



Understanding Fire Patterns and Fuel Consumption in Russian Forests: Progress and Challenges

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Research conducted over the past 20 years has greatly changed our understanding of the extent, patterns, and impact of wildfire in the forests of Russia. The availability of remote sensing data at various scales has been essential to improvements in burned area estimates, and has allowed us to develop a new 30-year record of burned areas in Russia. Fire scar data in selected regions has provided information on fire-climate interactions over the past several centuries. And field data from experimental fires and from wildfires has provided essential information on fire behavior, fuel consumption, and ecosystem fire effects. In this presentation we discuss the historical development of improved data on burned area, fuel characterization and fuel consumption. We will emphasize the impacts of inaccuracies in source data on burned area and fire regimes, vegetation, fuels, fuel consumption, and other factors. We present model results using the Canadian BorFire to develop annual estimates of fuel consumption and emissions for the Asian part of Russia. Potential interactions of fire with large-scale atmospheric patterns appear to be an important factor in determining occurrence and timing of large fire outbreaks, and changes in these patterns are likely to drive future changes in fire regimes. Data will be presented to illustrate these effects. The presentation will conclude with a summary of the current status of knowledge and ongoing research needs.