Processing Real Time Tsunami Potential of Earthquakes using Early-est

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In this study current status and results of the Processing Real Time Tsunami Potential of Earthquakes Project (Supported by the Research Fund of the Bogazici University, PN12002) will be presented. Bogazici University - Kandilli Observatory and Earthquake Research Institute –Regional Earthquake and Tsunami Monitoring Center (KOERI-RETMC) is providing tsunami-warning services in the Eastern Mediterranean, Aegean and Black Seas since 1 July 2012 and has been accredited as a Tsunami Service Provider of ICG/NEAMTWS at its 13th session during 26-28 September 2016 in Bucharest, Romania. The main purpose of the this project is evaluation of usefulness of the Early-Est method (Lomax and Michelini) by the RETMC for the rapid and robust assessment of the tsunami potential of an earthquake for early warning and emergency response depending both on moment magnitude and rupture duration of the earthquake based on T_dT_0 and $T_dT_{50}E_x$ discriminants. Both real time data and the off-line earthquake waveform data are being processed using Early-est software package. In the initial phase of the project, the waveform data belonging earthquakes that have M6.5 available from all over the world are being archived and processed. So far, approximately 1000 events have been processed and prepared for statistical analysis. Next step would be the analysis of the relation between theoretical assumptions and processing results in terms of moment magnitude and tsunami potential. At the end of the study, performance of the method will be investigated using real time processing results are collected during the project period. We would like to thank Dr. Anthony Lomax for his cooperation and support in the operationalization of Early-Est in RETMC.

Keywords: Tsunami, Rupture Duration, Early-Est, Tsunami Potential Discriminant

