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SatBałtyk – a project for satellite remote sensing of the Baltic ecosystem

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The main aim of the five-year SatBałtyk (2010–2014) research project (Satellite Monitoring of the Baltic Sea Environment) is to prepare the technical infrastructure and set in motion operational procedures for the satellite monitoring of the Baltic environment. This system is to characterize on a routine basis the structural and functional properties of this sea on the basis of data supplied by the relevant satellites. The characterization and large-scale dissemination of the following properties of the Baltic is anticipated: the solar radiation influx to the sea's waters in various spectral intervals, energy balances of the short- and long-wave radiation at the Baltic Sea surface and in the upper layers of the atmosphere over the Baltic, sea surface temperature distribution, dynamic states of the water surface, concentrations of chlorophyll a and other phytoplankton pigments in the Baltic water, distributions of algal blooms, the occurrence of upwelling events, and the characteristics of primary organic matter production and photosynthetically released oxygen in the water. It is also intended to develop and, where feasible, to implement satellite techniques for detecting slicks of petroleum derivatives and other compounds, evaluating the state of the sea's ice cover, and forecasting the hazards from current and future storms and providing evidence of their effects in the Baltic coastal zone. The ultimate objective of the project is to implement an operational system for the routine determination and dissemination on the Internet of the above-mentioned features of the Baltic in the form of distribution maps as well as plots, tables and descriptions characterizing the state of the various elements of the Baltic environment