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Annual Progress Report

Office of Naval Research  
N00014-90-J-1645

A Joint Sea Beam/SeaMARC II Survey of the East Pacific Rise and Its Flanks,  
7°50'-10°30'N, to Establish a Geologic Acoustic Natural Laboratory

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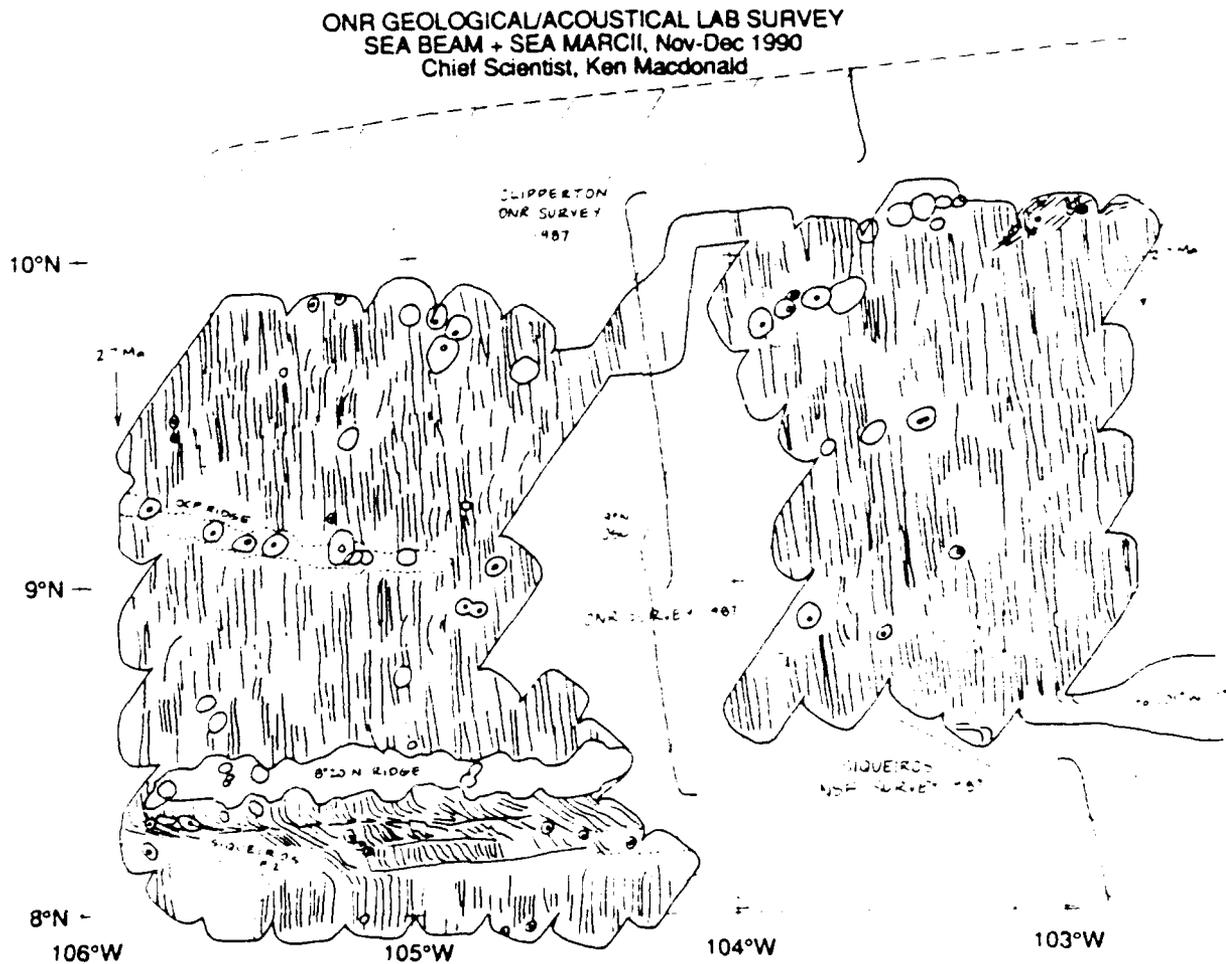
January 15, 1991

