



Detection of earthquake swarm associated with volcanism in Southwest Indian Ocean

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From May 15, 2006 to May 18, a dozen of earthquakes above magnitude 4 occurred in southwest Indian Ocean, as reported by NEIC/USGS. The earthquake sequence is typical of earthquake swarm without dominant mainshock. We modeled hydroacoustic waves (T waves excited by the earthquakes) recorded by two hydrophone arrays and we identify more than one thousand events during that period. By resolving the direction of arrivals from the two arrays, we are able to locate the events, which turn out to be close to southwest Indian ocean ridge. Surface waves recorded by GSN/IRIS broadband island stations are also analyzed so as to determine the magnitude, location and mechanism of the earthquakes. The seismicity shows obvious pattern of migration, indicative of triggering by dike propagation. Our study suggests that combination of hydroacoustic and seismic waves is effective in monitoring suboceanic events.