

**AAPG Annual Meeting  
March 10-13, 2002  
Houston, Texas**

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## **The Sediment Dispersal System on the Southeast Margin of Australia**

The south east Australian continental margin has a unique sediment dispersal system. A series of coastal rivers have supplied sand to the shoreline and continental shelf throughout the Tertiary and Quaternary. Low pressure systems in the Tasman Sea have maintained a southeasterly wind and wave regime onto the SE Australian margin. The result has been the formation of a 1200 km longshore transport system from southern NSW to Fraser Island in Queensland. Large volumes of clastic sediments have accumulated at the northern end of the system forming sand islands up to 120 km long and 40 m high. Due to a NW change of coastal orientation, this shoreline sediment dispersal system is now supplying coastal sand beyond the sand islands, directly to the shelf edge and down the continental slope into deeper water. This region thus provides a new process for supplying sand to the deep ocean. The northward wave-driven longshore transport system is confined to the shoreline, shoreface and inner shelf. The outer shelf and upper slope is a temperate carbonate province that is impacted by the East Australia Current. This geostrophic permanent ocean current flows south at velocities of up to 4 knots along the eastern Australian margin and transports carbonate sediments southward and seaward over the shelf edge. The eastern Australian margin on average is less than 50 km wide, but thus contains two major sediment dispersal systems heading in opposite directions.