Geophysical Research Abstracts
Vol. 21, EGU2019-12173, 2019
EGU General Assembly 2019
© Author(s) 2019. CC Attribution 4.0 license.

Fire history of Scots pine forests in the Zabaikal region, Siberia

Elena Kukavskaya (1), Dmitry Ovchinnikov (1), Ludmila Buryak (2,1), Sergey Zhila (1), and Kirsten Barrett (3)

(1) VN Sukachev Institute of Forest, Laboratory of forest fires, Krasnoyarsk, Russian Federation (kukavskaya@ksc.krasn.ru), (2) The Branch of FBU VNIILM "Center of the forest pyrology", Krasnoyarsk, Russian Federation, (3) University of Leicester, Leicester, UK

The Zabaikal region in the south of Siberia is characterized by one of the highest fire activity in Russia due to both high levels of disturbance and regional climate. Repeated fires with periodicity significantly less than is required for the ecosystems to recover to their prefire state increased in the Zabaikal region over the last decades. We examined Scots pine-dominated stands that are the most burning forest type in the region. To study fire history, we collected samples from more than 150 trees in 20 sites. Cross-dated tree-ring chronology extended from the year 1770 to 2018 and included 94 fire years. In total 518 fire scars were recorded with some trees recorded up to 15 fire scars over 110 years period. Site-level fire return intervals ranged between 4-48 years. Single-site fires account 46% of all fire events, while 28% are fires registered at 3 and more sites. Preliminary fire-climate analysis revealed that years with highest fire activity were associated with droughts in the fire year and in the preceding year.