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## MARINE FRONTIERS ABSTRACTS

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### Accretion and Hydrothermalism in North Fiji Basin, Southwest Pacific

The North Fiji basin is a marginal basin surrounded by: (1) the New Hebrides island arc in the west, which ends at the Matthew-Hunter Ridge in the south; (2) the Hunter fracture zone in the southeast; (3) the Fiji Islands in the east; and (4) the complex Vitiāz Trench system in the north. The investigations in this area suggest a complex opening has been active for approximately the past 10 m.y.

The detailed bathymetry and the structure of the central part of this basin are still poorly known. The major element consists of an axial ridge. The trend of this ridge is imprecise, but it is probably oriented north-south near 173.5°E, at least between 21° and 15°S. The other remarkable feature consists of a complex system of ridges and faulted blocks running along the western edge of the Fiji Archipelago. This system has been interpreted by some authors as an accretion ridge.

The purposes of the third leg of SEAPSO cruise onboard the R/V *Jean-Charcot* (December 2-24, 1985) are as follows: (1) to explore the typical structures of the North Fiji basin between 21° and 17°S (axial ridge, seamounts, fracture zones, and the complex border west of Fiji), using multibeam echosounder (Seabeam), seismic reflection, magnetic, and gravimetric surveys; and (2) to complete Seabeam coverage and samplings (such as dredging, coring, water sampling, and bottom photographs) of two to three small box-shaped areas on the axial ridge, in order to localize and eventually characterize hydrothermal vents.

The various morphotectonic, petrologic, chemical, and geodynamic results of this survey will be discussed.