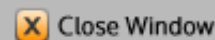




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CONTROL ID: 1493386**TITLE:** Fire Impact on Carbon Emissions on Logged and Unlogged Scots pine Forest Sites in Siberia

ABSTRACT BODY: Fires cover millions ha of boreal forests of Russia annually, mostly in Siberia. Wildfire and forest harvesting are the major disturbances in Siberia's boreal zone. Logged areas appear to be highly susceptible to fire due to a combination of high fuel loads and accessibility for human-caused ignition. Fire spreading from logging sites to surrounding forest is a common situation in this region. Changing patterns of timber harvesting increase landscape complexity and can be expected to increase the emissions and ecosystem damage from wildfires, inhibit recovery of natural ecosystems, and exacerbate impacts of wildfire on changing climate and on air quality. Fire effects on pine stands and biomass of surface vegetation were estimated on logged and unlogged sites in the Central Siberia region as a part of the project "The Influence of Changing Forestry Practices on the Effects of Wildfire and on Interactions Between Fire and Changing Climate in Central Siberia" supported by NASA (NEESPI). Fires occurring on logged areas were typically of higher severity than those in unlogged forests, but the specific effects of fire and logging varied widely among forest types and as a result of weather patterns during and prior to the fire. Consumption of surface and ground fuels in spring fires was 25% to 50% of that in summer fires. Estimated carbon emissions due to fire were 2-5 times higher on logged areas compared to undisturbed sites. Post-fire soil respiration decreases found for both site types partially offset carbon losses. Carbon emissions from fire and post-fire ecosystem damage on logged sites are expected to increase under changing climate conditions in Siberia.

CURRENT SECTION/FOCUS GROUP: Global Environmental Change**CURRENT SESSION:** GC019. Environmental, Socio-economic and Climatic Change in Northern Eurasia and Their Feedbacks to the Global Earth System**INDEX TERMS:** [1610] GLOBAL CHANGE / Atmosphere, [1632] GLOBAL CHANGE / Land cover change, [0468] BIOGEOSCIENCES / Natural hazards.**AUTHORS/INSTITUTIONS:** G. Ivanova, E. Kukavskaya, A. Bogorodskaya, , V.N. Sukachev Institute of Forest, Krasnoyarsk, RUSSIAN FEDERATION;
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Build date Aug 07, 2012 12:22:26. Server tss1be0013