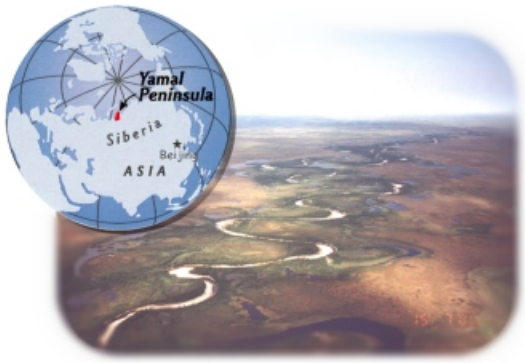
EXTREME TEMPERATURE EVENTS IN NORTHWEST SIBERIA SINCE 100 BC

INFERRED FROM TREE RINGS

Rashit Hantemirov, Ludmila Gorlanova

Institute of Plant and Animal Ecology, 8 Marta 202, Ekaterinburg, 620144, Russia



The analysis of anomalous structures in tree rings provides a promising method for reconstructing extreme temperature events (frosts and abrupt temperature declines during the growing season) in times before the advent of instrumental meteorological observations.

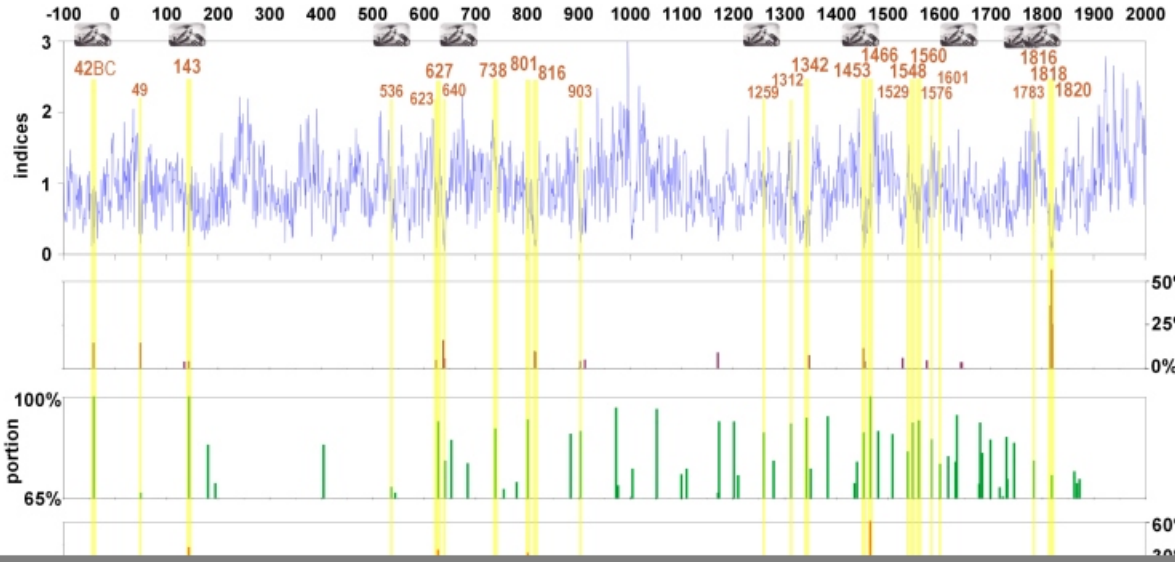
Siberian larch near polar tree line

To construct 2100-year length chronology the wood of living and subfossil larches (*Larix sibirica* Ledeb.) near the polar tree line in northwest Siberia (Yamal Peninsula) have been used.

Subfossil wood in alluvial deposits

We used two types of micro-anatomical trace in the wood - light and frost rings, as well as missing and narrow tree rings.

Most outstanding extreme years in northwest Siberia, 100BC - AD2004

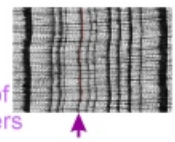


ring width

reflects summer temperature

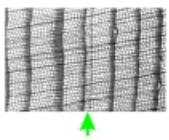
missing rings

give evidence of very cold summers



light rings

indicate cold july-august



frost