



## Crescent Head NSW01.03.01

### Regional Setting

The dominant regional processes influencing coastal geomorphology in this region are the humid warm to cool temperate climate, micro-tides, south-easterly Tasman Sea swells, easterly seas, dominantly quartz (terrigenous) sediments with northerly longshore transport in the northern part, and the El Nino Southern Oscillation (driving beach erosion/accretion cycles, cyclone frequency).

Regional hazards or processes driving large scale rapid coastal changes include: East Coast Lows (extra-tropical cyclones), mid-latitude cyclones (depressions), and storm surges (<1m).

This compartment extends from Lagers Point to Tacking Point.

### Justification of sensitivity

Sensitivity rating is a 3 overall. The southern section may be a 4; erosion was inferred to the south of the compartment by Chapman et al. (1982), but sustained erosion has not been documented.

### Other comments

This secondary compartment consists of a number of sand filled embayments that block off the extensive flood plain and estuarine wetlands of the Macleay and Hastings Rivers (Hails, 1968). Pleistocene and Holocene transgressive dunes occur on and to the south of rocky headlands such as Hat Head. There are areas of mobile dune sand in places (Chapman et al., 1982). Longshore sand transport to the north is inferred from possible headland by-passing.



Killick Beach, between Hat Head and Crescent Head is backed by a Holocene barrier with transgressive dunes (partly mined), then a swampy inter-barrier depression, and a Pleistocene inner barrier.

North Shore Beach, south of Queens Head, is backed by a narrow Holocene barrier. This is an area of higher sensitivity to recession under climate change as there appears to be no sediment feed to this section of the beach from the south.

### **Confidence in sources**

Low confidence: Little research has been done since the synthesis by Chapman et al. (1982).

### **Additional information (links and references)**

Chapman, D.M., Geary, M., Roy, P.S., Thom, B.G., 1982. Coastal Evolution and Coastal Erosion in New South Wales. Coastal Council of New South Wales, Sydney.

Hails, J.R., 1968. The Late Quaternary history of part of the mid-North Coast, New South Wales. Transactions of the Institute of British Geographers 44, 133-149.