

Metadata Details

Title

Bathymetry and Geomorphology of the Approaches to Dakshin Gangotri, Princess Astrid Coast, Queen Maud Land, Antarctica.

Science Keywords

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

Summary

Abstract

The continental margin of the Princess Astrid Coast has been poorly surveyed earlier and very few depths have been shown on the navigational charts. The depths along the route undertaken by the First Indian Expedition ranged from about 740 m at the northern edge of the ice pack (January 1982) to 224 m at the ice shelf. The route has been found to be safe for navigation except for the presence of seasonal ice cover and large semi-permanent icebergs. The characteristic feature of the topography in the area is marked by a sill at about 120 m depth which separates the deeper open ocean (>700 m) in the north and more than 200 m (even 700m) in the south. The position of the sill is marked by the grounding of numerous icebergs. The sill perhaps plays a significant role in the separation of water masses of the area and even in the development of polynya.

Purpose

MV Polar Circle which took the First Indian Expedition was equipped with a satellite navigation system collected over 17000 line km of echo soundings of which more than 7700 line km were in Antarctic Treaty Area, 350 line km in the area covered by the ice pack and polynya (in December 1981 and January 1982). The polynya at the time of the survey extended approximately from 69°37' to 69°55'S and 11°35' to 11°55'E and covered an area of over one thousand km². The open waters were, therefore, utilised for an extensive bathymetric survey. Since no bathymetric data have been shown earlier on the published navigational charts, these are presented here. Bathymetric data of the remaining area are also being processed and these will be published separately.

Data Center