

Paleoclimatic changes recorded in the Kathmandu Basin sediments during the latest Pleistocene

Rie Fujii[1], Harutaka Sakai[2]

[1] Earth Sci., Kyushu Univ., [2] Earth Sci., Kyushu Univ

Lithostratigraphic and palynological studies on the intermontane basin-fill sediments of the Kathmandu Valley have been undertaken, in order to clarify the paleoclimatic changes recorded in the Kathmandu Basin sediments in the Central Himalaya during the last 50,000 yr.

The samples used are two drilled cores obtained from the topmost part of the Kathmandu Basin sediments in the central part of the Valley: a 30-m-long core and a topmost part of a 218-m-long core. The drilled cores are lithologically divided into two parts: lacustrine muddy-dominant sediments in the lower part (Kalimati Formation) and fluvial-deltaic sand-dominant sediments (Patan Formation) in the upper part.

Pollen analyses of a 30-m-long core (50 cm interval) and a topmost part of a 218-m-long core (10 cm interval) recorded millennial-scale climatic changes during the last glacial period. The paleoclimatic record during the last 40000 yr from 50 ka to 10 ka is roughly divided into the following four period: 1) 5~4.3 ka, cold and dry climate; 2) 4.3~3.8 ka, warm and wet climate; 3) 3.8~1.5 ka, cold and dry climate with one short period of warm and wet climate; 4) 1.5~1.0 ka, warming phase under a wet condition. Five cold peaks represented by *Pinus* can be correlated to Heinrich events H1 to H5 reported from the North Atlantic Ocean. The warming phase of the last deglaciation at ~14.7 kyr reported from Europe was also detected from two cores. The Younger Dryas could not be detected due to disturbance of pollen assemblage by fluvial influence.