

Conceptual design of the Black Sea MONINFO (Monitoring and Information Systems for Reducing Oil Pollution)

Ahmet E. Kideys^{1,a}, François-Xavier Thoores^{2,b}, Sertel Elif^{3,c}, Kevin O'Connell^{4,d}, Tayfun Sivas⁵, Kiril Iliev^{5,e}, Dumitru Dorogan^{5,g}, George Balashov⁵, Valeria Abaza^{5,e}

¹Middle East Technical University, Institute of Marine Sciences, Limonlu, Erdemli Mersin, Turkey
²21394 rue du Village, 39570 Villeneuve-Sous-Pymont, France

³Istanbul Technical University Center for Satellite Communications and Remote Sensing TR
34469 Maslak Istanbul

⁴Neocos Consulting, Viewmount House 10 Culduthel Road, Inverness, IV2 4AG UK.

⁵The Permanent Secretariat of the Black Sea Commission including the MONINFO Project Team

^akideys@gmail.com, ^bfx.thoores@gmail.com, ^celif@cscrs.itu.edu.tr,

^dkevin@neocosconsulting.com, ^esecretariat@blacksea-commission.org, ^gdorogan@ymail.com

Keywords: remote sensing, oil spill, pollution, marine environmental monitoring, GIS, satellite surveillance, Black Sea hydrodynamical modelling, AIS.

Oil spill pollution is recognized as one of the major threats to the marine environment of the Black Sea as stated in the Strategic Action Plan (SAP) (both in that adopted in 1996 as well as in the revised version of 2009).

In response to this issue the Commission on the Protection of the Black Sea Against Pollution and the European Commission concluded a Grant Agreement for carrying out relevant actions with the main objective of delivering a regional information system for combating oil pollution, operational monitoring of accidental pollution and capacity building for enhanced response capabilities and emergency response planning for the Black Sea. One of the major aims in the initial phase of the MONINFO Project is development of the conceptual design of a system to enable improved management of oil spills by respective institutions and authorities. This conceptual design will begin operation during the second half of the secondary phase of the Project.

The conceptual design of the information system manifested by the MONINFO Project has been prepared based on (i) analysis of existing capacities in the Black Sea (ii) a needs assessment, (iii) gap analysis, (iv) intensive consultations and feedback from all stakeholders and (v) study of similar practices, products and services developed or being developed by other regional seas agreements (HELCOM, REMPEC etc).

The "MONINFO System" envisaged through a web interface includes:

- A Geographic Information System (GIS) server containing geographical data,
- A document repository with a user and group access and rights management,
- Satellite based oil spill monitoring
- Automated reporting based on the regional Black Sea Contingency plan
- An oil spill modelling system which could also be run as an independent application,
- A "Black Sea Regional AIS Data Exchange Server"
- All information necessary for rapid decision making in case of oil spills

The system will be a multi-layered application accessed over the Internet, through Black Sea Commission (BSC) webpage. The GeoPortal will provide access to information on related projects