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EARTH: Lake Sediments Suggest Mild Volcanic Winter After Massive Toba Eruption

Alexandria, VA - Toba volcano erupted 74,000 years ago, and is thought to have been the largest eruption in the last 2.5 million years. Some scientists have thought the fallout from the eruption caused a volcanic winter so catastrophic it almost drove humans to extinction. A new high-resolution study of lake sediments from East Africa disputes that idea, however, suggesting that the early humans in the area probably experienced little or no cooling following the massive eruption.

Researchers at the University of Texas at Austin studied sediment cores drilled from Lake Malawi to study past climate change in the region. The lake's waters are stratified by temperature, and the layers typically do not mix with each other. However, significant cooling, like that predicted to have occurred from the eruption of Toba, causes the temperature in the lake to become more uniform, leading to increased mixing among the lake's layers. In that case, scientists would expect to see changes in the assemblages of microfossils that sink to the lake bottom and are recorded in the sedimentary record.

But the researchers' analysis of the cores showed no such changes at the time of the eruption. Find out what the scientists saw in the cores, and how it shapes our understanding of human history in the January issue of EARTH Magazine: <http://bit.ly/1ndObWM>.

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