



## Cape Direction - Cape Sidmouth QLD03.03.04

### 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 Direction to Cape Sidmouth.

### Justification of Sensitivity

The sensitivity rating is between 3 and 4. The shoreline is stable but sediment supply is limited and predicted to decline.

- Near Cape Direction, the beaches are backed by transgressive dune field, but these do not occur further south.
- A number of pocket beaches and granite headlands are fronted by sand flats and sand waves extending up to 4 km offshore (Short 2006).
- In the southern section, there is extensive northerly littoral drift, with migrating sand bars being welded onto coast. Towards Cape Sidmouth, there are migratory spits backed by Holocene beach ridge and mangrove deposits.



### **Other comments**

- The compartment is leaking sediment to the north, past Cape Direction.
- There is extensive northerly littoral drift.
- 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 (2006) *Beaches of the Northern Australian Coast: The Kimberley, Northern Territory and Cape York*, Australian Beach Safety and Management Program, University of Sydney Press