

## **Regional activities in MERCATOR-OCEAN: toward a regional operational system on the IBI domain.**

<sup>1</sup>S. Cailleau, <sup>1</sup>J. Chanut, <sup>1</sup>B. Levier, <sup>1</sup>G. Reffray  
<sup>1</sup>*Mercator Ocean, Toulouse, France*

### **Abstract**

Recent efforts have been made in regional modelling at Mercator Ocean with the aim to operate a regional system covering the IBI area in the future (contribution of My Ocean project). In this way, the NEMO model has been improved by adding high frequency forcings (tides, 3-hourly meteorological fields permitting to resolve the diurnal cycle among other and the dynamics induced by the rivers discharges on the shelf), physical parameterizations permitting to resolve processes occurring at regional scale (improvements on the vertical physics, improvements on the physics at the surface and bottom layers, etc ...) and new numerical schemes (advection, OBC, etc...).

This “regional” version of NEMO has been tested in a first configuration covering the Bay of Biscay. A realistic run of the entire year 2004 has been carried out with tidal, meteorological and rivers forcings and OGCM fields used to initialize and force the open boundaries. The results are studied through a complete battery of tests. In the first part of them, the established diagnostics focus on the capability of the model to conserve the water properties (water masses, heat content, SST bias etc ...). In the second part, the capability of the model to reproduce physical processes (Ushant front, warmpool, rivers plume etc...) is underlined.