



Dick Hartog Island (east) WA09.02.01

Regional Setting

The dominant regional processes are the Mediterranean to arid climate; the El Nino Southern Oscillation (driving sea-level variability); Southern Annular Mode (driving south-westerly swells and storms); strong sea breezes; micro to meso tidal, mainly diurnal; south-westerly swells; southerly seas; and carbonate sediments with moderate northerly longshore transport.

This coastline is susceptible to regional hazards, including extra-tropical cyclones, mid-latitude cyclones (depressions), storm surges, and river flooding (sub-regions only).

This mixed sand and rock coast compartment extends from Cape Inscription to Cape Bellefin.

Justification of sensitivity

The sensitivity rating is a 4 as the coast is currently stable but likely to start eroding. Future change is expected for the ebb and flood tide deltas in the South Passage, the intertidal and sub-tidal terraces, sandy beaches and low-lying foredune plains, and the cusped forelands in the northern part of the compartment.

Other comments

Common landform assemblages:

Ebb and flood tide deltas in the South Passage are linked to intertidal and sub-tidal terraces in Shark Bay. Sandy beaches and low-lying foredune plains occur along much of the east coast, with the beaches separated by rocky headlands along the central east coast of Dirk Hartog Island. Cusped forelands occur in the northern part of the compartment.



Geomorphological features include rocky headlands, subtidal terraces, spits, narrow sandy beaches, the South Passage, and the Blind Strait.

This compartment has a NNE aspect.

Confidence in sources

Low confidence: Limited or no information describing landforms or coastal landform change over the historical period is available. Interpretation of landform assemblages from satellite imagery, aerial photography and site visits.

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.



Eliot I, Gozzard B, Eliot M, Stul T and McCormack G. (2012c) The Gascoyne Coast, Western Australia: Shires of Shark Bay to Exmouth. Geology, Geomorphology & Vulnerability. Damara WA Pty Ltd and Geological Survey of Western Australia, Innaloo, Western Australia.

http://www.transport.wa.gov.au/mediaFiles/marine/MAC_R_ShiresOfSharkBayAndExmouthFullReport.pdf.

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

Gozzard JR. (2011d) WACoast –Gascoyne. Geological Survey of Western Australia

Short AD. (2005) Beaches of the Western Australian Coast: Eucla to Roebuck Bay: 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.

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