Pemodelan Perubahan Garis Pantai Dengan Implementasi Numerik Metode Beda Hingga

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Abstract

Changes in coastline are caused by sediment moving from one place to another due to the influence of waves and currents. Continuous waves crashing on the coast which causes shoreline changes to occur. Changes in coastlines are caused by wind and water moving from one place to another, eroding the soil and then settling it in a continuous place. If this condition persists then the shape of the coastline will change and this can result in material and immaterial losses, long-term effects and difficult normalization. The phenomenon of shoreline changes can be modeled mathematically in the form of partial differential equations. The phenomenon of shoreline changes occurs when the sediment transport that comes out or moves out of an area larger than the incoming sediment transport is also called erosion and if the reverse is called sedimentation or accretion. In this Final Project, a dynamic form of shoreline changes will be modeled using a heat equation model which is solved numerically using finite difference method. Numerical solutions for heat equations will be solved through implementation with the forward time center space (FTCS) method

Key word : ***Erosion, Accretion, Sedimentation. Differential method , partial differential equations***