

PALEOCLIMATE OF THE WIDE AREA OF LEPENSKI VIR ARCHEOLOGICAL LOCALITY (PERIOD FROM 10 TO 5 ky BC) BASED ON MILANKOVITCH ASTRONOMICAL THEORY OF INSOLATION

Paleoclimate of the Lepenski Vir archeological locality was not researched in details even though it played a very important role in the period between 10 ky BC and 5 ky BC. Paleoclimate was a destining factor in the early phase of the settlement in Paleolithic and Mesolithic times. Caloric summer seasons and caloric winter seasons (in both cases = half-years, based on Milankovitch's works, 1923 & 1941) were very stable on the 45° north geographical latitude. The snow level was between 4,170 m and 3,830 m which occur during the last glacial maximum (LGM) 25 ky BC, representing critical levels in comparison to the modern climate. From Early Mesolithic to Middle Neolithic time paleoclimate of the Lepenski Vir archeological locality was higher than 1,2°C to 1,0°C. In same instances it would reach 2,0°C or 2,5°C, but it did not change general paleoclimate trend in Holocene time. Solar radiation in the "8.200 ky BC cold event" was relatively stable and attempts to find evidence of short cold period was unsuccessful. A very small drop of the mean annual temperature of 0,8°C was found. Modified Milanković's curve of insolation with 14 climatological factors show warmer temperatures than today, with a correction coefficient of 1,15 and 1,55. Mean annual temperature for Mesolithic and Neolithic periods were between 12,0°C and 13,5°C, and in warmer periods of Mesolithic time between 13,0°C and 14,0°C. Paleoclimate of the Lepenski Vir archeological locality and its wide area was very warm and stable. This resulted in ideal environment for settlements to occur in the lower river bank area of the Danube Gorge.

Key words: Archeological locality Lepenski Vir, Milankovitch astronomical theory, caloric summer half-year and caloric winter half-year, snow limit, paleoclimate, mean annual temperature, Danube refugia correction factor.