HAIL PROCESSES AND THEIR DAMAGE TO AGRICULTURAL CROPS IN THE KRASNODAR REGION

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This study is devoted to the analysis of the factors of formation and spread of hail in the Krasnodar Territory in order to minimize damage to agriculture. In conditions of complex orography and a variety of atmospheric circulation processes, the development of hail clouds is caused by the passage of cold atmospheric fronts that intensify in the foothill and mountain regions. As part of the complex of measures of the active impact service on hydrometeorological processes, a long-term monitoring of hail using MRL-5 meteorological radars was carried out, covering data for 26 years (2000–2025). The analysis showed that the maximum number of hail days occurs in June, when the risk of crop damage increases, especially during the periods of leaf formation and flowering of grain and oil crops. The time of day with the highest hail activity is from 14:00 to 18:00 Moscow time, which corresponds to the most intense phase of hail cloud development. The study identified the most dangerous months and hours for hail events, which helps to plan anti-hail measures more accurately. The obtained data serve as a basis for formulating recommendations for intensifying active measures during peak periods of hail formation to protect agricultural crops in the Krasnodar Territory.

Keywords: hail, active impacts, agricultural crops, damage.