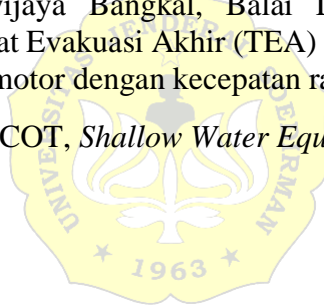


ABSTRAK

Kabupaten Cilacap memiliki potensi tinggi terdampak bencana gempabumi dan tsunami karena terletak pada Zona Subduksi Jawa. Berdasarkan data Pusat Studi Gempa Nasional (PuSGeN) tahun 2017, area Selatan Jawa berpotensi menjadi sumber gempa *megathrust* dengan magnitudo 8,7. Gempa tersebut dapat mengakibatkan tsunami yang berdampak pada daerah pesisir pantai, salah satunya Desa Sidayu yang terletak di Kecamatan Binangun. Sebagai langkah mitigasi, penelitian ini membahas mengenai pemodelan tsunami menggunakan perangkat lunak COMCOT (*Cornell Multi-grid Coupled Tsunami model*) dengan pendekatan *Shallow Water Equations* (SWE) berdasarkan skenario magnitudo 8,7. Hasil pemodelan menunjukkan ketinggian tsunami mencapai 15,9081 meter dengan waktu tiba 43 menit 38 detik. Hasil tersebut juga menunjukkan hampir seluruh Desa Sidayu terendam. Berdasarkan peta jalur evakuasi tsunami, masyarakat diarahkan menuju beberapa lokasi sebagai Tempat Evakuasi Sementara (TES), antara lain Balai Desa Jepara Wetan, Lapangan Jepara Wetan, SMP Negeri 2 Binangun, SD Negeri 2 Jepara Wetan, dan MI Guppi Jepara Wetan dengan estimasi waktu 30 – 35 menit berjalan kaki. Selain itu, masyarakat juga diarahkan ke Kantor PWRI Binangun, Lapangan Sriwijaya Bangkal, Balai Desa Bangkal, dan Masjid Darussalimin sebagai Tempat Evakuasi Akhir (TEA) dengan estimasi waktu 16-20 menit mengendarai sepeda motor dengan kecepatan rata-rata 38 km/jam.

Kata kunci: tsunami, COMCOT, *Shallow Water Equations*, evakuasi



ABSTRACT

Cilacap Regency has a high potential to be affected by earthquakes and tsunamis because it is located in the Java Subduction Zone. Based on data from the National Earthquake Study Center (PuSGeN) in 2017, the South Java area has the potential to be a source of megathrust earthquakes with a magnitude of 8.7. The earthquake can cause a tsunami that has an impact on coastal areas, one of which is Sidayu Village located in Binangun District. As a mitigation step, this study discusses tsunami modeling using COMCOT (Cornell Multi-grid Coupled Tsunami model) software with a Shallow Water Equations (SWE) approach based on a magnitude 8.7 scenario. The modeling results showed the height of the tsunami reached 15,9081 meters with an arrival time of 43 minutes 38 seconds. The results also showed that almost the entire Sidayu Village was submerged. Based on the tsunami evacuation route map, the community was directed to several locations as Temporary Evacuation Sites (TES), including Jepara Wetan Village Hall, Jepara Wetan Square, SMP Negeri 2 Binangun, SD Negeri 2 Jepara Wetan, and MI Guppi Jepara Wetan with an estimated time of 30-35 minutes on foot. In addition, the community was also directed to the PWRI Binangun Office, Sriwijaya Bangkal Field, Bangkal Village Hall, and Darussalimin Mosque as a Final Evacuation Place (TEA) with an estimated time of 16-20 minutes riding a motorcycle with an average speed of 38 km / hour.

Keywords: *tsunami, COMCOT, Shallow Water Equations, evacuation*

