



Anson & Fog Bays NT01.01.04

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 Ford to Native Point.

Justification of sensitivity

Sensitivity rating is a 4. There is evidence of rapid shoreline change associated with the Daly River, and low-lying plains are sensitive to inundation.

Other comments

This compartment comprises Anson Bay, into which the Daly River drains, a central rocky section, and Fog Bay to the north. The southern part of Anson Bay contains a sequence of beach ridges that lie behind beach NT70-71, and there are further sequences of ridges on the southern margin of the Daly River, where they have prograded over 3km (beach NT80). These prograded sections are separated by deeply weathered Permian bluffs (Red Cliff to Cliff Head). The Daly River has been particularly dynamic in its lower course, actively meandering in historic time (Chappell, 1993); much of the plains flanking the river are low-lying and prone to



inundation, making them sensitive to sea-level rise. On the northern margin of Anson Bay, there is a muddy plain that has prograded with a broad mangrove fringe; bedrock outcrops at Channel Point opposite the low-lying Peron Islands. The coast north to Jenny Point is largely bedrock controlled, but with small beaches backed by several ridges. The Finiss River enters into Fog Bay, and the bay comprises a sequence of cheniers and beach ridges that have prograded a plain that is several kilometres wide; these are sandy north of the river (beach NT93), but fronted by mangroves south of it. In the section north of Fog Bay, including Dundee Beach and culminating in Native Point (which marks the end of the compartment), there are turtle nesting beaches; these are fronting bedrock bluffs, and are experiencing erosion so may be slightly sensitive (Short, 2006).

Confidence in sources

Medium confidence: There is geomorphological and historical evidence of change associated with the Daly River.



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*
- Chappell, J., 1993. Contrasting Holocene sedimentary geologies of lower Daly River, northern Australia, and lower Sepik-Ramu, Papua New Guinea. *Sedimentary Geology* 83, 339-358.
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0004/13936/04_finniss.pdf
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0003/13935/05_fog.pdf
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0006/13938/02_anson.pdf