



## Cape Melville - Murdoch Point QLD03.05.01

### 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 Melville to Murdoch Point.

### Justification of Sensitivity

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

- This is a complex section of coast, containing 65 sandy beaches and three major north-facing sheltered embayments.
- Half of the beaches are in the northern part of the compartment. These are east or north-east facing, and erosion has exposed beachrock on a few of these.
- Mangroves, tidal creeks and beach ridges have built up in the sheltered bays to the west of Murdoch Point, and also around the outlet of the Howick River, to the west of Red Point. Narrower strips of mangrove also occur in the protected bays west of Barrow Point.



### **Other comments**

- The impacts of cyclonic events are likely to be more severe, with longer beach recovery times.
- The southern end of the compartment appears to be actively receiving sediment from the next sediment compartment further south, via migrating sand spits.

### **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