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Semi-diurnal variability of Weligama beach due to tidal and wave actions

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The effect of the tidal and wave action on the Weligama beach in the vicinity of the Polawatta River mouth is studied for the first time. The Weligama bay is located in the southern coast of Sri Lanka at approximate coordinates of 80.45E and 5.95N. The changes of the beach due to wave action and the changing water level at the river mouth during the tide were monitored for two consecutive days in June 10-11, 2006. The high tide on June 10th was in the afternoon around 2.30. The water level was increased by about 20 cm at the high tide. Increase of the tidal action due to full moon was observed on the June 11th and the maximum rise of the water level was about 30 cm. The short-term variation of beach accretion/erosion due to wave action was measured at the two location tracks and it was found to be within ± 10 cm. Accretion takes place at onshore locations at both tracks during the ebb tide on June 11th.

Keywords: Weligama bay beach, diurnal tidal variation, accretion, erosion