Tsunami Threats Modelling Triggered by Earthquakes in Bonto Bahari Coastal, Bulukumba Regency

Indah Kurniawati[1,a,*], Rizky M. Rahman[2,a], Danial[3,b], Asbar[4,b]

[a]BBMKG Region IV, Makassar. [b]Coastal Management and Marine Technology UMI, Makassar

*indahkurniawati.bmkg@gmail.com

Abstract. Bonto Bahari Coastal is a famous area in the marine tourism sector in Bulukumba Regency, but is also prone to natural disasters, especially earthquakes and tsunamis from the Flores Back Arc Thrust and Walanae Fault. The purpose of this study is tsunami threats modeling that are affected the Bonto Bahari coast as a mitigation effort in minimizing losses and victims due to disasters. This modeling uses ComMIT with the worst tsunami scenario, generated from M 8.4 Flores Back Arc Thrust and M 7.6 Walanae Fault scenarios and the mapping is processed using GIS. The data required for modeling include STRM topographic data and bathymetry data from ETOPO1 and land cover data from the Open Street Map for further analysis. From this study, it was found that the arrival time of the tsunami scenario due to the Walanae Fault arrived faster than the tsunami scenario due to the Flores Back Arc Thrust. The maximum status of the tsunami threat on the Bonto Bahari Coast was in the advisory threat with the highest estimated run-up of around 1.2 meters in Sapo Lohe Village and the estimated inundation depth up to 1.9 km2 with the risk of the south coast being greater than the east coast of Bonto Bahari.

Keyword: tsunami, comMIT, arrival time, run up, inundation.