

OPERATIONAL OCEANOGRAPHIC PRODUCTS FOR THE BELGIAN SCIENTIFIC COMMUNITY

Legrand Sébastien

Royal Belgian Institute for Natural Sciences, Management Unit of the North Sea Mathematical Models (MUMM), Gulledele 100, 1200 Brussels, Belgium

E-mail: sebastien.legrand@mumm.ac.be

MUMM's team for Operational TOols and Services (OPTOS) develops and manages a series of mathematical models for providing assistance to human activities at sea. Twice a day, these models issue five days ahead forecasts of sea surface elevation, three dimensional currents, waves, temperature and salinity. Such information is useful for, e.g. navigation in coastal waters, diving activities and flooding risk assessment. In case of pollution, combatting teams also receive information on drift, spreading and fate of the pollutant.

Besides these traditional applications, OPTOS is enlarging its products catalog in order to improve its support to environmental researchers concerned by the Southern Bight of the North Sea. Following the recent recommendations of the ICES Working Group for Operational Oceanographic products for Fisheries and Environment (WGOOFE), OPTOS is developing an operational identification procedure for water masses, fronts and river plumes. That new product uses passive tracers to characterize the signature of the different water masses in terms of the Atlantic salty waters and fourteen different riverine freshwaters (Thames, Rhine, Meuse, Scheldt, Seine, Wash, Humber, Tees, Tyne, Forth, Ems, Weser, Elbe and IJssel). Useful for assessing the Belgian compliance with regard to the EU Water Framework Directive, these new operational products can also guide the interpretation of *in situ* samples or demonstrate transboundary pollution.