CHANGES IN THE SHORELINE ALONG NEW MANGALORE PORT CONSIDERING THE CLIMATE CHANGE EFFECT

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ABSTARCT

Future shoreline changes are predicted using shoreline evolution models run by historical wave climate. These historical wave conditions will change in future in response to change in wind pattern which is driven by increased global warming. The future changes in sediment transport and associated changes in shoreline are to be determined by using future projection of wave climate. Shoreline changes and net littoral drift along the New Mangalore Port along the west coast of India is calculated using numerical shoreline model by LITPACK software. The significant wave height and wave direction for a period of 40 years is simulated using wind data obtained from ERA interim of ECMWF. The past shoreline changes is calculated using the wave climate which is simulated using MIKE 21SW module. Rates of longshore sediment transport and shoreline shift is determined for past and future using numerical shoreline model. At NMPT port the net littoral drift is found to be 65740 (m3/year) and shoreline changes along the New Mangalore coast are not prominent. The wave height is found to be increased by 5 to 7 percent for NMPT Port for future scenarios and the corresponding changes in shoreline and littoral drift is found.

Keywords: Littoral drift, Shoreline change, Wave climate