



## Whitsunday Coast & Islands QLD03.08.07

### Regional setting

The regional processes dominating this region include the wet tropics to humid sub-tropical climate, south-east trade winds, meso tides (2.4m), 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 Pioneer Point to Cape Conway.

### Justification of sensitivity

Overall sensitivity rating is a 3.5. Sensitivity rating ranges from 3 on bedrock, to 4 on bay and island beaches which will erode, and on tidal flats which will be inundated.

### Other comments

This is a highly indented, 66 km long, bedrock coast extending from Pioneer Point to Cape Conway, containing a series of small mainland bays, with the Whitsunday Island group offshore, all with highly variable alignment. The compartment features a predominately rocky shore, apart from beaches at the base of more exposed bays, and mangroves at the base of sheltered bays (Swamp, Roper Inlet, Trammel, Anderson and Woodcut). Some embayments (Puritian and Genesta) have small sand and cobble/boulder beach ridge barriers. Many beaches are fringed by coral reefs. Sediments are local and predominately carbonate (~60%) and cobble-boulders



in places. Whitehaven Beach, however, is 100% quartz and predicted to erode by 130 m to 400 m in Hill Inlet. Shute Harbour is located on bedrock slopes and will be reasonably resilient. Overall, this is a highly variable and irregular bedrock-dominated shore.



*Whitsunday Coast and islands – Pioneer Point to Cape Conway.*



### **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/coastal hazards.html>