NUMERICAL MODELING OF DISPERSION OF POLLUTANTS IN THE COASTAL ZONE OF THE WESTERN BLACK SEA

G. MUNGOV
National Institute of Meteorology and Hydrology (NIMH), Sofia, Bulgaria

During the last years in NIMH numerical models were used for forecasting the wind waves and storm surges in the Western Black Sea. The recent development in this field includes a numerical model for computation the dispersion of pollutants in the coastal zone including radionuclides as specific conservative tracers, and adaptation for the specific conditions for the Black Sea the oil-spill model of Meteo-France.

The transport velocity fields for the both models are obtained in combination between the climatological currents and the wind driven circulation derived with two dimensional nonlinear barotropic model for the upper dynamic layer of the Black Sea. The advection-diffusion model for the dispersion of pollutants is based on the numerical scheme of Takacs (1985).

The test runs for different possible sources of pollutants in the Western Black Sea indicated the great vulnerability of the Bulgarian coast due to the specific features of the circulation over the Western shelf and the along shore currents.