



Buccaneer Archipelago WA13.01.01

Regional Setting

The dominant regional processes are the wet-dry tropical climate (trade winds, monsoons); El Niño Southern Oscillation (driving high sea-level variability); Madden-Julian Oscillation (driving weather patterns including monsoons and tropical cyclones); mega to meso (limited) semi-diurnal tides; waves dominantly seas; episodic high river sediment discharges; mixed carbonate-terrigenous sediments; tidal sediment transport, and limited longshore transport.

This coastline is susceptible to regional hazards, including tropical cyclones, storm surges and river flooding.

This rocky coast compartment extends from Point Osborne to Nares Point.

Justification of sensitivity

The sensitivity rating is a 2 as the shoreline is stable but likely to start accreting. Low susceptibility is attributed to the rocky coast and a high level of natural resilience elsewhere. Fringing coral reefs, some growing in areas of turbidity, and prograding tidal and fluvial deltas are common features of the highly irregular ria coast that includes the Buccaneer Archipelago.

Other comments

Common landform assemblages:

Three shoreline assemblages dominate: [1] Highly resistant and structurally controlled headlands and islands or drowned river valleys (rias). Most show minor embayments with tidal flat or salt flat development (52%). [2] Beachrock and adjacent fringing reefs, some with some beach formation between headlands (26%), [3] others



with limited tidal flat development and some channels backing onto low cliffs and sand ridges (22%). The numerous islands of the Buccaneer Archipelago are not included in the shoreline description.

Geomorphological features include the Buccaneer Archipelago and the indented ria coast.

This compartment has a WNW aspect.

Confidence in sources

Moderate confidence: Limited or no information specifically describing landforms or coastal landform change is available for the historical period. However, multiple photographic runs and other regional investigations of landforms have been published.

Interpretation of landform assemblages from satellite imagery, available literature and aerial photography.

Additional information (links and references)

Australian Beach Safety & Management Program (ABSAMP) database of over 12,000 beaches can be accessed at http://www.ozcoasts.gov.au/coastal/beach_intro.jsp (also see Surf Life Saving site)

Australian Maritime Safety Authority (AMSA). (2006) Oil Spills Response Atlas. Australian Government Canberra. Available at <https://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/general-information/OSRA/index.asp>



Baker C, Potter A, Tran M & Heap AD. (2008) Geomorphology and Sedimentology of the Northwest Marine Region of Australia. Geoscience Australia, Record 2008/07. Geoscience Australia, Canberra. 220pp.

Brocx M & Mene yK (eds). (2011) Symposium on Limberley Marine and Coastal Science. Journal of the Royal Society of Western Australia, 94(2): 55-418.

Eliot I, Nutt C, Gozzard B, Higgins M, Buckley E & Bowyer J. (2011). Coastal Compartments of Western Australia: A Physical Framework for Marine & Coastal Planning. Report to the Departments of Environment & Conservation, Planning and Transport. Damara WA Pty Ltd, Geological Survey of Western Australia and Department of Environment & Conservation, Western Australia

Sharples C, Mount R, Pedersen T, Lacey M, Newton J, Jaskierniak D & Wallace L. (2009) The Australian Coastal Smartline Geomorphic and Stability Map. Version 1: Project Report. Geoscience Australia & Department of Climate Change, www.ozcoasts.gov.au/pdf/SmartlineProjectReport_2009_v1.pdf

Short AD. (2006) Beaches of the Northern Australian Coast: The Kimberley, Northern Territory and Cape York: A guide to their nature, characteristics, surf and safety. Australian Beach Safety and Management Program. University of Sydney Coastal Studies Unit and Surf Life Saving Australia. Sydney University Press. Sydney, New South Wales.

Wilson B. (2013) The Biogeography of the Australian North West Shelf: Environmental Change and Life's Response, Elsevier, Amsterdam.