ABSTRACT

Indonesia is a country that has a high potential of the tsunami threat. This is due to Indonesia being in an active earthquake path and the Pacific Ring of Fire to increase the intensity of the seabed geological processes. One of the main actions in tsunami disaster mitigation is to map the level of coastal vulnerability to tsunamis. This research examines the Sipora Island area of the Mentawai Islands Regency of West Sumatra using Geographic Information Systems (GIS) with the weight scoring method. The parameters used to analyze the level of tsunami vulnerability ware elevation, slope, land use, coastal proximity, and distance from rivers. The level of a vulnerability divided into five classes, namely very high, high, medium, low and very low vulnerability. Northern Sipora Island is an area that is highly vulnerable to tsunamis, because the area is characterized by a land elevation of less than 10 m, a gentle slope, dense human settlements, and the location of settlements close to the coastline.

Keywords: Coastal vulnerability, GIS, tsunami, Sipora Island.