

Pleistocene stratigraphy and late glacial events in central and northern New Brunswick

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The Pleistocene stratigraphic framework of New Brunswick is best described from sections and cores retrieved from the thick sedimentary infilling of the middle and upper St. John River Valley. At this stage of investigation, the depositional events are all thought to postdate the last interglacial due to the absence of true Sangamonian beds in the area. In the St. John Valley, at least two different till sheets are separated by volumetrically extensive nonglacial coarse and fine-grained sediments which indicate that, at least, regional deglaciation prevailed sometimes during the Wisconsinan. Based on the absence of Precambrian lithological indicators, the Lower till seems to have been deposited by Appalachian ice and might correlate with Chaudière Till of the Eastern Townships of southern Quebec. The upper till is believed to have been emplaced by Laurentide ice as it was

flowing in a generally eastward direction. In the vicinity of the Miramichi Highlands, there is widespread evidence for a major weathering event that preceded at least the last glacial advance. Interstadial organic sediments dated at >36 ka were discovered in central New Brunswick, at the Half Moon Pit.

Vertical downwasting of the Late Wisconsinan ice sheets is indicated by the occurrence of late glacial icemarginal and subglacial landforms along the edge of the Miramichi Highlands. Subglacial melt-out till can be seen overlying organic sediments dated at 11.5 ka (Allerod?) in the vicinity of Todd Mountain (central New Brunswick). Local reactivation of ice in late glacial time is thought to represent the Younger Dryas climatic oscillation described elsewhere in the Maritimes. This is thus a critical site for the interpretation of late glacial climatic changes in Eastern Canada.