

**Estuary response to environmental change: managing the future with reference to the
past**

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Present and future coastal populations rely on healthy estuarine and lagoonal ecosystems for the delivery of goods and services that support human well-being. Sustainable provision of these ecosystem goods and services is highly dependent on effective management at the land-ocean interface under increasing pressure from climate change, population growth and human impact. Examples are drawn from estuaries and back-barrier lagoons over a range of timescales (Holocene to the present) to illustrate their sedimentary and geomorphic evolution in response to changing sea-level, climate, fluvial sediment flux and coastal morphology (due to storms and/or sediment deposition/erosion). Particular attention is given to back-barrier wetlands under conditions of high relative sea-level rise (36 mm yr^{-1}) and reduced terrestrial sediment delivery during the mid-Holocene as a model for future estuary hinterlands where climate change is leading to accelerated sea-level rise and where river flow is becoming increasingly impounded and recycled.