Секция 6

**FORMATION OF INFORMATION BASIS OF THE SYSTEM OF MONITORING OF ENVIRONMENTAL INFLUENCE IN COMPLEX RADIATION CONDITIONS OF FIRE LOAD**

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Recent years’ statistics show an increase in the number of wildfires which in turn lead to devastating consequences and sometimes even irreparable losses. Up to 400,000 forest fires occur annually on the planet, damaging about 0.5% of the total forest area [1]. The prevention and extinguishing of forest fires is one of the most urgent and important tasks in Ukrainian forestry. In dry years, fires cover large areas, causing direct material damage during the period of burning and smoldering, as well as indirect, which is manifested in the reduction of water management, protection, hygienic, aesthetic and climatic role of the forest. During the fire season, hundreds of forest fires occur daily in the territory of Ukraine. To determine effective response scenarios, forest fire dynamics and a model of combustion products (CP) emissions into the environment are required.

At the present stage of the fire science development, there are many researches in which, with the help of mathematical models, different aspects of forest fires are examined, their characteristic parameters, extension processes, and models of extinguishing are described. Studies in this area are also being conducted in Ukraine [2-5].

Despite the huge amount of information accumulated on forest fires and numerous and fruitful efforts aimed at experimental and theoretical study of the processes of their occurrence and scenarios, a simple, adequate and practically applicable model of CP emissions from the forest fire zone does not exist. Thus, the study of the mechanisms of CP formation caused by forest fires under complex radiation conditions of fire load formation is an urgent problem both from the point of view of population and ecological environment safety.

**References**

1. Kuzik A.D., Lagno D.V. (2019) Features of the process of fire elimination in radionuclide contaminated forests in the exclusion zone // Fire safety. № 34. P. 47-53.

2. Abramov Yu.A., Basmanov A.E., Tarasenko A.A. (2011) Modeling of fires, their detection, localization and extinguishing. - Kharkov: NUGZU. 927 p.

3. Abramov Yu.A., Tarasenko A.A. (2006) Formulation of the problem of optimization of parameters of management decisions for the elimination of landscape fire // Problems of fire safety. 2006. Iss. 20. pp. 207 - 209.

4. Krasnov V.P., Orlov O. O., Buzun V. About Applied radioecology to lisu: [monograph]. Zhytomyr: Polissya, 2007.680 p.

5. Young V.T. Radioecological consequences of forest fires. - Minsk, 1993.17 p.

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