

On the relationship between floods and earthquake in Southern Africa

In recent years, the Southern African Region has faced an increase in the frequency and magnitude of natural hazards such as floods and earthquakes. This marked increase in seismicity is believed to be partly associated with the propagation southwards of the East African Rift System (EARS). The heavy rainfall triggered by extreme weather events caused by climate change affecting Southern Africa has led to widespread flooding in the region. A preliminary analysis of the temporal and spatial relations between extreme flood events and the largest recorded earthquakes in the four Southern African countries of Botswana, Malawi, Mozambique and Namibia for the period 2000 to 2018, suggests that there is a relationship between these two natural hazards. Damaging earthquakes such as the 2006 Mw 7.0 Mozambique (Machaze), 2009 Mw 5.6 Namibia (Kunene), 2009 Mw 6.0 Malawi (Karonga) and 2017 Mw 6.5 Botswana (Moiyabana) coincided with some of the worst flooding to hit these areas in decades.

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