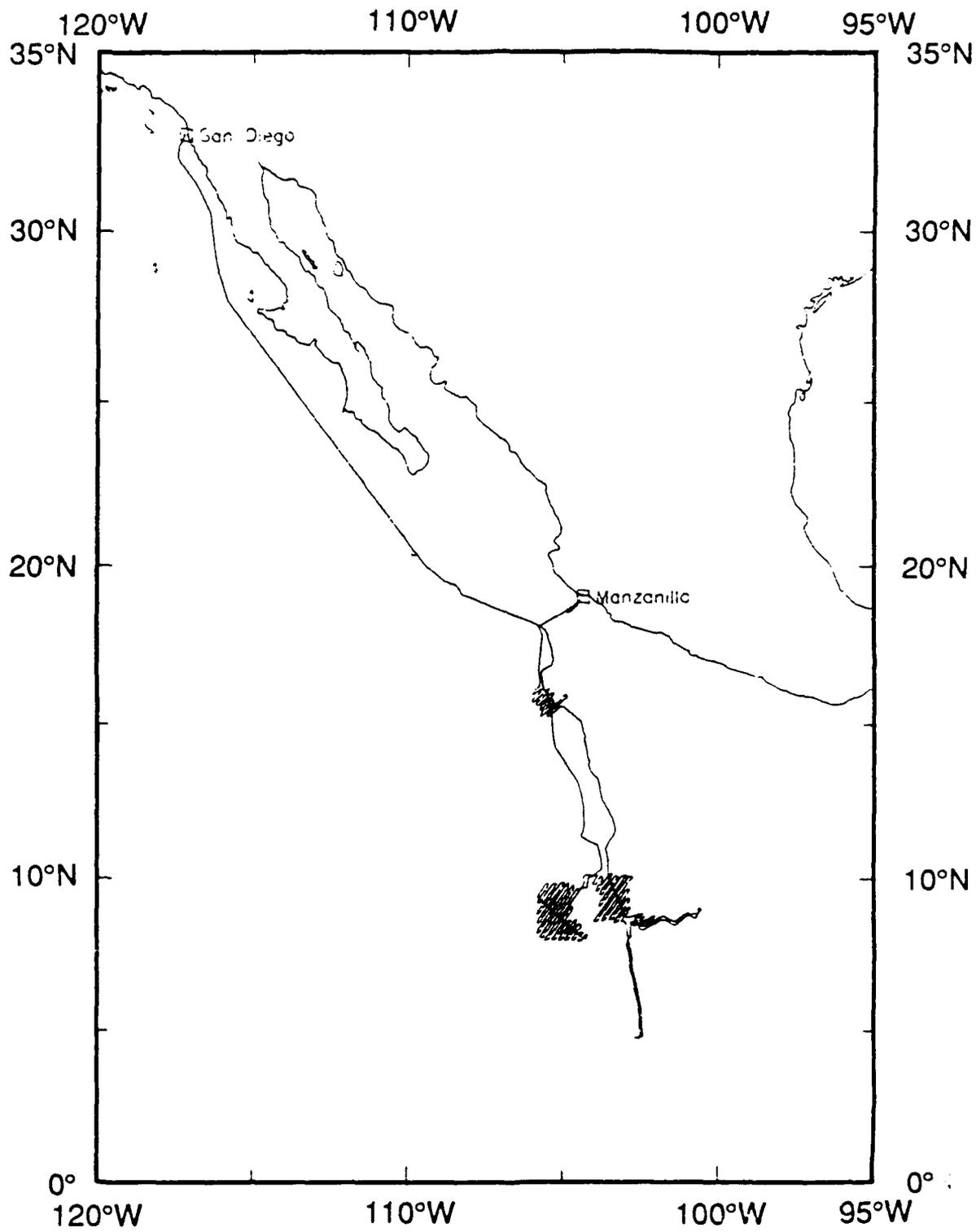


The 1990 ONR-funded GANL cruise was successful beyond our expectations, but much work remains to be done in processing this enormous data set.

### FY 90 Publications

- Macdonald, K.C., 1989, Tectonic and magmatic processes on the East Pacific Rise, in Winterer, E.L., D.M. Hussong and R.W. Decker, eds., *The Geology of North America: The Eastern Pacific Ocean and Hawaii*, v. N, Geological Society of America, Boulder, 93-110.
- Macdonald, K.C., 1989, Anatomy of the magma reservoir, *Nature* 339:178-179.
- Macdonald, K.C. and P.J. Fox, 1990, *The mid-ocean ridge*, *Scientific American* 262:72-79.
- Carbotte, S.M., and K.C. Macdonald, 1990, Causes of variation in fault facing direction on the ocean floor, *Geology* 18:749-752.
- Perram, L.J. and K.C. Macdonald, 1990, Three dimensional magnetic modelling of an overlapping spreading center: 11°45'N on the East Pacific Rise, *EOS Trans. AGU* 70:1317.
- Macdonald, K.C., 1990, Endeavor Seamount, De Steiguer Ridge and Magic Mt.: Examples of migrating high inside corners caused by coupled uplift at the intersections of rifted spreading centers and ridge axis discontinuities, *EOS Trans. AGU* 70:1302.
- Carbotte, S.M. and K.C. Macdonald, 1990, Why normal faults on mid-ocean ridges dip toward the spreading axis for slow spreading rates and both toward and away from the axis for fast spreading rates, *EOS Trans. AGU* 70:1302.
- Macdonald, K.C. and D.S. Scheirer, 1990, Why long segments lengthen at the expense of short segments, *EOS Trans. AGU* 71:1629-1630.
- Carbotte, S.M. and K.C. Macdonald, 1990, Evolution and history of the OSC at 9°03'N from three-dimensional analysis of magnetic data, *EOS Trans. AGU* 71:1629.





Rapa Leg 1 [RAPA01WT]  
San Diego to Manzanillo  
15 November - 15 December 1990

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