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Long-range forecasting of forest fire danger index based on PLAV model outputs

V. Khan

Hydrometeorological Research Centre of the Russian Federation, Department of Long-range Forecasting, Moscow, Russian Federation (valentina_khan2000@yahoo.com)

It is well known that the forest fire is natural disaster with the fast spreading and encompassing large territories. It is believed that occurrence of forest fires can be connected in two-way direction with climate change conditions. For effective work to prevent and liquidate forest fires and its consequences it is necessary to have effective system of direct and distant monitoring, and reliable prediction system to forecast fire danger risk. In this investigation, the long-range forecasting scheme of forest fire danger has been proposed. This approach is based on using forecasted precipitation and temperature data from hydrodynamical model PLAV and Nesterov index. To develop forecast scheme the climate snow cover information has also been used. It is proposed to use instead of traditional 5 classes of fire danger risk the 3 gradation, namely “above norm”, “near norm”, “below norm”. Results of verification using hindcast data for 6 years were shown. The approaches to improve long-range forecasting of forest fire danger were discussed.