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The article provides a case study of the formation of a severe convective storm as part of a quasilinear mesoscale convective system on August 7, 2021 that moved over the territory of the central part of European Russia. The predicted fields of meteorological characteristics and the following data of remote sensing of the atmosphere were analyzed: radar, satellite, lightning detection and atmospheric electric field data. A number of features were revealed in the distribution of meteorological parameters, which are useful for nowcasting of hazards associated with the formation of stable severe convective structures.

Keywords: mesoscale convective system, severe convective storm, satellite and lightning detection signatures, instability indices, convective hazards, nowcasting, atmospheric electric field

Fig. 16. Ref. 17.