Cooloola QLD05.01.04

Regional setting

The regional processes dominating this region include the wet tropics to humid sub-tropical climate, south-east trade winds, micro tides (1.2m), 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 Double Island Point to Noosa Head.

Justification of sensitivity

Sensitivity rating of 4.5, owing to exiting erosion at Noosa and susceptibility of predominately sandy coast to sea level rise.

Other comments

The Cooloola compartment extends as a 57 km long, gently curving, wave-dominated double bar from Double Island Point, past the Noosa River mouth to Noosa Head. The northern 35 km of the beach is backed by massive stable transgressive dunes, that have overpassed Double island Point, with the northerly longshore sand transport also bypassing Noosa Head in the south and Double Island Point in the north. All of the sand is well-sorted fine quartz. Cooloola Beach is predicted to erode by between 140-230 m by 2100, and Noosa Main Beach by 60 m. However, the Cooloola sea level induced erosion will be mitigated by the

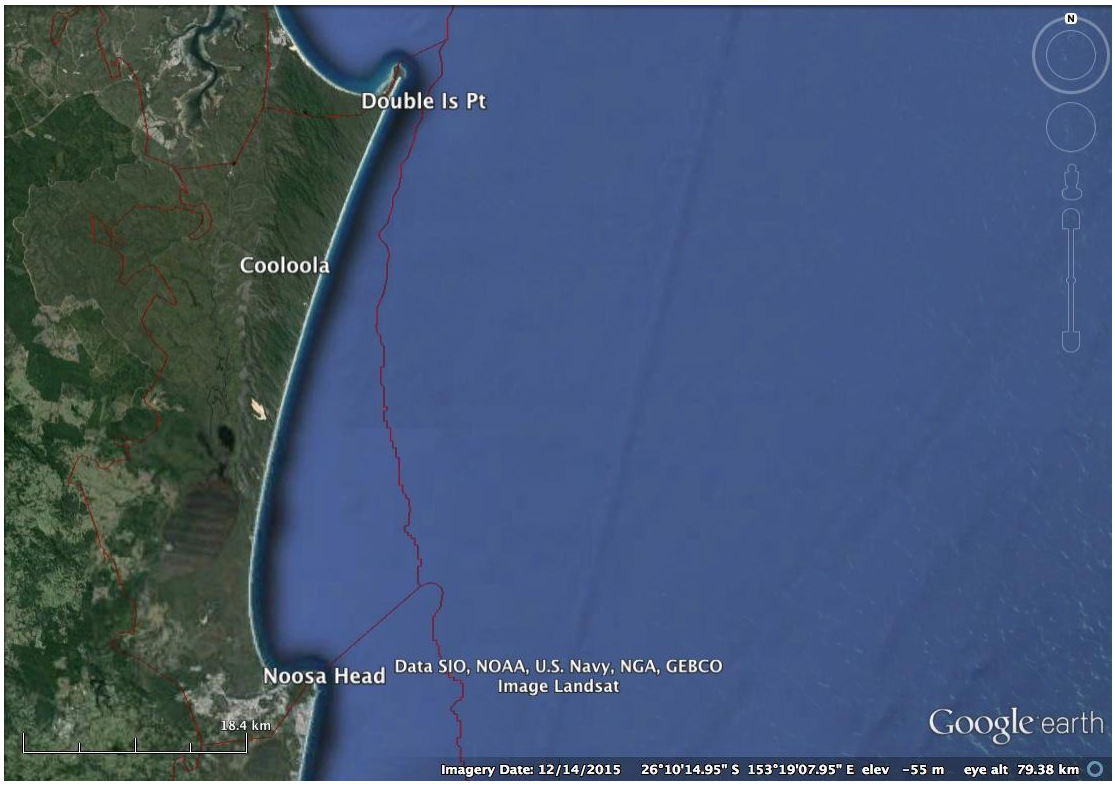
large volumes of dune sand available to supply the beach, but may also be exacerbated by loss of sand into the Noosa River flood tide delta. While there is no development on Cooloola beach, it is a popular tourist-4WD-camping destination, and any ongoing erosion would disrupt these activities.

There is major development at Noosa (Hastings St) which is already at risk to storm surge and erosion, and this will be exacerbated by both sea level rise and any interruptions to the longshore sand transport around Noosa Head. In addition, Noosa and Nossaville canal estates will be at risk from storm surge and sea level inundation. Noosa inlet will be impacted by 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



Cooloola – Double Island Point to Noosa Head.