

Joint Australian–French Research In The Tasman Sea

Seven Geoscience Australia (GA) officers recently participated in a joint French–Australian geological research survey in the Tasman Sea designed to study two large sedimentary basins, the Capel and Faust.

The survey took place from February 12th – 26th between New Caledonia (Noumea) and Sydney using the French research vessel Marion Dufresne, the March edition of Geoscience Australia News reported. Jim Colwell of GA was the chief scientist on board. Participants came from Australian and French institutes, primarily from GA, the French Institute for Marine Research (IFREMER) and the French Institute for Research and Development (IRD).

The research was designed to investigate unusual geophysical features in the Faust and Capel sedimentary basins and to collect swath



Research Vessel Marion Dufresne.

bathymetry data along the lower continental slope of eastern Australia from the Queensland/ NSW border to Sydney. Seven giant (Calypso) piston cores (up to 36 m in length), five dredge hauls and four heat flow stations were taken in Australia's maritime jurisdiction.

Issues being addressed by this work include the nature of diapirs (relatively mobile masses that intrude into pre-existing rocks eg. salt domes) and a seismic reflector called a bottom simulating reflector, which might represent gas hydrate (frozen methane gas).

A high thermal gradient in some places indicates the escape of hot fluids from deep in the underlying sediments. All these phenomena are of scientific interest and bear on the long-term petroleum potential of the region.

Basement rocks were also dredged from ridges on both sides of the basin. The dredging has shown that the eastern ridge is granite, resulting in the discovery that the origins of the ridges are continental rather than oceanic. In addition to the scientific research activities, 19 students and three marine scientists were aboard the vessel



Labelling one of the giant (Calypso) piston cores prior to it being cut into 1.5 m long sections for splitting and sampling.

under the auspices of the 'University of the Sea', for oceanographic research training.

During their time at sea, students representing seven countries (Fiji, Solomon Islands, Indonesia, Sri Lanka, Republic of Korea, New Zealand and Australia) received valuable hands on ocean science experience. ■



Sampling one of the split core sections. Geoscience Australia's Nadege Rollet (left), and Emma Grosjean (right) with one of the University of the Sea students.



Dredge containing rocks being brought back on board the Marion Dufresne.