



Galiwinku NT02.04.01

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 Woolen River mouth to Rimbija Island.

Justification of sensitivity

Sensitivity rating is a 3 overall. Most of the shoreline is rocky and not sensitive. However, low-lying areas and wetlands are likely to be threatened by inundation.

Other comments

This is a SW-NE trending section of coast extending from the mainland of Arnhemland to Elcho Island, and transitioning into the Wessel Islands (Guluwuru and Marchinbar Islands). Whereas Elcho Island and Drysdale are well vegetated, the Wessel group are largely devoid of vegetation, or sparsely wooded. Elcho Island is composed of coarse-grained Neo-Proterozoic to Cambrian sandstones, whereas the older Proterozoic Marchinbar sandstone is more quartz-rich, with bauxite. This compartment is not very sensitive as the shoreline is largely rocky, except for the wetlands flanking Woolen 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 at www.environment.gov.au/system/.../characterisation-workshop-report.rtf*
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0005/13919/22_elcho.pdf
- http://www.lrm.nt.gov.au/_data/assets/pdf_file/0004/13918/23_wessel.pdf