

Climate warming affects entire lakes

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Canadian scientists in a University of Alberta study indicate global warming is producing major ecological changes in remote arctic lakes at an alarming rate.

The research is said to be the first to demonstrate a whole lake biological response to warming in the arctic.

Neal Michelutti, a post-doctoral science fellow, said even in the most remote, pristine parts of the Earth -- far from the direct influence of human activities -- changes are occurring in entire ecosystems.

He and his research team used a technique called reflectance spectroscopy to allow them to "see" in wavelengths that the human eye cannot -- the chemical composition of the sediment in six lakes on Baffin Island.

They found major increases in chlorophyll-a concentrations, a good indicator of overall ecosystem production.

What alarms the researchers is the magnitude and timing of the changes. "For the last several thousand years, chlorophyll-a concentrations in our study lakes were very low and showed little variability, until approximately 150 years ago when chlorophyll-a increased rapidly and reached unprecedented levels. The timing of these changes corresponds to the start of the Industrial Revolution," said Michelutti.

The research appears in the current issue of *Geophysical Research*

Letters.

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