paleoreconstructions revealed presence of natural cycles with periods of ~ 100, ~200, ~ 460, and ~ 990 years. Comparison of the of Lake Shira level reconstruction with the low-frequency component of solar activity (Sun spots number) shows a significant correlation (the correlation coefficient is +0.64) over a time interval of the last three centuries (1670–1980).

PALAEOENVIRONMENTAL MESSAGES FROM MOUNTAIN LAKES OF EASTERN SIBERIA

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Sedimentary records from mountain lakes of eastern Siberia provide insight into palaeo-environmental changes over the late Pleistocene to Holocene, as revealed by palaeolimnological multiproxy approaches on the basis of sedimentological, geochemical, and micropalaeontological data series (diatoms, chironomids, pollen, palynomorphs).

Lake Billyakh in the central Verkhoyansk Mountains existed during the last 50 ka and was formed by tectonic and deglacial processes. Our lake record suggests final deglaciation around 35 ka BP in association with a high lake-level stage during the Karginian interstadial. Geomorpho-logical findings, however, point to earlier deglaciation already sometime after 85 ka BP. Karginian warming with muted signs of millennial climate variability is documented by short-term lake-level fluctuations and vegetation dynamics (40-31 ka BP). The Sartanian glacial stage was characterized by low lake level and colder and dryer conditions, followed by Holocene climate amelioration and lake-level rise after 11.5 ka BP.

Another palaeolimnological record comes from Lake Bolshoe Toko in southeastern Yakutia, Russia. The lake occupies a basin at the foot of the northern slope of the eastern Stanovoi mountain range. At its north-eastern margins the lake is bordered by moraines of three different glacial sub-periods. First findings from sediment cores reveal a glacial advance during the last glacial maxi-mum, which likely did not affect the whole lake, as former glaciations did. Postglacial development was characterized by a lake-level lowering during the mid-Holocene by at least six metres.

The overall climate history of eastern Siberia is consistent with trends across the higher northern hemisphere, while the sequence of mountain glaciation is out of phase with the global ice-volume pattern, possibly because of complex atmospheric moisture routing effects, which so far are poorly understood for eastern Siberia.

REFERENCE

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