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The results of forecasting the fields of hydrometeorological parameters with a coupled ocean-atmosphere system for the White Sea region for the period of June 2–September 1, 2015 are presented. The coupled system included the atmospheric (WRF-ARW), oceanic (ROMS) and wave (SWAN) models. Sea surface temperature (SST) and 2 m air temperature forecast skill scores are obtained. A systematic overestimation of the computed SST values relative to the OISST analysis data is 0.4 °C. The 2 m air temperature forecasts were generally more successful when using the coupled system than when using the WRF-ARW, and the improvement was observed mainly in the land areas immediately adjacent to the White Sea. Time intervals in which the influence of the sea on the 2 m air temperature forecasts was maximum and minimum are given.

Keywords: coupled ocean-atmosphere system, ocean-atmosphere interaction, White Sea, WRF-ARW, ROMS, SWAN

Tab. 8. Fig. 11. Ref. 22.