

Dendroclimatic research on Scots pine growing under the conditions of the raised bog in the Volga-Kama region, Russia

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. The radial growth dynamics of Scots pine in a large raised bog located in the territory of the Volga-Kama Nature Reserve, Republic of Tatarstan, has been studied. The master chronology correlated positively with the total amount of precipitation in January and negatively with the mean monthly temperature in June. Based on a complex analysis of temperature and precipitation in different months using hierarchical regression trees, three scenarios resulting in increased, average, and decreased radial growth have been suggested.

<http://dx.doi.org/10.1088/1755-1315/107/1/012083>

References

- [1] Vaganov E A, Shiyatov S G and Mazepa V S 1996 Dendroclimatic Study in the Ural-Siberian Subarctic (Novosibirsk: Nauka) 246
- [2] Komin G E 1990 Lesovedenie 2 11
- [3] Shiyatov S G 1986 Dendrochronology of the Upper Forest Border in the Urals (Moscow: Nauka) 137
- [4] Mazepa V S 2005 Can. J. For. Res. 35 91
- [5] Shiyatov S G 2003 Pages News 11 10
- [6] Baranov V I 1947 Bogs and Peatlands of Tataria (Kazan: Tatgosizdat) 76
- [7] Boch M S 1979 Ecosystems of Bogs in the USSR (Moscow: Nauka) 188
- [8] Kolobov N V 1968 Climate of Middle Volga Region (Kazan: Izd. Kazan. Univ.) 253
- [9] Shiyatov S G, Vaganov E A, Kirdeyanov A V, Kruglov V B, Mazepa V S, Naurzbaev M M and Khantemirov R M 2000 Methods of Dendrochronology. Part I. Basics of Dendrochronology. Sampling and Obtaining Data from Annual Rings (Krasnoyarsk: KrasGU) 80
- [10] Rinn F 2005 TSAPWin - Time Series Analysis and Presentation for Dendrochronology and Related Applications, Version 0.53, User Reference (Heidelberg) 91
- [11] Bunn A G, Korpela M, Biondi F, Campelo F, Merian P, Qeadan F and Zang Ch 2012 dplR: Dendrochronology Program Library in R. R Package Version 1.5.6 <http://CRAN.R-project.org/package=dplR> - ref-separator -
- [12] Breiman L, Friedman J H, Olshen R A and Stone C J 1984 Classification and Regression Trees (Monterey, CA: Wadsworth & Brooks/Cole) 368
- [13] Therneau T M, Atkinson B and Ripley B 2011 rpart: Recursive Partitioning. R Package Version 3.1-50 <http://CRAN.R-project.org/package=rpart> - ref-separator -
- [14] R Development Core Team 2011 R: A Language and Environment for Statistical Computing (Vienna, Austria: R Foundation for Statistical Computing) <http://www.R-project.org> - ref-separator -