



## Eucla Coast WA01.01.01

### Regional Setting

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

Regional hazards or processes driving large scale rapid coastal changes include: West Coast Lows (extra-tropical cyclones), mid-latitude cyclones (depressions), storm surges, and river flooding (sub-regions only).

This compartment extends from the WA/SA Border to Red Rocks Point.

### Justification of sensitivity

Sensitivity rating is a 4, as the coast is likely to erode, with active dunes retreating landward over old coastal plains, leaving beachrock or pavement reef exposed inshore.

### Other comments

The shoreline displays three common landform assemblages: [1] Sandy beach formed in areas protected by offshore reefs and rock platforms, and which may include some beachrock as low cliffs or headlands (52%); [2] broad gently-sloping coarse-grained sandy beach backed by vegetated dunes, some active (28%); and [3] beaches dominated by beachrock with occasional sandy sections and which may have a low undercut beachrock cliff (14%). All have seagrass banks offshore.



The compartment has a south-east aspect.

The Dominant regional processes are the Mediterranean to humid cool-temperate climate; the Southern Annular Mode (driving dominant south-westerly swells and storms); Micro-tidal; High energy south-westerly swells; Westerly seas; Carbonate sediments; and Interrupted swell-driven longshore transport.

This compartment is susceptible to regional hazards, including mid-latitude cyclones (depressions), storm surges and shelf waves.

### **Confidence in sources**

Low confidence: There is limited or no information describing landforms or coastal landform change over the historical period.

Interpretation of landform assemblages comes from satellite imagery and aerial photography.

### **Additional information**

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

Richardson L, Mathews E & Heap A. (2005) *Geomorphology and Sedimentology of the South Western Planning Area of Australia: Review and synthesis of relevant literature in support of Regional Marine Planning*. Geoscience Australia Report Record 2005/17



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](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>

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/S](http://www.ozcoasts.gov.au/pdf/S)