

Atlantic currents have seen 'drastic' changes: study

January 4 2011



A woman celebrates after participating in the annual Coney Island Polar Bear Club New Year's Day swim in New York. Scientists have found evidence of a "drastic" shift since the 1970s in north Atlantic Ocean currents that usually influence weather in the northern hemisphere, Swiss researchers say.

Scientists have found evidence of a "drastic" shift since the 1970s in north Atlantic Ocean currents that usually influence weather in the northern hemisphere, Swiss researchers said on Tuesday.

The team of biochemists and [oceanographers](#) from Switzerland, Canada and the United States detected changes in deep sea Atlantic corals that indicated the declining influence of the cold northern Labrador Current.

They said in the US National Academy of Science journal *PNAS* that the change "since the early 1970s is largely unique in the context of the last approximately 1,800 years," and raised the prospect of a direct link with global warming.

The Labrador Current interacts with the warmer Gulfstream from the south.

They in turn have a complex interaction with a [climate pattern](#), the [North Atlantic Oscillation](#), which has a dominant impact on weather in Europe and North America.

Scientists have pointed to a disruption or shifts in the oscillation as an explanation for moist or harsh winters in Europe, or severe summer droughts such as in Russia, in recent years.

One of the five scientists, Carsten Schubert, of the Swiss Federal Institute of Aquatic Sciences and Technology (EAWAG), underlined that for nearly 2,000 years the sub polar Labrador current off northern Canada and Newfoundland was the dominant force.

However that pattern appeared to have only been repeated occasionally in recent decades.

"Now the southern current has taken over, it's really a drastic change," Schubert told AFP, pointing to the evidence of the shift towards warmer water in the northwest Atlantic.

The research was based on nitrogen isotope signatures in 700 year old [coral reefs](#) on the ocean floor, which feed on sinking organic particles.

While water pushed by the Gulfstream is salty and rich in nutrients, the colder Arctic waters carried by the Labrador current contain fewer nutrients.

Changes could be dated because of the natural growth rings seen in corals.

"The researchers suspect there is a direct connection between the changes in oceanic currents in the North Atlantic and global warming caused by human activities," said EAWAG in a statement.

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Citation: Atlantic currents have seen 'drastic' changes: study (2011, January 4) retrieved 10 April 2024 from <https://phys.org/news/2011-01-atlantic-currents-drastic.html>

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