The post-glacial history of vegetation and climate at Ennadai Lake, Keewatin, and Lynn Lake, Manitoba (Canada)

Abstract. Peat from Keewatin and Manitoba contained macrofossil and palynological evidence of former latitudinal movements of the forest — tundra boundary probably in response to the changing location of the mean summer position of the Arctic front. There was very rapid melting of the large late-Wisconsin ice sheet between 8000 and 6000 years B.P., and swift immigration of Picea, with no evidence of tundra vegetation after deglaciation. From 6000 to 3500 years B.P. the Boreal forest extended far north of its present limit, with a short-lived cooler phase about 5000 years ago. This generally warm period was followed by cooler and variable climatic episodes after 3500 B.P. and by a climatic deterioration about 2600 years ago. There was an amelioration between 1500 and 600 B.P., followed by a prolonged cold episode which terminated peat growth in the tundra. The approximate mean summer temperatures at Ennadai Lake have been estimated from the changing location of the northern limit of forest. The radiocarbon dates for these climatic events coincide with a number of changes recorded in the climatic history of northwest Europe.