

Research on the Quantitative Estimation of Paleoclimatic Changes: A case of Northeast Japan

Ikuo Hanatani[1]; Masahiro Munakata[1]; Hideo Kimura[1]

[1] JAEA

<http://www.jaea.go.jp>

In order that paleoclimatic changes might evaluate quantitatively the effect which it has on regional and long-term ground-water flow, the modern analogue technique was applied to the pollen data of 2 sites in northeast Japan, and it analyzed about past temperature and precipitation. In the case of Aranuma marsh of Yamagata Prefecture, the paleoclimate during the past 90 kyr has been restored. On the other hand, in the case with Akaiyachi wetland of Fukushima Prefecture, there was a problem that it seemed that the part of the stratum lacked although the paleoclimate of about 50 kyr was quantified. According to the analysis result of Aranuma, the annual mean temperature of MIS4 and MIS2 is 2-4 degrees C, and is 5-7 degrees C lower than the present. Moreover, the annual mean temperature in the hypsithermal term is around 13 degrees C, it is 4 degrees C warmer than the present. About annual mean precipitation, the glacials (MIS4 and MIS2) were fewer around 300mm (20-30%) than the present, and the last interglacial and Holocene had much precipitation 100mm or more than the present.