

Diatom responses to the Younger Dryas climatic cooling in sediments from lakes in southern New Brunswick

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In eastern Canadian lake sediment sequences, the Younger Dryas climatic cooling (ca. 11,000-10,000 years B.P.) is equated with a sharp decrease in organic matter values, a change in sediment colour, and pollen changes consistent with a reversion to a herb/shrub terrestrial flora. At most sites in eastern Canada and elsewhere, these changes appear abruptly, consistent with a rapid onset and end to the Younger Dryas cooling.

Changes in the diatom succession have been determined in a number of sediment cores from lakes in southern New Brunswick. Splan Lake (45°15'15"N 67°19'50"W), Little Lake (45°08'40"N 66°43'00"W) and Long Lake (45°17'N 66°04'W) each show a different sequence of diatom changes

through the onset and end of the Younger Dryas cooling. In Splan Lake, the Younger Dryas mineral band is preceded by a *Fragilaria*-dominated community, and followed by a limnic community dominated by *Cyclotella bodanica*. Although the mineral band in Splan Lake is completely free of diatoms, the equivalent sediments in Little Lake show a *Fragilaria* decline immediately before, and redevelopment during the Younger Dryas interval. In Long Lake, sediments with few or no diatoms alternate with intervals containing a fully-developed diatom flora, particularly in the post-Younger Dryas period. To establish the timing and duration of the Younger Dryas cooling in eastern Canada, it is clearly important to separate local from regional features of these sequences.