

MONITORING EARTHQUAKES AND TSUNAMIS USING THE INTERNATIONAL MONITORING SYSTEM

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ABSTRACT

The network of sensors for monitoring nuclear weapon tests include seismic, infrasound, hydro-acoustic and radionuclide monitoring stations. This network, called the International Monitoring System (IMS), might be able to help tsunami warning. The IMS recorded the 26 December 2004 Sumatra earthquake and tsunami and registered signals on the seismic, infrasound and hydro-acoustic channels. This study will show that the IMS seismic arrays (short period and long period) are capable of tracking the rupture process of large earthquakes. In the case of the Sumatra earthquake, the 1,200 km source region was clearly outlined by the first 500 seconds of the P wave train. The T phase signal recorded by a hydro-acoustic array showed the same capability. The very broad band nature of the hydro acoustic sensors also recorded the passing of the tsunami itself, in a sense acted as a DART buoy.