

Metadata Details

Title

A Geomorphologic, Seismic and Magnetic Study of the Astrid Ridge, Dronning Maud Land, Antarctica

Science Keywords

Category	Land Surface
Topic	Geomorphology
Expedition Year	1981-1982 1981-1982
ISO Topic	Seismology

Summary

Abstract

Astrid ridge rising from a depth of about 4000 m to 1000 m is a prominent feature on the continental margin of Dronning Maud Land. The ridge was studied by a six E-W and one N-S tracks comprising 458 km of echosounding, 405 km of seismic profiling and 452 km of magnetics. The crest of the ridge in the area surveyed trends N-S in the south but veers to NNW-SSE at about 68°S Lat. and is reported to change to NNE-SSW at about 67°S Lat. The crest of the ridge in the south is marked by a flat area at about 1500 m which deepens to 1700 to 1900 m at about 68° Lat. The western flanks of the ridge in the south are gently sloping while the eastern flanks are marked by NNE-SSW trending scarps of about 80-280 m. The northern area is marked by a NW to NNW-SE to SSE trending valley about 5-15 km wide and 240-380 m deep.

Purpose

The International Indian Ocean Expedition in the early 1960s considerably enhanced the knowledge of the marine geology and geophysics of the Indian Ocean and to a large extent of the continental margins. The expedition provided an impetus to marine geological and geophysical studies of the continental margins of the countries bordering the Indian Ocean. However, because of the ice cover and hostile environment, the continental margins of Antarctica still remain poorly studied. The study of the marine geology and geophysics of the Antarctic continental margins is of considerable value in the breaking, drift and reconstruction of the Indian, Antarctic and Australian plates.

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