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Overview of spatial verification methods and their application to ensemble forecasting /

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State-of-the-art high-resolution NWP models simulate mesoscale systems with a high degree of detail, with large amplitudes and high gradients of fields of weather variables. Higher resolution leads to the spatial and temporal error growth and to a well-known double penalty problem. To solve this problem, the spatial verification methods have been developed over the last two decades, which ignore moderate errors (especially in the position), but can still evaluate the useful skill of a high-resolution model.

The paper refers to the updated classification of spatial verification methods, briefly describes the main methods, and gives an overview of the international projects for intercomparison of the methods. Special attention is given to the application of the spatial approach to ensemble forecasting. Popular software packages are considered. The Russian translation is proposed for the relevant English terms.

Keywords: high-resolution models, verification, double penalty, spatial methods, ensemble forecasting, object-based methods

Fig. 6. Ref. 30.