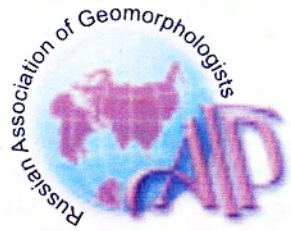
Administration of the Smolensk Region



Russian Association of Geomorphologists

GEOMORPHIC PROCESSES AND GEOARCHAEOLOGY

From Landscape Archaeology to Archaeotourism

International conference
August 20-24, 2012
Moscow-Smolensk, Russia

EXTENDED ABSTRACTS

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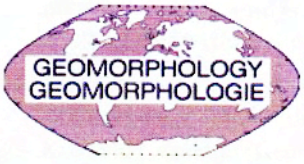
Smolensk University for Humanities

Russian Academy of Sciences: Institute of Geography Institute of Ethnology and Anthropology

Smolensk State Museum-reserve

State Historical Museum



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PALEOENVIRONMENT IN THE LATE MESOLITHIC – EARLY NEOLITHIC AT ZAMOSTJE 2 SITE

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Zamostje 2 site is situated north of the Sergiev-Posad district, Moscow region, on the left bank of the Dubna river artificial channel (Volga tributary). The site is dated by the time-spent between the beginning of 7th to the middle of 5th millennium cal BC. Today the relief around the ancient site is not recognizable as in the later times it was evened by alluvial processes and peat formation. Virtually the site resides in the flood basin of the Dubna, which occupies some part of the ancient lake bed. The western edge is outlined with a lake bench, 130-135 m of absolute altitude, 1 km to the south-west from the site, the eastern edge of the basin with the same absolute altitude represents a terraced foot of kame hills, which are topped by Zabolotje, Kaloshino and Zamostje villages. Two km east from the site, remains of once vast Zabolotskoye lake were found; it is surrounded by swamped and overgrown lowland of the drained Sulat river. Terrace slopes

are flattened, the relative altitude of its edge over the lowland accounts for ca. 1 m. Ancient Dubna beds are recognizable here and there on the swamped plain.

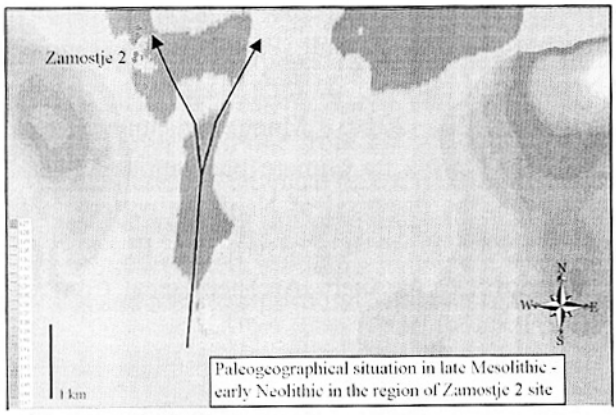

Figure 1. Paleogeographical situation in late Mesolithic – early Neolithic in the region of Zamostje 2 site (K. Mazurkevich)

During the Late Mesolithic and Early Neolithic, the site was repeatedly visited by groups of hunters-fishers, which left behind numerous stone and bone artifacts, ceramics, and remains of wooden fishing constructions [1].

Following the morphological analysis of the relief, we assume this area was a lagoonal shallow zone of paleolake opening to the north. In the south a ground connector might have existed. It divided two paleobasins connected by a creek. Paleobasin banks were in place of today's hills. In the picture (fig. 1) you will find the paleobasin contour, its coast altitude presumably was 128 m. It is proven by extended peat lands. In the site area you can find a cape entering the water basin. This cape led to formation of lagoon environment (gulf) and shallows (128-127 m), which are favorable for human activities. Apparently, the main stream direction coincided with the current direction of the Dubna.

Remains of human activities on the banks became the object of our study. Formation of cultural layers took place in regressive phases of the paleolake lifecycle. In these periods, human activities were linked to exploitation of the low flat bank exposed to weak waves or seasonal water level raising [2]. At different stages of the lake settlement, the coast line was changing its shape, it can be clearly observed in the southern part of the site. In the Early Neolithic it represented an area of intensive basin exploitation. This part of the site indicates fish traps, wicker fences as well as numerous wooden vertical piles dating to various time periods of the settlement [3].

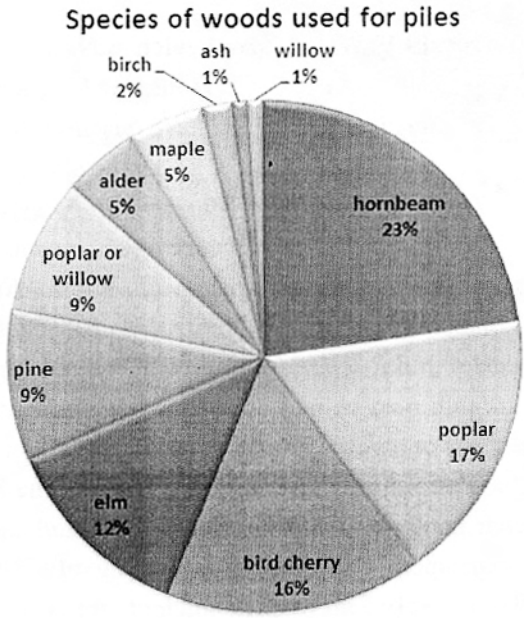

Figure 2. Species of woods used for piles at Zamostje 2 site. Late Mesolithic – Middle Neolithic

Due to favorable wood preservation conditions in the wet environment, we succeeded in reconstructing some usage specifics of plant resources in the surrounding. The Atlantic period began in this area with dominating birch and pine

forests and a gradually increasing role of foliaceous trees (elm, linden, hazel, and alder). At the beginning of the 6th millennium cal BC, crisis conditions for growth of conifers forests emerged [2].

We analyzed 103 pieces of wooden piles used for construction (pile stakes) and made wood specie determinations (fig. 2). A majority of piles (65 %) were produced of poplar / willow, hornbeam *(Carpinus betulus L.)*, and bird cherry *(Padus racemosa Gilib.)*. Only some thin piles found were made of pine wood; moreover they were located in a very limited area. Hence, the locals preferred materials available in forests next to the basin.

All samples were produced of less than 15 year old forest, which had grown in unfavorable conditions with no anthropogenic impact. Dark color of the wood is typical for excessively humid locations. According to paleogeology data, it is to be supposed that the use of coniferous trees for any economic needs was rather difficult because of the specific wet conditions of the territory close to the lake. The only exception was on the surrounding hills, but the lack of necessary sand soils also prevented to the large growth of coniferous trees.

Apart from this, big straight trunks of pine trees (less frequently firs) were used for production of long slivers, i.e. material for fish traps and other constructions made of split materials. A structure composed of three adjoining fish traps is dated by ^{14}C to 6452 ± 43 BP, 6550 ± 40 BP и 6670 ± 80 BP, which allows to correlate him with an Early Neolithic settlement. An similar construction, found on the bottom of the contemporary Dubna river, dates to 7090 ± 70 BP. Slivers are characterized by rather wide and even annual rings, it proves the wood has been growing under favorable conditions.

A right-angled concentration of piles found during underwater excavation at the eastern Dubna bank is preliminary defined as a part of a household or housing structure with right-angular or square shape. It dates to the Middle Neolithic – 5544 ± 51 BP, 5580 ± 40 BP, 5630 ± 210 BP. The diameter of its piles is in the range from 7 to 10 cm. Trees are not more than 32 years old. Like the first case, rather young wood was used – no anthropogenic impact and better growth conditions, which resulted in wider annular rings.

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