



Cape Grafton - Bell Peak QLD03.07.01

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 Cape Grafton to Bell Peak.

Justification of Sensitivity

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

- Beaches in the northern section have localized sediment supply, with extensive vegetated dunes and backing foredunes up to 10m high (Short 2000).
- In the southern section, east-facing Saltwater Creek Beach is backed by low sand ridges. The beach shows signs of natural erosion (Short 2000)



Other comments

- Coarse granitic sands form narrow beaches, indicating localised sediment sources.
- The impacts of cyclonic events are likely to be more severe, with longer beach recovery times.

Confidence in sources

Medium confidence in sources.

Additional information (links and references)

Short, A D (2000) *Beaches of the Queensland Coast: Cooktown to Coolangatta*, Australian Beach Safety and Management Program, University of Sydney Press