# Famine in the Horn of Africa (1984) was caused by El Niño and currents in the Indian Ocean

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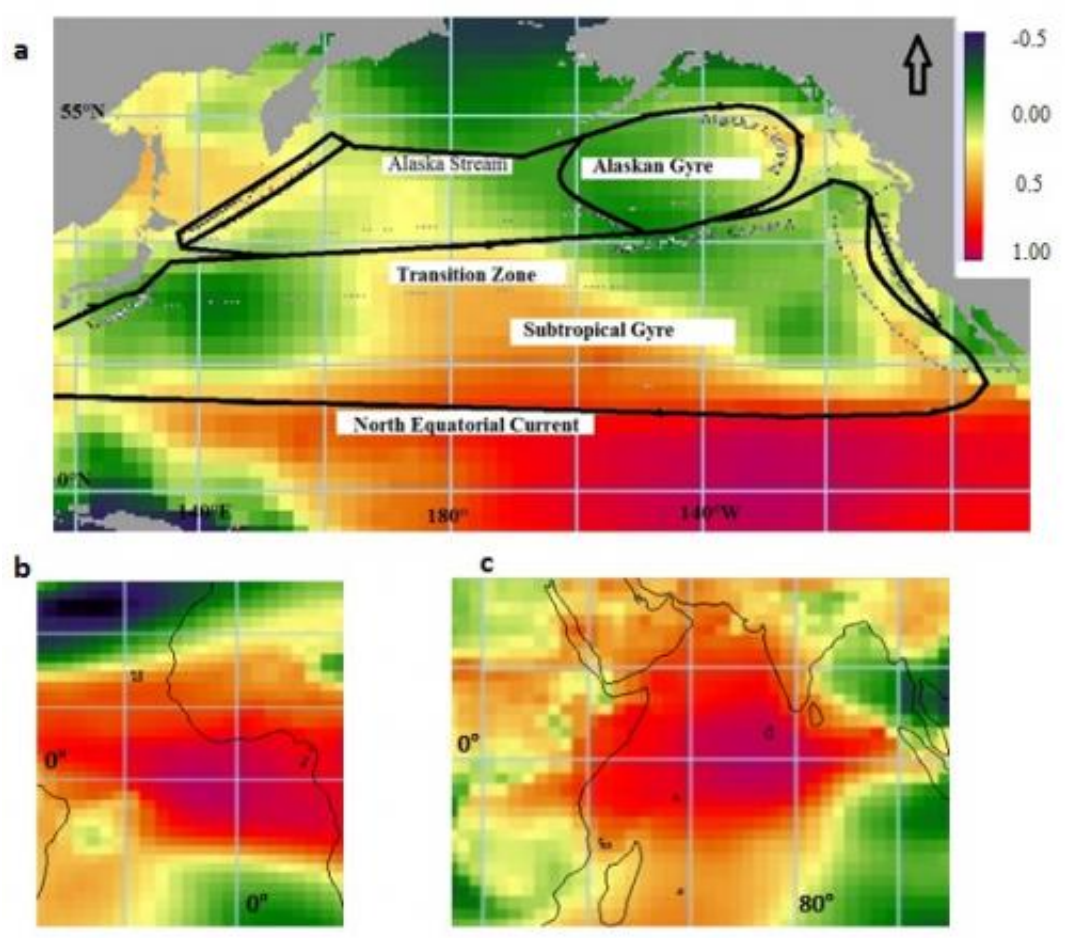


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Oceanic patterns are important drivers of climatic variability. There is a clear link between periods of drought in the North Ethiopian Highlands and oceanic phases of El Niño, the Indian Ocean Dipole and the Southwestern Monsoons.

In order to prove these links, PhD student Sil Lanckriet (Department of Geography, Ghent University) analyzed weather data since the 1950s, as delivered from a meteorological computer model. He used a procedure known as 'empirical orthogonal teleconnection analysis' (EOT). According to Piet Termonia of the Royal Meteorological Institute, such statistical techniques are a clear step forward, since they allow linking oceanic patterns across the planet with the climatic situation at a particular location on the earth surface.

## Probability for new droughts

For his PhD, Sil Lanckriet is studying climatic fluctuations in Ethiopia over the past centuries, as well as their impact on periods of drought and processes of soil erosion. His study area is located in Korem, the place written in our collective memory by several BBC documentaries, Live Aid and by the pictures of Sebastião Salgado. His promoters Jan Nyssen and Amaury Frankl are well acquainted with the area. They even relocated the exact locations of the pictures and documentaries that were world news at the time. "Our research experience in Ethiopia shows that it is certainly possible that a similar drought will occur again, but this time it will probably not lead to a famine as in 1984. The Ethiopians have been very active on matters such as reforestation and soil and water conservation. We could prove that the land is now much less vulnerable for the occurrence of droughts".

Enyew Adgo (Bahir Dar University) points out that East African meteorological agencies are well aware of the interactions between the Ethiopian weather and fluctuations of El Niño in the Pacific Ocean. The

researchers show that similar patterns in the Indian Ocean should be incorporated by the meteorological models, in order to improve the prediction power of systems for Famine Early Warning.

**More information:** Lanckriet, S., Frankl, A., Adgo, E., Termonia, P. and Nyssen, J. (2014), "Droughts related to quasi-global oscillations: a diagnostic teleconnection analysis in North Ethiopia." *Int. J. Climatol.* doi: 10.1002/joc.4074

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