hydroclimate from individual sites, and stacked records were developed from sites in the Great Lakes region (n=4) and Maine (n=3). When viewed in conjunction with other continental records of late Holocene hydroclimate (e.g., tree-ring record from western United States) this network provides a regional-to-continental scale view of past moisture variation in North America spanning the past 3000 years. The records reveal that droughts during the Medieval Climate Anomaly and during the late 16th century were more widespread than previously recognized, extending from the western United States to Maine. Droughts spanning multiple decades with similarly widespread footprints have not occurred during the past century. Comparison to proxy sea surface temperature (SST) records and modeling studies suggests that anomalous SSTs in the Atlantic and Pacific may have contributed to the widespread droughts, although a full explanation requires additional research. Peatland archives are well suited to studies of past drought variability, and their wide distribution at mid-to-high latitudes in the northern and southern hemispheres make them particularly useful in multi-archive syntheses of hydroclimate variation at hemispheric-to-global scales.

MICROMAMMAL FOSSIL RECORD AS A PALEOClimATE PROXY: A PERSPECTIVE FROM THE URAL MOUNTAINS

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The Urals is a mountain system in the middle of Eurasia stretching meridionally from the Arctic coast to Kazakhstan. Cave deposits in the region yield numerous remains of Quaternary micromammals (the oldest assemblage known is not older than Mikulkino Interglacial). Micromammalian remains provide paleoenvironmental and paleoclimatic evidences at a number of levels. First, major vegetation types can be identified based on faunal successions (regional and continental scale). Second, proportional representation of zonal and intrazonal faunal elements and local environmental conditions are indicated. Third, the possible human impact could be identified. Along with faunal successions and presence-absence data for a particular taxa, certain climatic and morphological correlates in the model species might provide a clue to climatic circumstances under which the extinct populations had existed. Morphological and ecological correlates in animals have traditionally received much attention. Nowadays, popularity of the global climate change problems provides a temptation to interpret relationships between morphology and environmental variables as paleoclimatic proxies. We present the study based on model species occurring in the Urals (M. arvalis, M. gregalis) and consider our results with respect to the problem of climate proxies. We conclude that caution is needed when interpreting morphological patterns because climatic factors explain only a small portion of dental variability, and mechanisms that cause relationship among climate and morphology are not clear yet. To better understand the pattern of that relationship in micromammals, greater rigour is necessary in testing temporal vs. spatial hypotheses, and in the establishment of the widest possible comparative data base on modern species. Causal studies linking morphology with development and with population aspects of variability in modern species are necessary to increase the resolute power of morphological clues to climate when dealing with micromammals.

QUATERNARY BIOSTRATIGRAPHY AND BIOCHRONOLOGY OF THE WEST SIBERIAN PLAIN: TRANS-REGIONAL AND TRANS-ZONAL CORRELATIONS

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The West Siberian plain formed by the Trans-Ural peneplain that to the east transforms into accumulative plain is one of the largest plains in the World providing opportunity to assess both the climatic gradients and the differences in geological history reflected in sedimentation characteristics. The lithofacies zones established for the region are as follows: Arctic (glacimarine beds), Northern (glacial), Central (periglacial), and Southern (non-glacial). There are two regional stratigraphic schemes developed for the region - The Urals and Trans-Urals (Stefanovsky, 1997) and Unified Stratigraphic scheme for the territory of Western Siberia (2000). Geographic position of the region makes it crucial to correlate the two regional schemes with each other and with the regional schemes developed in other regions. The main source of materials for biostratigraphic and biochronological purposes is represented by fluvial and lacustrine- and-fluvial deposits; in the Trans-Urals additional data could be found in karst cavities. We present the results of the paleo-botanical (palynological and carpological), paleoentomological studies along with analysis of micromammal assemblages aimed to correlate the stratigraphic schemes at trans-regional and trans-continental levels along with correlations with European schemes. The complex approach to analysis provides an opportunity to make biostratigraphic method more precise and gives a more comprehensive view on the paleocommunity structure. The West Siberia represents a region that allows one not only to trace the faunal successions within the climatic zones but also to correlate the data from the territories that differ significantly in environmental conditions due to pronounced climatic gradient that is reflected in latitudinal zonality.

THE RECONSTRUCTION OF A BURIED MAAS RIVER LANDSCAPE NEAR LOMM (LIMBURG, THE NETHERLANDS), USING A MULTI-DISCIPLINARY APPROACH; GEOMORPHOLOGY, VEGETATION AND HUMAN HABITATION

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In the southeastern part of The Netherlands large water basins are being constructed as a passage for the Maas river during high-water levels. Archaeological excavations have been therefore carried out at this location since 2003. The archaeological research shows that the Maas terraces were more or less continuously inhabited since the late Palaeolithic. However, most archaeological remains date from the Iron Age and Medieval times. The distribution of the archaeological remains is closely related to the geomorphology of the area. Most remains were found on the higher terraces or their slopes, at a short distance to the Maas river. An unique find was made in the form of a mid-Iron age cemetery and rectangular cult-place, which was identified in the lower area close to the river. In order to make a reconstruction of the past landscape different geoarchaeological methods were applied; geomorphological, micromorphological and botanical analyses. AMS 14C and OSL dating also provided an accurate chronology for the sediments. Our results suggest that due to climate amelioration many former braided river channels were deepened during the early Holocene. Later, river flow concentrated in one main river channel to the west, at the location of the modern Maas. The other channels were only active during floods and infilling continued until the Bronze Age. Because of the higher setting of the terrace, it was occasionally flooded and formed an excellent location for habitation. The area was densely forested, initially with birch and pine, but later mixed oak-woodlands developed. Due to human activities from the Iron Age onwards, woodland areas slowly became more open, yet remained relatively dense in comparison to other Dutch areas. Due to large-scale deforestation during the Roman and Medieval periods the sediment load of the river increased, large floods occurred and overbank deposits were deposited, burying the archaeological remains.

ENVIRONMENTAL CHANGES, GROUNDWATER-LEVEL FLUCTUATIONS AND SMALL-SCALE VEGETATION PATTERNS DURING THE LATEGLACIAL AT RIEME, NORTHEASTERNM BELGIUM

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Lateglacial changes in the vegetation were studied at Riemel, northwestern Belgium. The research area near Riemel is located on a ca. 100 km long and 1-3 km wide E-W oriented cover-sand ridge. The cover-sand ridge, which came into existence during the Weichselian Pleniglacial, is characterised by a typical asymmetric form, with a gently running slope to the north and a very steep southern side. The research area is situated on the northern side of this ridge, which is characterised by an undulating landscape with small ridges and depressions.