



Bega River NSW02.06.06

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 Cape Dromedary to Goalen Head.

Justification of sensitivity

Sensitivity rating is a 3 overall, but observed dynamics associated with the mouth of Bega River imply that Tathra Beach is a 5.

Other comments

South of Goalen Head, the coast is rocky with few pocket beaches. Wapengo Lagoon is controlled by bedrock at Bithry Inlet, but a Holocene barrier impounds Middle Lagoon. Nelson Beach is a small crescentic beach that partially occludes Nelson Lagoon.

The most sensitive section of this coast is Tathra Beach, a tertiary compartment, which responds to the dynamics of the Bega River mouth. The entrance dynamics make this a fast responder. It eroded at least 25 m in the storms of 1974, into the narrow beach-ridge plain. The beach has generally much finer sand at the southern



end, and coarser sediment (and more fluvial in origin) at the northern end. The tidal delta of the Bega River extends to include the northern part of the beach. During floods, delta and beach sand is moved offshore into a lobe that slowly returns to the beach; inundation of estuarine plains also likely to increase in future. The temporary loss of beach sand from the beach, which may cause significant erosion along the embayment and infilling of the mouth following floods, moves further sand from the beach. The area has been the subject of a detailed coastal geology, process and engineering study (PWD, 1980)

Confidence in sources

Medium confidence: Observations at Tathra support its vulnerability.

Additional information (links and references)

PWD, 1980. Tathra Erosion Study, prepared by the Department of Public Works [PWD] Coastal Engineering Branch, Report No. PWD 79015, February 1980.

Thom, B.G., Roy, P.S., Short, A.D., Hudson, J., Davis, R.A., 1986. Modern coastal and estuarine environments of deposition in southeastern Australia. Department of Geography, University of Sydney, 12th International Sedimentology Conference. Guide to Excursion 4A, p. 279.