

RECONSTRUCTION OF THE LATE VISTULIAN AND HOLOCENE PALAEOENVIRONMENTAL CHANGES IN POLAND

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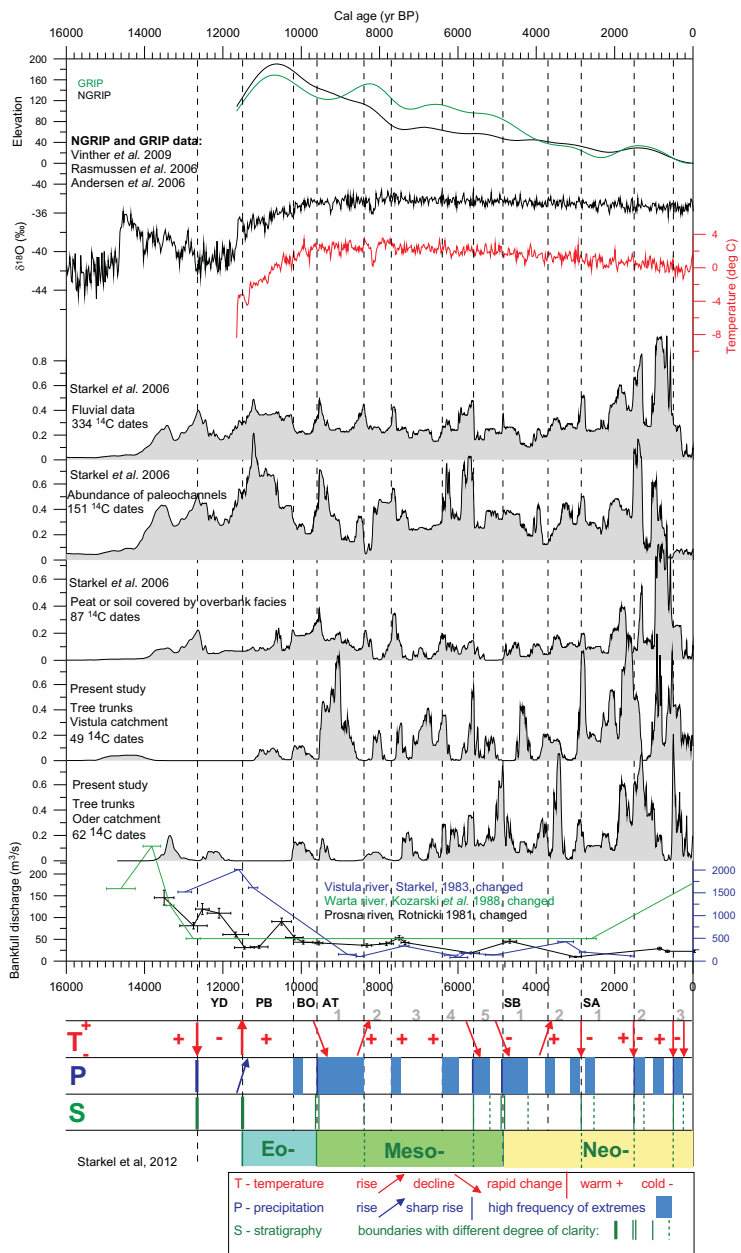
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Our earlier research showed that analysis of frequency distributions of big sets of calibrated dates is helpful in reconstruction of chronostratigraphic boundaries (Michczyńska & Pazdur 2004; Michczyńska et al. 2007; Starkel et al. 2012). Especially well visible here are wetter phases marked by sharp begin.

This poster presents preliminary results of new research in comparison with earlier published data for fluvial samples. Figure on the left shows results for the following sets:

- Samples from river valleys, connected with changes in the fluvial regime - mainly floods (Fluvial data and two subsets: abundance of paleochannels and peat or soil covered by overbank facies).

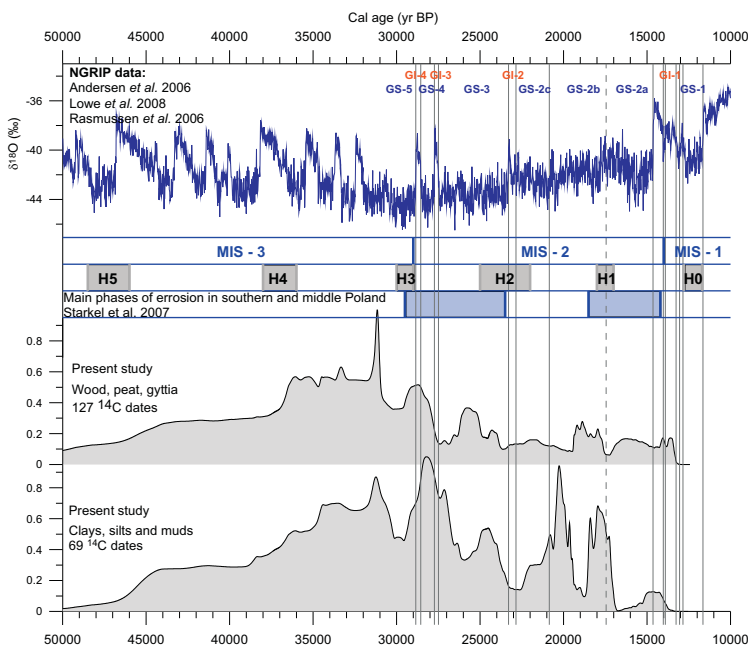
- New results for tree trunks (outer rings, mainly "black oaks") found in alluvial sediments of two main Polish rivers Vistula and Oder.

Moreover below (in the same figure) is presented a graph of changes in bankfull discharges of three Polish rivers: Vistula, Warta and Prosnia. This graph is based on literature data, but they were recalculated on calibrated radiocarbon time scale. On the top of the figure Greenland ice core data are presented. The lowest part of the figure presents information about changes in temperature, precipitation and stratigraphy (summarized on the base of stratigraphy for numerous investigated sites, palynological diagrams and paleohydrological reconstructions; Starkel et al. 2012). There are marked also proposed boundaries of chronozones.

It is worth to stress that the distribution for trunks from Vistula river valley clearly shows wetter phase period at the beginning of Atlantic (AT1). This phase is well marked also in graphs for fluvial data, and in stratigraphy. It well corresponds with the fact that at about 9600 cal BP together with a rapid melting of Laurentide ice sheet was created a free way for westerlies and humid air masses expanded over Europe and Siberia with heavy rains and floods as well with Atlantic forest species (Starkel, 1999).

Results for samples older than 10 ka cal BP are presented below. Large age uncertainties of samples older than 20 kyr are impediments to receive good resolution in reconstruction of environmental changes for this time period. This data need further analysis.

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