
**The importance of isostatic and climatic events in the
geoarchaeology of the Penobscot Valley, Maine**

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The landscape encountered by archaeologists today is not necessarily the same as that used by people in the past. Geological and environmental changes since the last glaciation

produced extreme variations in climate, geomorphology, and vegetation, all with implications for the archaeological record in terms of site location and preservation. Geoarchaeological investigations in the central Penobscot Valley, Maine, included the examination of geological and environmental events in the development of the region. One was the post-glacial formation of the Penobscot River. The second, the correlation of regional archaeological information and stratigraphic sections in excavation units with the paleohydrologic record developed for the region.

Geological studies suggest that Early Holocene, isostatically driven changes in drainage divides shifted the outlet of Moosehead Lake, the largest lake in Maine, from the Penobscot River drainage into that of Kennebec. The associated abandonment of the northern outlet, and changes in river discharge, may have had significant impacts on occupation sites and travel routes. Paleohydrologic records of the region indicate times of Late Pleistocene/Early Holocene lake expansion, as well as periods of fluctuating lake levels. These early periods of extensive surface water may have influenced Paleoindian and Early Archaic travel routes and resource use. Later periods of varying lake levels provide climatic information that is correlated with paleosols encountered in archaeological excavations, and provide information about site formation, as well as environmental conditions during occupation. Although local in scale, this study suggests the potential importance of these processes in other similar glaciated regions.