

Original article

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## Variability of Growth of *Pinus Sylvestris* L. Trees on Upper Peat Soils in the Valley of the Kem River

**Ekaterina A. Pinaevskaya**<sup>1</sup>

*Candidate of Biological Sciences*

**Sergey N. Tarkhanov**<sup>2</sup>

*Doctor of Biological Sciences*

**Grigoriy S. Potapov**<sup>3</sup>

*Candidate of Biological Sciences*

**Abstract.** The results of studies of tree growth in pine forests of dwarf shrub-sphagnum in the valley of the Kem River (Republic Karelia) are considered. The studies were carried out on the basis of morphometric measurements (tree height, trunk diameter, crown length and diameter) and wood cores samples taken for dendrochronological analysis from 25 pine trees aged 120–140 years. We used data on air temperature and precipitation from the Kem-Port weather station to identify the reactions of pine radial growth to changes in climatic indicators. The average value of the radial growth of *Pinus sylvestris* L. is 1,36 mm and the growth in the area of the ring is 2,27 cm<sup>2</sup>. The dynamics of these indicators is similar. The maximum radial growth rates are observed at an older age (2,25 mm). To assess the complex influence of environmental factors on the growth of trees, the cyclical fluctuations in the radial growth of pine were revealed. Low values of the correlation coefficient of radial growth with meteorological parameters (average annual air temperature and annual precipitation) were established for the entire observation period. For 2000–2016 revealed a positive effect of the amount of precipitation (for the year and the growing season) on the value of the increase in the diameter of the trunk in trees under conditions of constant excessive soil moisture.

**Key words:** scots pine, dwarf-sphagnum pine forests, radial growth of trees, morphometric parameters, climatic indicators.

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<sup>1</sup> N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences, Senior Researcher of Laboratory of Subarctic Forest Ecosystems (Arkhangelsk, Russian Federation), aviatorov8@mail.ru

<sup>2</sup> N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences, Head of Laboratory of Ecology of Subarctic Forest Ecosystems (Arkhangelsk, Russian Federation), tarkse@yandex.ru

<sup>3</sup> N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences, Leading Researcher of Laboratory of Subarctic Forest Ecosystems (Arkhangelsk, Russian Federation), grigorij-potapov@yandex.ru