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The research results of the dependence of the average district winter wheat yield on satellite and ground meteorological information for the subjects of the North Caucasian and Volga UGMS are presented. The following satellite indices were used in the work: NDVI (Normalized Difference Vegetation Index), VCI (Vegetation Condition Index) and LAI (Leaf Area Index). The method of interpolation of inverse weighted squares of distances for obtain a set of meteorological parameters for districts there were no weather stations was used. Districts for taking into account agroclimatic conditions were combined into groups using Shashko's Agroclimatic Regionalization method.

The selection of parameters that have the greatest impact on the yield was carried out using the correlation-regression analysis method. The corresponding regression models were obtained for the researched regions of the Russian Federation. Verification of the obtained models on dependent and independent information showed a fairly good result.

Keywords: NDVI, LAI, interpolation, Shashko's Agroclimatic Regionalization, average district yield, meteorological information

Tab. 5. Fig. 7. Ref. 20.