

**Satellite detection of biomass burning NO<sub>x</sub> emissions in Siberia for the period 1998-2004**

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Wildfires in boreal forests including Siberia and Alaska have substantial contribution to biomass burning in global scale. Previous papers reported emissions of CO, CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>3</sub>Cl, and H<sub>2</sub> from biomass burning from Siberia. However, emissions of nitrogen oxides, which are one of the most important precursors for ozone formation in the troposphere, have not systematically examined. We made use of satellite observations from space (e.g., GOME and SCIAMACHY) to detect the emissions of NO<sub>x</sub> from boreal fires in Siberia and subsequent impacts on distributions of NO<sub>2</sub>. A global chemistry-transport model was used to quantitatively assess the impacts on photochemical production of ozone, with comparison to long-term measurements at the surface sites in the northern hemisphere.