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The ability of 16 regional climate models (RCMs) from the CORDEX project to adequately simulate the average values and long-term trends in precipitation over the Black Sea is assessed. The results of the simulations performed using the RCMs are compared with the data of the ERA5 reanalysis for the control period (1959–2005). Average annual precipitation and average seasonal precipitation for winter and summer, as well as long-term trends in precipitation for all months in a wide range of quantiles, are analyzed. It was found that average seasonal precipitation over the Black Sea is satisfactorily simulated by most RCMs in winter and by six RCMs in summer. At the same time, the monthly precipitation trends estimated on the basis of forecast calculations are close to those based on the ERA5 data only for one RCM.

Keywords: precipitation, quantile regression, Black Sea, CORDEX

Tab. 1. Fig. 5. Ref. 16.