



Gales Bay (Exmouth Gulf - south west) WA10.03.02

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 coastal lowlands compartment extends from Learmonth to Giralia.

Justification of sensitivity

The sensitivity rating is a 4 as the shoreline is currently stable but likely to start eroding. Much of the coast is lowland and is presently subject to inundation during extreme storm events and high tides.

Other comments

Common landform assemblages:

A broad complex system of tidal channels and flats, with some backing onto low cliffs and sand ridges, occurs along the deeply indented and irregular coast south of Learmonth (64%). Major tidal creek channels and extensive tidal flats (28%) extend over 5km into the embayments. Complex relict sandy and gravel beaches are apparent as spits, cheniers and beach ridges on the headlands and along rocky sections of shore.



Geomorphological features include broad embayment, mudflats and mangroves.

This compartment has a NE 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 comes from satellite imagery, site visits 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>

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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.

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