



Sarina Coast QLD04.01.05

Regional setting

The regional processes dominating this region include the wet tropics to humid sub-tropical climate, south-east trade winds, meso tides (4.86m), strong tidal currents, low to moderate south-east seas (local 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 Dundgeon Point to Cape Palmerston.

Justification of sensitivity

Overall sensitivity rating of 3.5. The bedrock headlands are resilient and rated 3. The beaches and tidal flats are rated 4 as they are exposed to storm surges and rising sea levels, leading to erosion of the beaches and inundation of the tidal flats.

Other comments

This is an irregular, 90 km long, bedrock controlled coast with a mix of protruding bedrock headlands, tide-dominated sandy beaches and estuaries containing tidal flats up to 2 km wide; numerous small tidal creeks, together with mangroves and extensive supratidal flats. There are three large inlets (Sarina Inlet; Llewellyn & Ince Bays) and several smaller tidal creeks located between Dudgeon Point and Cape Palmerston. Development is restricted to the northern half of the compartment; this includes the Hay Point jetty and coal loader, and the small communities of Hay Point,

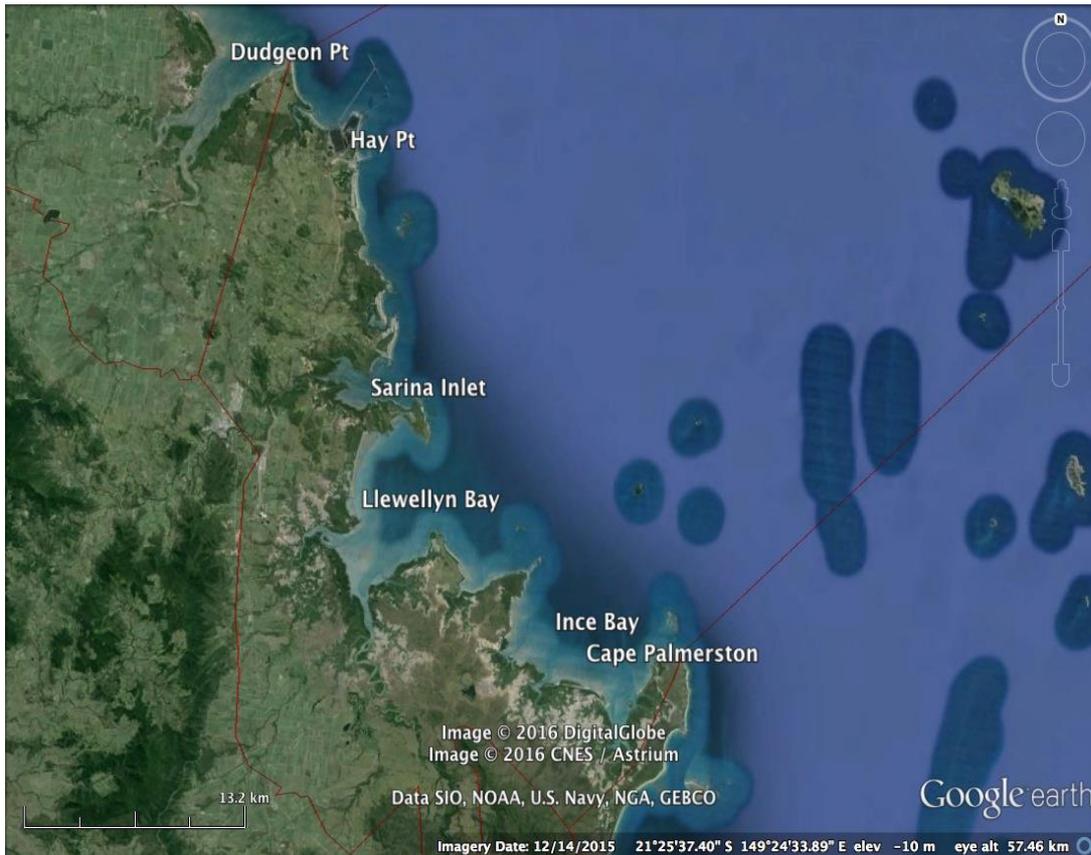


Grasstree, Campwin, Sarina and Armstrong Beach. All of the beaches and tidal flats are exposed to storm surge and rising sea level, with beach erosion, inundation of the tidal flats and landward migration of the mangroves into the supra-tidal flats being likely to occur. Beach sediments are predominately carbonate-rich (10-80%) medium sand, suggesting local sources.

Additional information (links and references)

Masselink G and Lessa G, 1995, Barrier stratigraphy on the macrotidal central Queensland coastline, Australia. *Journal of Coastal Research*, 11, 454-477.

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



Sarina Coast – Dudgeon Point to Cape Palmerston.