

Original article

DOI 10.24419/LHI.2304-3083.2023.1.01

## Specific Features of Climatic Signal in Chronologies for Stands from Different Parts of Russian Plain

**Natalia S. Vorobyova**<sup>1</sup>**Denis E. Rumyantsev**<sup>2</sup>*Doctor of Biological Sciences*

**Abstract.** Currently, dendroclimatic studies of the growth of the main forest-forming species have become relevant in connection with the problem of global climate warming and the forecast of the response of forests to these processes. The variability of the growth of the scattered vascular species of the Russian plain is relatively poorly studied in comparison with coniferous and ring-vascular species. In the course of the performed studies of the dynamics of the radial growth of aspen, it was found that the nature of the influence of meteorological parameters on the dynamics of aspen growth has a clearly defined regional specificity. In severe winter conditions (Molokchinsky Nature Reserve, Sergiev Posad district, Moscow region), there is a positive reaction of growth to elevated temperatures in January and February of current year in the Central Forest Reserve (Tver region). A specific reliable correlation of the growth increase with April temperatures was noted. In the most arid conditions of the Mordovian Nature Reserve (Republic of Mordovia), a pronounced negative effect on the growth of aspen was established for the increased air temperatures of the summer months (June, July, August) of previous year. The study showed a high probability of degradation of aspen forests if the air temperatures of the summer months will increase.

**Key words:** aspen, dendrochronology, dendroclimatology, forecast the response of aspen forests to global warming

**For citation:** Vorobyova N., Rumyantsev D. Specific Features of Climatic Signal in Chronologies for Stands from Different Parts of Russian Plain. – Text : electronic // Forestry information. 2023. № 1. P. 5–16. DOI 10.24419/LHI.2304-3083.2023.1.01

<sup>1</sup> Mytishchi Branch of the Bauman Moscow State Technical University, Postgraduate Student (Mytishchi, Moscow region, Russian Federation), vorobyeva@bmstu.ru

<sup>2</sup> Mytishchi Branch of the Bauman Moscow State Technical University, Associate Professor, Professor (Mytishchi, Moscow region, Russian Federation), dendro@mgul.ac.ru