Geophysical Research Abstracts
Vol. 16, EGU2014-4433, 2014
EGU General Assembly 2014

Environmental impact assessment of peat fires on the water quality in Western Siberia

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Each year, on the earth arises to 4,000,000 fires, damaging about 0.5% of the total forest area and released into the atmosphere millions of tons of products of combustion. At present in the Russian Federation fires in drained marsh areas acquired catastrophic proportions and have become a real environmental disaster. They arise, and covering a large area, causing not only the destruction of fertile soils, but also a haze of cities and towns. The problem of forest and peat fires is also very relevant for the Tomsk region. As practice shows, the number of separate fires, or large-scale fires, not decreasing year by year, despite improvements in forecasting systems of forest fire danger. Since 1989, there was a strong trend towards increasing the number we burn forests and destructive crown fires. In recent years fires occur in more outlying and boggy territory, complicating delivery technology for their localization. Thus, the problem of forecasting and extinguishing fires remains open. On the second place is the problem of the influence of forest and peat fires on the ecological situation in the region and assess recovery area after the fire. As shown by studies conducted in the area of burned bog in Iksa River Basin (Tomsk region), peat fires determine the appearance of high concentrations of organic matter (COD 189.7 mgO / l) and some heavy metals in the bog waters. Combustion of peat deposits facilitates transition lead to more mobile forms by complexation with humic substances swamp waters. As a result, burns noted a high level of lead (0.015 mg / L) is 25 times higher than background typical of bog water. Preliminary studies have shown that the problem of fires and their implications on ecological situation in region is especially unpleasant due to bad transport access certain areas of fire risk and fire hazard assessment requires new approaches and detailed studies. In our opinion, the basis for assessing fire hazard area must be put to a specific list of features natural landscapes, which should include an evaluation of the probability of occurrence and spread of fire.