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Investigations on nearshore wave climate and coastal sediment transport: Southwest coast of Sri Lanka

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Understanding of nearshore wave climate and sediment transport behaviour is vital for planning of coastal zone developments in an island like Sri Lanka. In this study, nearshore wave condition was investigated and the sediment transport trends were assessed for the southwest coast of Sri Lanka. Long term offshore wave data were used in establishing nearshore wave climate, with the wave transformations carried out using the MIKE 21 computer model. Based on nearshore wave climate established, empirical formulations were used to assess the sediment transport trends in the region. It was observed that the coastal sediment transportation in the southwest region occurs mainly due to the waves approaching the shore, mostly from the directional sector of 190^0-240^0, with the waves driving sediment northwards most of the year. For comparative purposes, field measurements were also carried out at selected locations to estimate the erosion/accretion resulting from sediment transport trends in the region.

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