

Original article

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## The Role of Applied Scientific Research in the Field of Forest Fire Protection during Climate Change

**Roman V. Kotelnikov<sup>1</sup>**

*Candidate of Technical Sciences*

**Mikhail E. Konyushenkov<sup>2</sup>**

**Alexander V. Bryukhanov<sup>3</sup>**

*Candidate of Biological Sciences*

**Abstract.** The article focuses on an objective assessment of the impact of climate change on the fire hazard of natural areas. Examples are provided to confirm that weather conditions are not always a key factor. Based on comparative data on the relative frequency of fires, as well as on the dynamics of the intensity of fire-hazardous seasons in the Russian Federation, the conclusion is substantiated that it is necessary to increase the effectiveness of measures to protect forests from fires. Against this background, a competent allocation of financial resources between such groups of work as fire prevention, monitoring and extinguishing can have a significant impact. The structure of financing recommended by the UN and actually established in Russia is given. The article describes the role of applied scientific research using the POD concept as an example. The basis of the POD concept is forest fire zoning, the boundaries of which are defined by features most convenient for fire localization (e.g., ridge tops, rivers, lakes and roads) that can be used to reliably contain wildfire or qualitatively prepare for prescribed burning. The publication also provides an assessment of the influence of various weather and climate factors on the accuracy of forest fire forecasting. Statistical forest fire data on the dynamics of the intensity of fire seasons, relative area burned and fire frequency are presented, and an assessment of how this information correlates with the actual costs of extinguishing in Russia, as well as with the UN recommended parameters is given. It is concluded that the situation with fires in the natural environment (forest, steppe, peat, tundra and etc.) will only become more complicated over time and, therefore, more funds should be invested in forest fire prevention, planning and applied research, as these activities can significantly reduce the costliest categories associated with fires: extinguishing and consequence management.

**Key words:** forest fires, wildfires, intensity of the fire season, fire danger, relative area burned, applied scientific research.

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<sup>1</sup> Center of the Forest Pyrology, the branch of Russian Research Institute for Silviculture and Mechanization of Forestry, Director (Krasnoyarsk, Russian Federation), [kotelnikovrv@firescience.ru](mailto:kotelnikovrv@firescience.ru)

<sup>2</sup> Russian Research Institute for Silviculture and Mechanization of Forestry, Deputy Director (Pushkino, Moscow region, Russian Federation), [4x4drive@mail.ru](mailto:4x4drive@mail.ru)

<sup>3</sup> Center of the Forest Pyrology, the branch of Russian Research Institute for Silviculture and Mechanization of Forestry, Head of Laboratory of Forest Pyrology (Krasnoyarsk, Russian Federation), [bryukhanovav@firescience.ru](mailto:bryukhanovav@firescience.ru)