

### The chronology and expression of the Younger Dryas cooling in Atlantic Canada

Francis Mayle and Les C. Cwynar

*Department of Biology, University of New Brunswick, Fredericton, New Brunswick E3B 6E1, Canada*

Sediment cores have been taken from five small lakes close to the Fundy coast of New Brunswick and the Atlantic coast of Nova Scotia. Loss-on-ignition at 550°C and stratigraphic evidence from these sites show that sediment of the Younger Dryas is more minerogenic than sediment above and below.

Corresponding with this lithologic change is a change in the pollen record. Pollen diagrams from southwest Nova Scotia and Saint John, New Brunswick, both show the same major trends: a decrease in *Picea*, *Quercus*, and Cupressaceae, and an increase in *Alnus crispa* and Cyperaceae. This indicates an expansion of the shrub and herb components at the expense of the arboreal.

Pollen analysis from a site in southern Cape Breton, Nova Scotia, shows a sharp decrease in *Betula* and an in-

crease in *Alnus crispa*, *Artemisia*, Cyperaceae and *Rumex/Oxyria*, indicating an expansion of shrub and herb components at the expense of *Betula*. Future macrofossil studies should determine whether the birch in the pollen record is derived from tree or shrub species.

Macrofossils close to the Younger Dryas boundaries at each of these sites have been used for AMS <sup>14</sup>C dating, providing the first accurate chronology of the Younger Dryas in Atlantic Canada. The start of the Younger Dryas at three of these sites, based on the pollen evidence, ranges from 10,560-11,060 years B.P. Loss-on-ignition evidence for this event gives a narrower range of 10,770-11,060 years B.P. These dates are considerably younger than some previously published bulk sediment dates. Dates and pollen diagrams from other sites are still pending.