



Sunshine Coast QLD05.01.05

Regional setting

The regional processes dominating this region include the wet tropics to humid sub-tropical climate, south-east trade winds, micro tides (1.35m), dominant southerly swell, low to moderate south-east seas (south-east wind-waves), dominantly terrigenous sediments with interrupted northerly longshore sediment transport (low-moderate), the El Nino Southern Oscillation (driving sea-level variability, tropical cyclone frequency, beach erosion/accretion cycles); and the Madden-Julian Oscillation (driving weather patterns including monsoons and tropical cyclones).

Regional hazards or processes driving large scale rapid coastal changes include: tropical cyclones, storm surges, river flooding, and variable longshore sand transport.

This compartment extends from Noosa Head to Deepwater Point.

Justification of sensitivity

Sensitivity rating is a 4, owing to the predominance of sandy beaches.

Other comments

The Sunshine Coast compartment extends south from Noosa Head for 54 km to Deepwater Point at Caloundra. In between are a total of 19 exposed, generally wave-dominated double bar beaches; these beaches make up 88% of the shore, the remainder being bedrock headlands (Noosa Head, Point Arkwright, Point Cartwright and Caloundra Head), the Maroochy River mouth and Mooloolaba Inlet. The beaches are arranged in three curving systems (Sunshine to Coolum, Marcoola to Maroochydoore, and Point Cartwright to Currimundi) together with smaller beaches on the headlands. Longshore sand transport of a few hundred thousand cubic metres a year moves through the system, bypassing the headland and along the beaches to



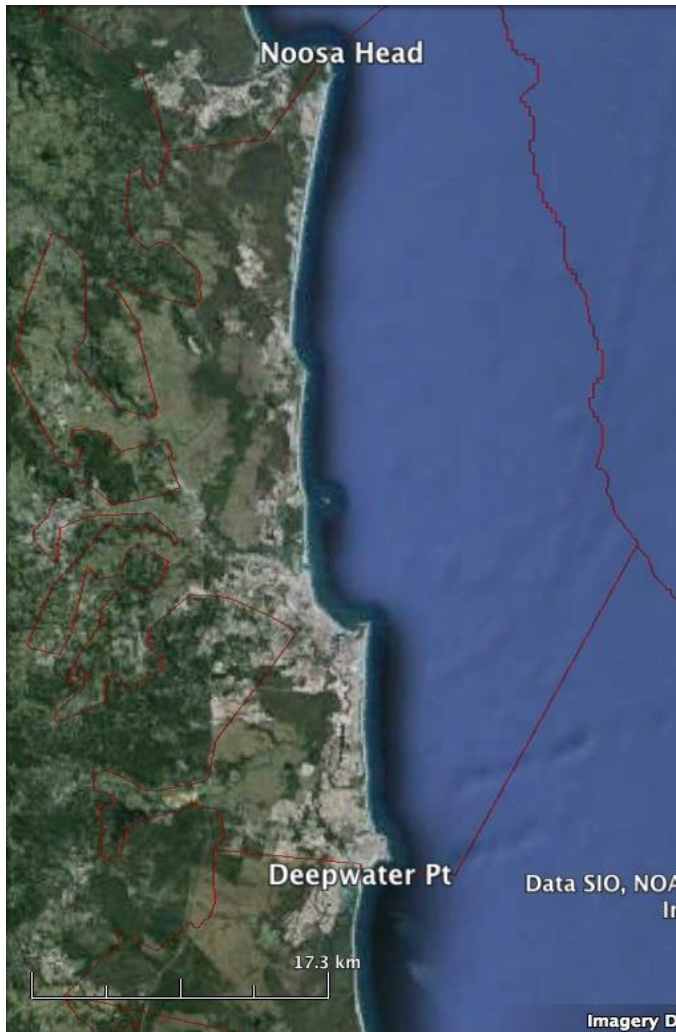
round Noosa Head. The sand is well-sorted medium quartz sand. There is an extensive ribbon of residential and commercial development along most of the shore, with most setback behind an established foredune. The entire sandy coast is susceptible to sea level rise induced erosion, with estimates that it will erode by between 140-190 m by 2100, as well as facing interruption to the longshore sand transport, which may be reduced by losses to the inlet flood tide deltas. In addition, the canal estates at Maroochydore and the entire Mooloolaba-Kawana Waters estates and infrastructure are at risk to inundation. Finally, the dynamic mouth of the Maroochydore is already causing problems and is likely to become more dynamic with rising sea level and changing tidal conditions.

Additional information (links and references)

Short, A D, 2000, Beaches of the Queensland Coast: Cooktown to Coolangatta. Sydney University Press, Sydney, 360 pp.

<https://www.ehp.qld.gov.au/coastalplan/coastalhazards.html>

<https://www.sunshinecoast.qld.gov.au/en/Environment/Rivers-and-Coast/Coastal-Management/Shoreline-Erosion-Management-Plan>



Sunshine Coast – Noosa Head to Deepwater Point.