**DOI: https://doi.org/10.37162/2618-9631-2020-3-71-91**

**Agrometeorological conditions and forecasting of grain crop yield based on the integration of ground and satellite data in the subjects of the Volga Federal District** / Strashnaya A.I., Bereza O.V., Pavlova A.A. // Hydrometeorological Research and Forecasting, 2020, no. 3 (377), pp. 71-91.

The analysis of the features of agrometeorological conditions in the subjects of the Volga Federal District revealed that the heat and moisture availability in the first half of the growing season (May-June) primarily affects the productivity of all grain crops. The dynamics of NDVI in the years with different moisture conditions is studied, and the average long-term dynamics of this index for winter and spring crops is determined for the weeks of vegetation. The possibility of using satellite information for forecasting grain crop yield is shown, and the periods of the most effective prediction are determined. Regression models are developed for predicting grain yield based on the integration of ground and satellite data. It is shown that the use of satellite data allows increasing the lead time of the crop yield forecast by one month.

*Keywords:* agrometeorological conditions, drought, crops, yield, satellite data, forecast

Tab. 3. Fig. 5. Ref. 21.