

Original article

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Siberian Pine's Radial Growth Features in a Changing Climate of the Khamar-Daban Mountain Range

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Abstract. The study investigates reaction of Siberian pine *Pinus sibirica* Du Tour radial growth to changing climatic conditions of the Khamar-Daban mountain range (southwest of Lake Baikal) using dendrochronological methods. Field work was carried out in the summer of 2020. Four sampling plots in the form of 50 m length route were laid. Forest stands were described in details on every plot. Time series of Siberian pine tree-ring width (TRW) were built and after statistic processing annual growth indices were obtained. For climatic analysis data of Khamar-Daban and Babushkin weather stations as well as the Baikal Reserve nature chronicles were examined. The tree-ring width dependence on climatic indicators was determined. In the study area there are no one highly expressed limiting factor, thus the climatic signal is weak. Nevertheless, TRW responds and correlates with the temperature of June and precipitation of May and August–September. Anomalies in the annual rings structure in the form of a double ring, which have become more frequent in recent decades, are revealed. This double growth indicates that the growing season duration enlarges due to increasing autumn temperatures.

Key words: Siberian pine, radial growth, tree-ring width, annual rings structure anomalies, climate change, Khamar-Daban.

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