

SUBMARINE GEOLOGY OF THE EASTERN CORAL  
SEA BASIN, SOUTHWEST PACIFIC

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## ABSTRACT

The submarine geology and tectonic development of the Eastern Coral Sea Basin in the southwest Pacific has been described and discussed, based on detailed bathymetry, continuous seismic reflection profiles, and deep-drilling data. The area is characterized by complex bathymetry, and numerous geomorphological and structural features related to its plate tectonic setting at the margin of the Australian Plate.

Sediments in the Eastern Coral Sea Basin vary from the thick sequence of turbidity current deposits forming the Coral Sea Abyssal Plain to pelagic biogenic sediments and abyssal clays in other parts of the Basin.

The Coral Sea Basin appears to have formed during the early Eocene by normal seafloor spreading along the NW-SE trending Louisiade Rise. Bathymetry and reflection profiles indicate that this spreading center was segmented by at least two NE-SW trending fracture zones. A reduction in spreading rate and extrusion of "plateau basalts" in late Eocene was responsible for its present shallow depth. Development of structures in the area since that time has been related to the evolving Australian Plate margin adjacent to the Pacific Plate, characterized by NE compression and developing trench-island arc systems.