



Using Cylone Micro-Seismic Footprint to Obtain Distance of the Cyclone From the Coast

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Micro-seismic signatures of tropical cyclones at North-Western shelf of Australia are investigated by means a coastal seismic station, in order to obtain time history of distance from the station to the cyclone. A cyclone travels over its life cycle as it develops to its maximum and wanes to its end defining the cyclone track. Cyclone's signature can be visually and quantitatively distinguished in a seismic spectral density plot from earthquakes and other seismic noise. This signature is presumably defined by interaction of incoming swells, produced by the cyclone, from a coast. Therefore, distance to the cyclone can be identified from the difference in arrival time of different swell components, as recorded by the observing seismometer. Through triangulation incorporating multiple seismic sites, accuracy of these cyclone distance changes and cyclone tracks can be enhanced and greater isolated.