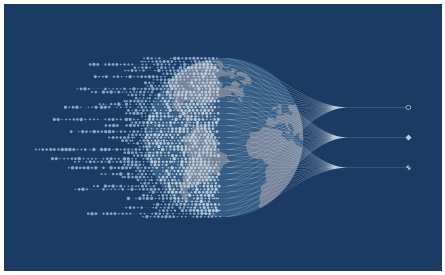

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hazards in Jordan: integrating regional fault systems for enhanced earthquake early warning

Jordan's seismicity is heavily influenced by the Dead Sea Transform Fault (DST), a significant tectonic boundary between the Arabian and African plates, posing the highest seismic risk to the region. Historical earthquakes, including those in 749 AD and 1033 AD, highlight this threat. Other regional sources, such as the Zagros Fold and Thrust Belt in Iran, the Red Sea Rift and the Cyprus Arc, also contribute to Jordan's seismic activity.

The 6 February 2023, Turkey earthquake (magnitude 7.8) further underscored the region's vulnerability, with strong tremors felt in northern Jordan. The 1995 Gulf of Aqaba earthquake (magnitude 7.2) exemplifies additional risks. To mitigate these hazards, this proposal advocates for the development of an Earthquake Early Warning System (EEWS) in Jordan, utilizing local and regional seismic data, including that from the International Monitoring System (IMS) of the CTBTO, to enhance detection capabilities and emergency response.

Political challenges, including the need for regional cooperation and data sharing, as well as securing funding and support in a resource-constrained environment, must be addressed to successfully implement the EEWS, thereby improving earthquake preparedness and community safety in Jordan.

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