



Concentration of dissolved organic matter (DOM), chlorophyll and suspended matter estimations in the Black Sea by ultraviolet fluorescence LIDAR in 2005-2007

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The researches were performed in the north-east part of the Black Sea during the cruises of research vessels “Akvanavt” and “Ashamba” in 2005, 2006 and 2007, conducted by Shirshov Institute of Oceanology, Russian Academy of Sciences. Laser probing was made by the ship-borne Ultraviolet Fluorescent automatic LIDAR UFL-8 with 2 laser wavelengths (355 and 532 nm), which was developed in Shirshov Institute of Oceanology. Spatial maps of dissolved organic matter (DOM), chlorophyll and suspended matter concentrations were obtained with the help of laser-induced fluorescence. The maps were produced by interpolation of high spatial resolution fluorescence profiles, carried out in automatic continuous mode along the several nearby ship’s tracks on the each polygon. Furthermore CTD and ADŃP measurements of thermohaline and currents structures were carried out. Basically the researches were performed in coastal waters, including the several river mouth zones, with the aim of the estimation of continental discharge and self-purification mechanism of shoaling waters. In particular, near Vulan and Ashamba River mouths the lidar measurements were carried out from the inflatable motorboat for the purpose of gathering extra-high spatial resolution and near-shore fluorescence data. In addition the attempt was made to compare lidar chlorophyll concentration and the remote sensing (satellite MODIS) data.