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Climate-driven regime shifts in the biological communities of arctic lakes

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Abstract

Fifty-five paleolimnological records from lakes in the circumpolar Arctic reveal widespread species changes and ecological reorganizations in algae and invertebrate communities since approximately anno Domini 1850. The remoteness of these sites, coupled with the ecological characteristics of taxa involved, indicate that changes are primarily driven by climate warming through lengthening of the summer growing season and related limnological changes. The widespread distribution and similar character of these changes indicate that the opportunity to study arctic ecosystems unaffected by human influences may have disappeared. © 2005 by The National Academy of Sciences of the USA.

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Keywords

Anthropocene, Climate change, Indicators, Paleolimnology, Warming