



## Blue Mud Bay NT03.01.03

### Regional Setting

The dominant regional processes influencing coastal geomorphology in this region are the wet-dry tropical climate, trade winds, monsoons, irregular meso-tides, large seasonal mean sea-level range, low to moderate seas, seasonally high river sediment discharges, terrigenous sediments, the El Nino Southern Oscillation (driving sea-level variability & tropical cyclone frequency), 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 and river flooding.

This compartment extends from Cape Shield to Cape Barrow.

### Justification of sensitivity

Sensitivity rating is a 3 overall. Much of the shoreline is bounded, low-energy and not sensitive.

### Other comments

Blue Mud Bay is a large embayment that is 90 km from north to south; its entrance lies between Cape Shield and Cape Barrow, which are 45 km apart. The Bay lies in the lee of Groote Eylandt, and also has Isle Woodah within its mouth. It therefore is particularly low energy, although the beaches around its perimeter are swash-aligned, including the west-facing beaches (e.g. NT1305 and NT1309). The 339km of shoreline contain 94 beaches, and 80 km length of mangrove-fringed coastal plains that are up to 10km wide (Short, 2006). The Walker River, entering the western side of the Bay, has meandered and changed its course, as evident from several paleochannel meanders. Blane Peninsula in the north has low mudflat environments with rich midden archaeology.



### 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](http://www.environment.gov.au/system/.../characterisation-workshop-report.rtf)*
- [http://crclme.org.au/Pubs/MAPS/arnhem\\_250k.pdf](http://crclme.org.au/Pubs/MAPS/arnhem_250k.pdf)
- [http://www.lrm.nt.gov.au/\\_data/assets/pdf\\_file/0020/13916/25\\_bluemudbay.pdf](http://www.lrm.nt.gov.au/_data/assets/pdf_file/0020/13916/25_bluemudbay.pdf)