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FRENCH RESEARCH FROM  
GEORSTOM I AND GEORSTOM II  
CRUISES IN THE NORTH OF NEW CALEDONIA

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During GEORSTON I and II cruises (1973-1974) carried out by the Centre de la Recherche Scientifique et Technique Outre-Mer (Nouméa), 10,000 km of bathymetric, magnetic and seismic profiles were recorded between 11° and 13° South in latitude and 158° and 167° East in longitude. This marginal area extends between New Caledonia the New Hebrides and the Solomon islands, to the Coral Sea basin towards the West. It contrasts with the southern region of well-ordered structures like the Tasman Sea basin, the Lord Howe rise, the New Caledonia basin and the New Caledonia - Norfolk ridge.

We can recognize several structural features :

- A NW-SE trending ridge constitutes the basement of Rennell and Bellona islands and Indispensable Reef. This feature with its associated basin is described in a separate paper; the age is discussed with respect to regional tectonics. The hypothesis of it being an ancient subduction zone is not excluded.

- A complex system of ridges and troughs goes from the north of the Carterfield group towards the Solomon trench in a N 30° E direction. Based on 13 crossing profiles this structure appears to be a continuous rift controlled by two rising edges, the southern one joining a W-E trending ridge which crosses the New Hebrides trench. The magnetic pattern shows that this rift may be extensional in its origin.

- In the Southern part, next to the New Caledonia ridge, we crossed a well-defined fracture with a vertical throw that reaches 1,500 m. In this area, after the NOVA cruise by Scripps Institution of Oceanography, the d'Entrecasteaux fracture zone was defined having a different trend. Therefore the fault, crossed nine times is herein called d'Entrecasteaux fracture. It is possible that this same fracture continues along a W-E direction, as far as the New Hebrides trench near the Espiritu Santo island.