



## Curtis Island (north) QLD04.03.05

### Regional setting

The regional processes dominating this region include the wet tropics to humid sub-tropical climate, south-east trade winds, meso-macro tides (3.4m), strong tidal currents, 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 Station Point to Cape Capricorn.

### Justification of sensitivity

The overall sensitivity rating is a 5, owing to the very low-lying coast and barrier-tidal flats, and the highly dynamic nature of the beaches, barrier islands and sand spits - all of which are subject to overwashing, inundation and sea level rise.

### Other comments

This sheltered, 25 km long, north-facing compartment forms the northern side of Curtis Island. It has been receiving well-sorted fine quartz sand via headland bypassing and overpassing of Cape Capricorn, which has developed a 2-3 km wide regressive barrier with outer barrier island and west-migrating sand spits. All of this is backed by the barrier ridges and four areas of tidal flats and mangroves, with the entire compartment acting as a sediment sink. The entire coast is low-lying and susceptible to overwashing, inundation and erosion induced by the episodic



longshore transport and migratory spits. This is a low energy but dynamic, low-lying, highly susceptible coast. Much of the coast is predicated to be inundated, eroded by up to 400 m, and the dunes at Cape Capricorn breached by sea level rise. The entire compartment is undeveloped.

**Additional information (links and references)**

BPA, 1979, *Capricorn Coast Beaches*, Beach Protection Authority, Brisbane, 238 pp.

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/coastal hazards.html>



*Curtis Island (N) – Station Point to Cape Capricorn.*