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Subsatellite studies of ocean upper layer and atmospheric near-surface layer variability in a shelf area

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The results of field experiments carried out in August, 2007 in a north-east part of the Black sea in region of city Gelendzhik, are given. The simultaneous measurement of atmospheric near-surface layer, sea surface and sea bulk parameters synchronously with reception of the radar image from the satellite ENVISAT was feature of the given experiment. The measurements were realized from the research vessel "Aquanaut" by means of radars, optical spectrum analyzers of wind waves and aerophysical devices.

The joint processing of the satellite image (SAR signal intensity) sections along a tacks and wind, surface wave and current in sea upper layer parameters measured from the research vessel "Aquanaut", was carried out. The comparison of satellite sections to the 3 cm radar (VV polarization) data has shown their good agreement on time interval one hour. At comparison of radar panoramas received from the satellite (wave-length 5.6 cm, VV polarization) and from the vessel (wave-length 3 cm, HH polarization) was shown their similarity, in particular slick bands are mapped equally. The examples of feature comparison of the radar satellite images (slicks, wind fronts etc.) with a variability of atmospheric near-surface layer and sea bulk parameters also are considered. It was found, that the presence of features on the satellite images is always connected with variability of measured physical characteristics.

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