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The study compares volumetric soil moisture based on the data from the fifth-generation global climate reanalysis (ERA5) and observations of productive soil moisture reserves in various soil layers at ten Roshydromet stations for the growing seasons from 2011 to 2023. The coordination of these series in mm of the water layer of total moisture with account of biases is carried out. It is shown that the reanalysis reproduces the main features of seasonal variations in soil moisture in the layers of 0–50 and 0–100 cm, its dynamics during the growing seasons, as well as the episodes of excessive moisture or drought conditions.

Keywords: soil moisture, ERA5, reanalysis, soil moisture observations, moisture reserves, modeling, statistical estimation

Tab. 4. Fig. 3. Ref. 14.