



## Carnavon WA09.04.01

### 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 coastal lowlands compartment extends from Grey Point to South Bejaling Hill.

### Justification of sensitivity

The sensitivity rating is a 4 as the shoreline is currently stable but likely to start eroding. The coast is low-lying. South of the active delta of the Gascoyne River, the coast comprises inactive delta lobes fronted by outwash plains, cheniers, salt marsh, tidal flats and mangroves. To the north, river derived sediments from the active delta feed a sequence changing from outwash plains, coastal lagoons, cheniers and spits to a foredune plain north of Miaboolya Beach.

### Other comments

Common landform assemblages:

This is an area of transition - from the sheltered tidal flats of the Wooramel Bank, to sandy coast affected by the Gascoyne River and its geological antecedents, the Brown and Boodalia deltas. There is limited tidal flat development, although some channels back onto low cliffs and sand ridges around the deltas. North of Miaboolya Beach to Bejaling Hill, the



sandy shore is zeta-form in shape; broad sandy beach with well vegetated primary dunes is commonly backed by parallel beach ridges or stabilised parabolic dunes.

Geomorphological features include the active Gascoyne River delta.

This compartment has a SW aspect.

### **Confidence in sources**

Moderate confidence: Changes associated with the Gascoyne River delta at Carnarvon have been monitored. Limited or no information describing landform change over the historical period is available for the coast north and south of the active delta.

Interpretation of landform assemblages from satellite imagery, aerial photography, available literature and site visits to Quobba.

### **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](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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