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Validation of Tsunami Potency Determination Using Calculation of Rupture Duration (Tdur), Dominant Period (Td) and T50Ex

ABSTRACT Earthquake with magnitude ≥ 7, epicenter in the sea, and depth <100 km, is not always able to generate a significant tsunami. It's need other parameters that can be used as an indicator of a potential tsunami, namely the duration rupture, dominant period, and T50Ex. In 2013, we develop determination of potential tsunami application with real time waveform from InaTEWS network, and then do validation for the occurrence of earthquakes in 2014. T 624 earthquake events are calculated by the system and the result is 99.19% (619 events) match with the actual events, it means the system declared no potential tsunami and no tsunami events are also in the field. Meanwhile 0.81% (5 events) are not appropriate, it means the system is expressed earthquake tsunami potential, but the reality is not a tsunami. Offline test for 28 tsunami events that occurred in Indonesia and abroad between 1994-2012, for the tsunami with wave height <1 m obtained 72.7% accuracy and for the tsunami with wave height> 1 meter accuracy of 58.82% was obtained. Determination tsunami potency using calculation of rupture duration, dominant period, T50Ex, Td * Tdur, Td * T50Ex consistent enough to determine real time tsunami potency.

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