagnoses of the water circulation in the area of the emergency.

Regular training operational exercises provide the major feedback to test and validate, through data acquisition, the forecast systems. From our experience participating in such exercises we conclude that new data acquisition should be always considered and recommended within regular protocols during marine emergencies