

Tsunami and Sea Bottom Observations at KOERI

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Abstract

KOERI is about to start a new era in its observational capabilities by installing 5 sea bottom observatories in the Sea of Marmara within the Sea Bottom Observatory Project supported by Turkish Telecom, including broadband seismometers and differential pressuremeters, pressure transducer, strong-motion sensor, hydrophone, temperature measurement device and flow meters. The seismic component of the sea-bottom observatories will improve the azimuthal and spatial distribution of the existing seismic network, especially after the integration with the land based stations. We also expect to lower the minimum magnitude threshold down to 1.0 in the Marmara Sea, especially close to the northern branch of North Anatolian Fault, which is the most active fault zone in the Marmara Sea. Once the observatories are deployed and data communication to KOERI has been established, research works on noise and signal analysis will be initiated, together with seismological and seismotectonic studies.

KOERI is also setting up a Tsunami Warning Center which is expected to act also as a regional center under the UNESCO Intergovernmental Oceanographic Commission – Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS) initiative. The necessary technical and administrative work has been undertaken by all national authorities under the coordinatorship of KOERI, which has submitted a project to the State Planning Organization for the establishment of the warning center. Intensification of the coastal seismometer network, obtaining real time sea level data, tsunami modeling, preparation of inundation maps based on model driven scenarios, estimation of tsunami hazard and risk are among the major components of this initiative. The 6th session of the ICG/NEAMTWS will be held in Istanbul during 11-13 November, at which we expect KOERI to be recognized as a Regional Tsunami Warning Center.