Double Point - Tam-O Shanter Point QLD03.07.04

Regional Setting

The dominant regional processes influencing coastal geomorphology in this region are the wet tropics to humid sub-tropical climate, south-east trade winds, mega-meso tides, strong tidal currents, low to moderate south-east seas (local wind-waves), the 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 Double Point to Tam-O Shanter Point.

Justification of Sensitivity

The sensitivity rating is 4. The shoreline is stable but sediment supply is limited and predicted to decline.

- There is evidence of erosion at Murdering Point and Kurrumine beaches (Short 2000).
- Extensive beach ridge deposits at Cowley Beach (up to 60 ridges) appear to be wave-built by extreme cyclonic events (Nott et al, 2009).
- Relict sand reserves are predicted to decline

Other comments

The impact of cyclonic events is likely to be more severe, with longer beach recovery times.

Confidence in sources

Medium confidence in sources.

Additional information (links and references)

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Nott, J., Smithers, S, Walsh, K, Rhodes, E, 2009. Sand beach ridges record 6000 year history of extreme tropical cyclone activity in northeastern Australia. *Quaternary Science Reviews* 28 (15–16), 1511–1520.

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