



An example of defense service using HYCOM output of the bay of Biscay

Claire Maraldi (1), Stéphanie Corréard (1), Stéphanie Louazel (2), Mathilde Faillot (1), and Didier Jourdan (1)
(1) SHOM, 42 avenue G. Coriolis, 31057 Toulouse, France, (2) SHOM, 13 rue du Chatellier, 29228 Brest Cedex 2, France

With the continuous improvement of both ocean physics description by numerical models and operational information systems in oceanography to process and analyze coastal observations and forecasts, it becomes now feasible to support defense applications with appropriate production and service at regional scale.

On one hand, a real time system based on the HYCOM model has been set up in the bay of Biscay. This system, without assimilation, is run daily. The purpose is to well describe all the processes which occur in this area : the large scale and the mesoscale circulation (eddies, thermal fronts,...), the tidal circulation (the well-known homogeneous one but also the stratified case), the mixing processes...

The system provides everyday forecasts of temperature, salinity, currents and sea surface height. Moreover, the system includes a validation component. This validation is automatically performed everyday. In term of temperature and salinity, the model is compared with in-situ profiles, the modeled sea surface height is compared with tide gauge data and the modeled currents are compared with HF radar data in the Iroise sea.

On the other hand, SHOM has developped a System for Operational Analysis and Forecast (SOAP) to support French Navy activities. Primarily designed and developed to support anti-submarine warfare at operative level (description of the synoptic scale), the Soap System is dedicated to routinely compute, qualify, prepare and deliver added [U+2011] value military products. The final version of the Soap System (Soap-3) entered service early 2010 and has become the core component of the oceanographic support for naval operations. It relies on various functionalities ranging from observations and/or model retrieval to the processing and layout of the products.

In this talk, we propose to present the real time HYCOM system and we will show how its outputs can be used as inputs of SOAP. Examples of defense products provided in the framework of the the SPONTEX international exercise will be shown.