

ABSTRAK

ANALISIS PERUBAHAN GARIS PANTAI DI PESISIR KABUPATEN PEKALONGAN PROVINSI JAWA TENGAH

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Perubahan garis pantai merupakan fenomena dinamis yang dipengaruhi oleh faktor oseanografi dan aktivitas antropogenik. Pantai Sunter Depok Indah, Kabupaten Pekalongan, mengalami abrasi yang cukup signifikan akibat pengaruh gelombang dan minimnya pelindung alami pantai. Penelitian ini bertujuan untuk menganalisis pengaruh faktor oseanografi dan hubungan perubahan tutupan lahan terhadap perubahan garis pantai di Pantai Sunter Depok Indah, Kabupaten Pekalongan, Provinsi Jawa Tengah. Data primer berupa *tracking* garis pantai, batimetri, pasang surut, sedimen, dan foto udara *drone* diperoleh melalui survei lapangan, sedangkan analisis parameter oseanografi dilakukan menggunakan Mike21. Hasil penelitian menunjukkan dominasi abrasi di sepanjang garis pantai dengan nilai terbesar *Linear Regression Rate* (LRR) -41,35 m/tahun dan *Net Shoreline Movement* (NSM) -413,5 m/10 tahun. Hasil analisis parameter oseanografi menunjukkan faktor paling dominan penyebab abrasi adalah gelombang yang membangkitkan arus sejajar pantai sehingga meningkatkan intensitas transpor sedimen dan mempercepat kemunduran garis pantai. Kondisi batimetri yang landai serta minimnya pelindung alami pantai turut memperparah abrasi di wilayah penelitian.

Kata kunci: Abrasi, Faktor Oseanografi, Kabupaten Pekalongan, Perubahan Garis Pantai, Tutupan lahan

ABSTRACT

ANALYSIS OF SHORELINE CHANGE IN THE COASTAL AREA OF PEKALONGAN REGENCY CENTRAL JAVA PROVINCE

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Shoreline change is a dynamic phenomenon influenced by oceanographic factors and anthropogenic activities. Sunter Depok Indah Beach, located in Pekalongan Regency, has experienced significant coastal abrasion due to wave action and the lack of natural coastal protection. This study aims to analyze the influence of oceanographic factors and the relationship between land cover change and shoreline change at Sunter Depok Indah Beach, Pekalongan Regency Central Java Province. Primary data, including shoreline tracking, bathymetry, tides, sediment samples, and drone aerial photographs, were collected through field surveys, while oceanographic parameter analysis was conducted using Mike21. The results indicated that abrasion dominates along the shoreline, with the highest Linear Regression Rate (LRR) reaching -41,35 m/year and the Net Shoreline Movement (NSM) reaching -413,5 m over 10 years. The oceanographic parameter analysis shows that waves are the most dominant factor causing abrasion by generating longshore currents, which increase sediment transport intensity and accelerate shoreline retreat. In addition, the gentle bathymetric conditions and the lack of natural coastal protection further exacerbate abrasion in the study area.

Keywords: Abrasion, Land Cover, Oceanographic Factors, Pekalongan Regency, Shoreline Change