

From: Rashit Hantemirov <rashit@ipae.uran.ru>
To: Keith Briffa <k.briffa@uea.ac.uk>
Subject: Yamal treeline figures
Date: Mon, 9 Oct 2000 18:08:04 +0500
Reply-to: Rashit Hantemirov <rashit@ipae.uran.ru>

Dear Keith,

Stepan Shiyatov tell me that you need some figures concerning Yamal chronology and tree line dynamics to show somewhere in France.

Attached are archived files contained some figures.

File MAP - the map of region of research. Red dots - subfossil wood sites, green marks - recent northern border of larch along river valleys.

File FIGURES - in Excel format, contains several figures.

Sheet "Values-10" - data on northernmost position of trees and number of trees dated for corresponding year (decadal step)

Sheet "Treeline" - dynamics of treeline in Yamal during last 7000 years reconstructed using about 1000 subfossil wood remains. Recent treeline position is about 67°34'.

One year ago we supposed (C-14 data, Hantemirov, Shiyatov 1999) that significant drop of treeline (the transition from "middle" to "late" Holocene) was about 1700-1600 AD. According new data it was earlier (about 2550 BC). May be it is because of lack of data from region northward of 68°N (only 25 datings)?

Sheet "Treeline and Nu" - treeline dynamics and number of dated trees. May be number of trees reflects the long scale climate fluctuations as well.

Sheet "2600-all" - for last 4600 years: treeline dynamics, number of trees, 11 most cold summers for last 7000 years (according our version of reconstruction), most expressed frosts in July (reconstructed using junipers from Polar Urals, see file PATHOL, frost in 1626 BC - based on subfossil larch - you can put away it), summer temperatures reconstruction smoothed with 20- and 100-year filters (our version of reconstruction).

Sheet "Values-2" - values for preceding figures, in 2-years step.

Sheet "Yam-Ur-fig" - comparing of treeline data for Yamal and Polar Urals upper treeline dynamics (data by S.G. Shiyatov)

Sheet "Yamal-Ural" - values for preceding figure, in 2-years step.

Sheet "Treeline-std" - treeline dynamics and 50-year standard deviations of summer temperatures (our version of reconstruction). This figure shows surprising high negative correlation. However may be both of them just reflect long scale climate fluctuations?

Sheet "Std" - 50-year standard deviations of summer temperatures (our version of reconstruction) .

File PATHOL - in Excel format, contains data and figure on pathological structures in tree rings of Siberian juniper (*Juniperus sibirica* Burgsd.). According our data (Hantemirov et al., 2000) the presence of frost rings provides evidence for frosts that occurred in late June or first days of July (frost rings in earlywood) and in the first half of July (frost rings in late wood). Long term and pronounced temperature drop in the middle of very warm period in the second half of July is the factor responsible for wood density fluctuations (false rings).

Please let me know when you receive this. Some time large messages get lost.

P.S. We (Eugene Vaganov, Stepan Shiyatov, Leonid Agafonov and I)

will be in Birmensdorf from 23 till 29 October. Are you going to Switzerland after your meeting? We would be happy to see you there.

Best regards,
Rashit M. Hantemirov

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Attachment Converted: "c:\eudora\attach\Map.zip"

Attachment Converted: "c:\eudora\attach\Figures1.zip"

Attachment Converted: "c:\eudora\attach\Pathol.zip"