ABSTRACT

The beach is a very dynamic part of the coast. The beach experiences changes in response to natural processes and human activities. Observation of changes in the coastline that occur can use remote sensing technology. The construction of ports in the coastal area of Dewantara District has given rise to indications of changes in the coastline. The lack of information regarding changes in the coastline in Dewantara District in a temporal manner has caused monitoring of the rate of change in the coastline to be less than optimal, so it is necessary to conduct research on changes in the coastline of Dewantara District. The method used is overlay, which is the process of combining Landsat 8 imagery from 2013 to 2023. The DSAS analysis process requires a minimum of 3 data lines, namely baseline and 2 coastlines. The baseline is used as the baseline for measuring 2 coastlines. The coastal area of Dewantara District has experienced changes in the coastline, both abrasion and accretion, over a period of 10 years from 2013 to 2023. The largest abrasion rate of -93.40 m occurred in 2015 which was caused by continuous wave action over a period of 10 years. The lowest abrasion rate of -1.10 m occurred in 2016. The largest accretion rate occurred in 2021, which was 107.43 m, which was caused by the construction of a breakwater. The lowest accretion rate occurred in 2023, which was 1.32 m. The area of change in the Dewantara District coastline is influenced by the phenomena of accretion and abrasion. The maximum area of change that occurs in the abrasion category is 3.36 Ha and the minimum area is 0.001 Ha. The maximum area of change that occurs in the accretion category is 20.77 Ha and the minimum area is 0.002 Ha.

Keywords: abrasion, accretion, changes coastline, DSAS, landsat 8 imagery