



Cobourg Peninsula NT02.02.01

Regional Setting

The dominant regional processes influencing coastal geomorphology in this region are the wet-dry tropical climate, trade winds, monsoons, mega to meso (limited) tides, semi-diurnal, waves dominantly seas, episodic high river sediment discharges, mixed carbonate – terrigenous sediments, tidal sediment transport, limited longshore transport, the El Nino Southern Oscillation (driving high sea-level variability), 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, king tides and river flooding.

This compartment extends from Cape Don to Cape Croker.

Justification of sensitivity

Sensitivity rating is a 3. There is no evidence on which to indicate patterns of shoreline change.

Other comments

The northern margin of Cobourg Peninsula is highly embayed, comprising northwards flowing drowned valleys. In Popham Bay, a mangrove creek extends through the peninsula, isolating Cape Don; this creek is fringed by mangroves but supports corals in its channel.

The promontories, oriented NNW, are composed of the Bathurst Island Formation of Cretaceous to Tertiary lateritic and bauxitic cliffs. Extensive shore platforms, in some cases contiguous with shallow reefs, extend from the northern end of many of the headlands. Sand has accumulated in embayments on many of these and formed beach ridge plains (i.e. Danger Point, Araru Point, Smith Point), with some of the ridges cemented into eolianite. The beach-ridge plains become wider to the east with



the widest, more than 5 km wide, at Palm Bay on Croker Island, where extensive wetlands have formed. A smaller beach-ridge plain occurs just west of Cape Croker.

Confidence in sources

Medium confidence: There is little evidence on which to base assessment.

Additional information (links and references)

- *An inventory of all the beaches in northern Australia has been compiled by Short (2006). This provides details of the geomorphology of each beach and other information that will be useful in determining the functioning of tertiary compartments:*
 - Short, A.D., 2006. Beaches of the northern Australian coast: the Kimberley, Northern Territory & Cape York. Sydney University Press.
- *There has been little comprehensive study of the coast of the Northern Territory. There is little information on the offshore characteristics of NT. A workshop was held in 2007 that summarised the nature of the offshore environment, recognising Joseph Bonaparte Gulf in the west, Arafura in the north, and the Gulf of Carpentaria in the east. The report is available at www.environment.gov.au/system/.../characterisation-workshop-report.rtf*
- Woodroffe, C.D., Bryant, E.A., Price, D.M., Short, S.A., 1992. Quaternary inheritance of coastal landforms, Cobourg Peninsula, Northern Territory. Australian Geographer 23, 101-115.
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0016/13930/10_cobourg.pdf
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0006/13929/11_croker.pdf