

# Timing lake-level fluctuations of glacial Lake Ojibway during the last deglaciation

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**Abstract.** The climate variability of the last deglaciation is commonly linked to the decay of continental ice sheets, which gave rise to massive releases of glacial meltwater to the North Atlantic that had accumulated in large ice-dammed lakes. One prominent examples might have occurred 8200 years ago when glacial Lake Agassiz-Ojibway drained abruptly into the North Atlantic and caused a global-scale cooling. The precise impact of this freshwater perturbation is however questioned by marine sediment records that show evidence for multiple meltwater outbursts around this time. Terrestrial data testing the final drainage scenario of Lake Agassiz-Ojibway is scarce. We proposed to investigate relict shorelines reflecting abrupt drawdowns of Lake Ojibway related to drainage episodes. The late-stage history of Lake Ojibway will be reconstructed through the mapping of low-elevation shorelines on air-photos and high-resolution satellite images, combined with field measurements of shoreline elevation. The chronology of these events will be constrained through cosmogenic <sup>10</sup>Be dating of boulder beaches developed in glacial deposits. Results from this project should contribute to our understanding of the role of freshwater forcing of abrupt climate changes.