

STATISTICAL STRUCTURE AND ZONAL DISTRIBUTION OF RADIATION FROSTS ACROSS THE TERRITORY OF THE NORTH-WEST REGION OF THE RUSSIAN FEDERATION

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The paper presents the results of the analysis of the statistical structure and zonal distribution of radiation frosts across the territory of the North-West region for the period from 1966 to 2013. Evaluation of the space-time structure of radiation frosts has been carried out according to data of weather stations located in five regions with the most developed agricultural crop production - Vologda, Kaliningrad, Leningrad, Novgorod and Pskov regions. On the territory of the North-West region of Russia, there is a consistent inter-annual course of occurrence of radiation frosts in all areas, which is explained by the general weather conditions of the region. It has been found that the territory of the Vologda region and areas of the Tikhvin meteorological station of the Leningrad region, located far from large water reservoirs and characterized by a continental climate, are most prone to the frosts. The territory of the Kaliningrad region and the areas of the Vyborg meteorological station of the Leningrad region located on the coast are the least prone to the frosts. It is noted that in the last decade there has been a tendency to a decrease in the number of radiation frosts. On the territory of the North-West region of Russia, the occurrence of radiation frosts has a clearly pronounced seasonal character. On average, 60% of the frosts occur in spring, and 40% in autumn. Frosts in May and September occur annually and are noted at different intervals in all three decades of the months. The latest spring frosts were noted in June, the earliest autumn frosts - in August. According to the extreme dates of the onset of radiation frosts, the region can be divided into 3 zones: Leningrad-Vologda zone with regular occurrence of frosts in June and August, Pskov-Novgorod zone with single frosts in June and August and Kaliningrad zone with the longest frost-free period and single frosts in May and September.

Keywords: radiation frost, radiation cooling, frost-free period.