

Study for Comparative Analysis of Changes in Shore Line Using Multi Stage Satellite Images (Case Study: Gresik and Bangkalan, Indonesia)

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Key words: Remote sensing; shorelines, delineation, multistage

SUMMARY

The coastline is always a very significant change from year to year . Shoreline changes was caused by many factors such as erosion , sedimentation , currents , tides , and other factors such as human activities . In Gresik and Bangkalan, Indonesia, an example of shoreline change is influenced by the presence of high activity in the coastal zone that serves as a port . One method that can be used to determine changes in the coastline is delineation method. This research employs this method with Landsat ETM 7 satellite imagery and QuickBird . Multi-stage method is also applied to determine the pattern of shoreline change . The results showed that there was a reduction of length in 2002 along the coastline, around -1.65 km in Gresik area. But In 2007 Gresik has the addition of up to 18.05 km, while in Bangkalan there is a reduction amounting to -2.06 km . Reduction of land area occurred in 2002, it is around to 1228.33 ha in Gresik and Bangkalan 147.44 ha. Whereas in 2007, there is additional area of 389.07 hain Gresik and 571.77 ha in Bangkalan.