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Based on the long series of data (for 1958–2024), a statistical structure of the field of available moisture content in the meter layer of soil under grain crops for the European part of Russia was estimated, and an impact of observed climate change on the soil moisture regime was assessed. It is shown that in the 21st century, soil moisture content is higher than in 1958–1999, and currently observed climate changes are mainly positive for the agricultural industry in Russia. Seasonal variations in the available moisture content were built according to modern data, which can be applied in operational agrometeorological practice. The main reasons for the changes were analyzed: an increase in the frequency of warm winters and the cyclical nature of the climate system.

Keywords: soil moisture, climate, seasonal variations, probabilistic characteristics, correlation function

Tab. 5. Fig. 2. Ref. 26.