

Abstract

The main objective of this study is to produce the information about physical properties of the Adriatic Sea using a coupled ocean-atmosphere limited-area model, and to assess its sensitivity to the coupling scheme in comparison with its sensitivity to changes in the horizontal resolution of the atmospheric model. The oceanographic model outputs were validated with good agreement using satellite observations and climatological analyses; while the validation of atmospheric model outputs reveals good agreement with climatological calculations and estimates and with measurements at meteorological stations. The sensitivity analysis demonstrates that the coupled model gives a superior simulation of oceanographic parameters, in particular close to the sea surface, in comparison with the one-way forcing, even with a high-resolution atmospheric model. On the other hand, the improvement of the simulation of atmospheric parameters at coastal meteorological stations due to the coupling scheme is less significant.