



Deep-water warming trend in Lake Malawi, East Africa

Vollmer, Martin K., Harvey A. Bootsma, Robert E. Hecky, Graeme Patterson, John D. Halfman, John M. Edmond, David H. Eccles, Ray F. Weiss

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ABSTRACT: We use historic water temperature measurements to define a deep-water warming trend in Lake Malawi, East Africa. Over the past six decades, the temperature of the deep water below 300 m has increased by $\sim 0.7^{\circ}\text{C}$. The warming trend is due mainly to the reduction of cold-water deep convection over this period, which is associated with milder winters in the region. Despite deep-water warming, density stratification was maintained at depths below 100 m. The observed warming trend was interrupted at least twice by abyssal cooling events that were associated with the wettest years on record. We propose that rainfall and cool river inflow are critical factors that control thermal structure and the rate of deep-water recharge in this deep, tropical lake.

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