

OBSIP Experiment Archive

Year:	2001
Experiment Name:	The Effects of Changes in Mantle Temperature on Melt Supply and Crustal Accretion
Principal Investigator(s):	James R. Cochran (LDEO) Suzanne Carbotte (LDEO) Maya Tolstoy (LDEO)

Experiment Summary: (Taken from NSF Abstract Award #[9911720](#)): This is a geophysical investigation of the dependence of melt supply on mantle temperature and the effects of the variation in melt supply along the Southeast Indian Ridge on the crustal accretion process. The investigation involves a seismic experiment including both refraction lines utilizing ocean-bottom hydrophones to determine variations in crustal thickness and upper mantle seismic velocity and multichannel seismic reflection surveys to determine the internal structure of the crust. Since the spreading rate and the mantle source both are nearly constant along this portion of the Southeast Indian Ridge, the along-axis variation in depth can reasonable be ascribed primarily to the effects of an along-axis variation in mantle temperature.

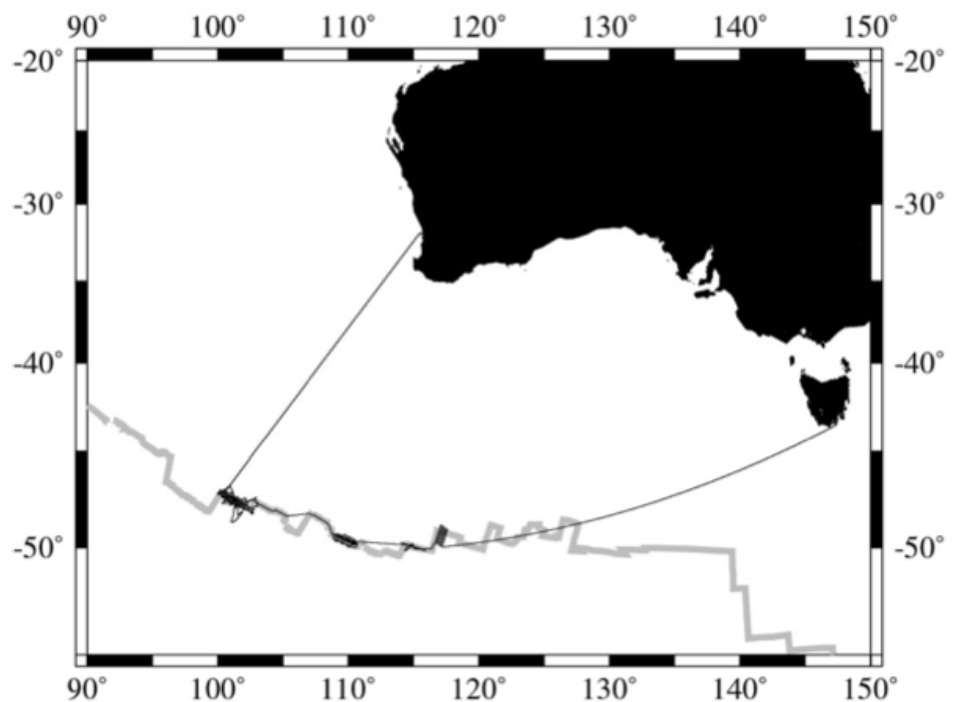


Figure 1. Track chart of R/V Maurice Ewing cruise EW0114 showing the regional setting of the survey in relation to Australia and the Southeast Indian Ridge axis (shown in gray).

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Cruises:

12/7/2001 - 1/20/2002:

6 deployments of 4 ocean-bottom hydrophones each were recovered on board the R/V Maurice Ewing.

Data:

Data from all instruments deployed are archived under temporary network code [ZM](#) and assembled data set ID #[02-011](#) at the IRIS DMC.

Downloads/Links:

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[GJI Publication](#)

[G-Cubed Publication](#)

