# Maningrida NT02.03.02

## 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 Hall Point to Cape Stewart.

## Justification of sensitivity

Sensitivity rating is a 3 overall. However, the low-lying plains have a higher local rating of 4, as they are likely to be subject to inundation. There is no evidence on which to indicate patterns of shoreline change.

## Other comments

South of Hall Point, there is the broader embayment of Junction Bay with sandy ridges and muddy coastal plains around its margin, particularly associated with the Goomadeer River. The Liverpool and Tomkinson Rivers meet at Maningrida, with mangrove fringes. There is much evidence that these rivers have been very dynamic in the past, with numerous palaeochannels across the plains, being low-lying and subject to inundation. The plains flanking these rivers are sensitive. The compartment becomes more sandy to the east and a sequence of ridges has formed

west of Cape Stewart. Behind these are extensive wetlands, such as those of the highly meandering Blyth River. It appears that the small creek to the east of Cape Stewart may have previously drained to its west, but has been impounded by accumulation of sand ridges. Spit orientation indicates sand transport to the east along this section of coast (e.g. at Berraja Creek and the mouth of Blyth River). There are extensive Holocene plains to the east of the Blyth River.

**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 a*t www.environment.gov.au/system/.../characterisation-workshop-report.rtf

- Finlayson, C.M., Yibarbuk, D., Thurtell, L., Storrs, M.J., Cooke, P., 1999. Local community management of the Blyth/Liverpool wetlands, Arnhem Land, Northern Territory, Australia. Supervising Scientist, Report 137, Canberra.