



## Vernon NT01.02.01

### 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 Gunn Point to Cape Hotham.

### Justification of sensitivity

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

### Other comments

This shoreline is largely bedrock fringed, except for the mouth of the Adelaide River where a bedrock constriction - 'the Narrows' - limits tidal flows. The Adelaide River is a meandering river with fringing mangroves and is tidal for ~100km upstream. The Vernon Islands are mangrove covered islands with rock outcrops and limited beaches.



### Confidence in sources

Low confidence: No data available.

### 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](http://www.environment.gov.au/system/.../characterisation-workshop-report.rtf)*