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# Agassiz outpouring led to deep freeze: study

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About 12,800 years ago, Canada violently sneezed and Europe caught a killer cold almost instantly, a University of Saskatchewan geologist has discovered.

In a study that highlights just how quickly a mini ice age took hold of Europe after the dramatic collapse of a glacial ice dam in ancient Canada, Saskatoon scientist Bill Patterson has gathered evidence suggesting the "Big Freeze" -- a sudden and severe global cooling known to experts as the Younger Dryas -- happened within three months of the Canadian cataclysm.

Climatologists have long known about the profound cold spell, which happened around the same time the first human inhabitants of North America migrated from eastern Siberia via a temporary land bridge, and possibly by boat.

But rather than unfolding over a decade as widely believed, the extreme chill set in so swiftly that ecosystems in the northern hemisphere were radically transformed within a single season, a research project led by Patterson has discovered.

The findings, presented at the recent BOREAS climate conference in Finland, are highlighted in the latest issue of

"We've generated a higher resolution record that indicates that the event was quicker than previously thought," Patterson told Canwest News Service. Using "very fine slices of the calcium carbonate mud" at the bottom of an Irish lake known to be an ideal archive of past climate conditions, the Canadian-led researchers reconstructed the temperature and biological record from nearly 13 millennia ago with unprecedented precision.

In this case, the major event was one of the greatest natural disasters in Canada's history -- though few, if any, humans would have been around to witness it.

Lake Agassiz, a massive freshwater basin covering much of Central Canada, was first formed about 30,000 years ago from glacial meltwater and eventually held a greater total volume than all of today's Great Lakes combined.

When an ice wall collapsed somewhere along the ancient lake's northeastern rim about 12,800 years ago, its freshwater contents gushed rapidly into the North Atlantic, wreaking havoc with ocean circulation patterns and plunging Europe into an unprecedented and prolonged winter that lasted centuries.

Agassiz disappeared when the last glaciers retreated, leaving remnants such as Lake Winnipeg and evidence of ancient shorelines in sandy ridges throughout northern Canada.

University of Manitoba geologist Jim Teller's reconstructions of the lake's dying throes has initiated a worldwide wave of research into Agassiz's repeated impacts on global climate.

Teller has suggested that rising seas caused by the last Agassiz flood 8,000 years ago may have sent water rushing into the Persian Gulf basin, giving rise to Sumerian and Mesopotamian flood legends and ultimately the biblical story of Noah's Ark.

-- Canwest News Service

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