

# International conference of young scientists “Land-Ocean-Atmosphere Interactions in the Changing World”

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Vistula Spit, a sandy stretch of land between the Baltic Sea and the Vistula Lagoon, was a perfect place to discuss interactions between land, ocean and atmosphere. The Young Scientists Meeting was initiated under the umbrella of the International Geosphere-Biosphere Programme (IGBP) and co-sponsored by PAGES and the Scientific Committee on Oceanic Research. The conference organization was a joint effort of three institutions within the Russian Academy of Sciences: the Institute of Geography, the P.P. Shirshov Institute of Oceanology and the A.M. Obukhov Institute of Atmospheric Physics. The conference was hosted by the Institute of Oceanology at the Field Research Station “Baltic Spit”.

The conference attracted 79 early career and 11 established scientists from 10 countries interested in climatic, environmental and socioeconomic aspects of global change on modern and paleo timescales. It provided a great opportunity for extensive discussion and international networking between young scientists and high-level experts.

Land-Ocean-Atmosphere interactions in the context of global changes were discussed in four sessions on (1) monitoring changes and (2) understanding the mechanisms of interaction, (3) social problems in the changing world, and (4) reconstruction and forecast of climate and environmental changes. The sessions started with invited lectures from senior scientists and were followed by oral and poster presentations of young scientists. Additionally to the scien-

tific lectures, the directors of two international projects T. Kiefer (PAGES) and A. Ressel (iLEAPS) presented overviews of their projects’ activities and the opportunities for young scientists.

In the paleoscience session, A. Pospieszyska presented optical density analyses of wood from living trees and historical buildings, and characterized pre-instrumental climate in Poland. O. Maksimova reported on tree-ring research from the upper tree line in Tien Shan Mountains. Maximum density correlates with summer temperatures and allowed reconstructing June-August temperatures for 1650-1995 AD. V. Matskovsky presented two new absolutely dated tree-ring width chronologies from the Vologda region (1195-2009 AD, Fig. 1) and the Solovki islands (1187-2008 AD). Both chronologies correlate significantly with European Russian high-resolution temperature reconstructions from pollen and historical data, and with Northern Hemisphere summer temperatures.

I. Bushueva presented high-resolution reconstructions of mountain glacier variations in the Caucasus over the last 400 years. I. Sokolov discussed changes of glaciers on the Franz Josef Land archipelago. U. Pączek aimed to identify short-term climatic oscillations in sediments from the Gulf of Gdańsk (southern Baltic Sea). The data reveal great variability in sediment composition that indicates sensitivity to regional climatic and local hydrodynamic conditions. A. Dolgikh described his work on soil horizons in the habitation depos-

its of ancient cities of European Russia. E. Kotlovanova and colleagues inverted 87 borehole temperature profiles (67 from Urals, 20 from Eastern Europe) into ground surface temperature histories. Temperature minima between 1700 and 1900 AD were followed by climate warming.

R. Przybylak and P. Wyszyski compared the meteorological conditions in the Arctic during the 1<sup>st</sup> International Polar Year (1882/83) with data from the period 1961-1990 AD. Meteorological conditions during the early instrumental period were not significantly different from the later 20<sup>th</sup> century.

Further presentations were given on geological evidence from Sicily about the Messinian salinity crisis (A. Rybkina), coastal dynamics of Cheleken peninsula (R. Kurbanov), alongshore currents at the eastern Pacific margin (M. Kladovschikova) and fluctuations of Baltic Sea level (E. Kochetkova).

The plenum of young scientists awarded the most enthusiastic young scientist Igor Kozlov (Russia) with a “dream house” candlestick. His presentations were dedicated to using Synthetic Aperture Radar satellite data for oceanographic studies. Aleksandra Pospieszyska (Poland, see above) received the same gift as an award for her excellent presentation from the established scientists.

## Reference

Mann ME and Jones PD (2003) *Geophysical Research Letters* 30(15), doi: 10.1029/2003GL017814

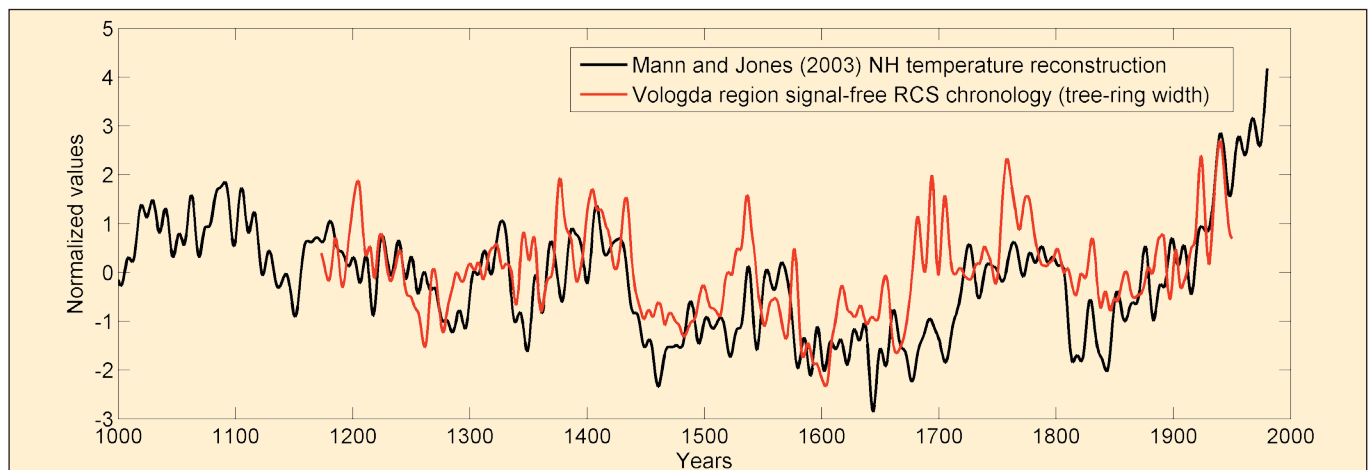


Figure 1: Comparison of Vologda region (60°N, 38°W) signal-free Regional Curve Standardization (RCS) tree-ring width chronology (red) with the Mann and Jones (2003) northern Hemisphere (NH) temperature reconstruction (black) (Correlation  $R=0.59$ ). The Little Ice Age is well pronounced during 1450-1660 AD.