

United States  
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Geological Survey

MULTICHANNEL SEISMIC-REFLECTION PROFILES COLLECTED  
IN 1977 IN THE EASTERN PACIFIC OCEAN  
OFF OF THE WASHINGTON/OREGON COAST

by

DENNIS M. MANN<sup>1</sup> and PARKE D. SNAVELY<sup>1</sup>

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U.S. Geological Survey  
Menlo Park, CA

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During the spring of 1977 the U.S. Geological Survey (USGS) collected approximately 1020 km. of 24-channel seismic-reflection data in the eastern Pacific Ocean off of the Washington and Oregon coasts (fig. 1). The profiles were collected on the USGS Research Vessel S.P. Lee using a sound source of five airguns with a volume of 1326 cubic inches of air compressed to approximately 2000 psi. The recording system consisted of a 24-group streamer, 2400 meters long and a GUS (Global Universal Science) model 4200 recording instrument. Shots were fired every 50 meters and the group interval was 100 meters. A 2-millisecond sampling rate was used in the field; the data were later desampled to 4-milliseconds during the demultiplexing process. Navigational control for the survey was by a Marconi integrated satellite-dopplar sonar navigation system. Record lengths vary from 6 to 7 seconds depending on water depth, in order to obtain 5 to 6 seconds of data below the seafloor. Processing was done at the USGS Marine Geology Multichannel Processing Center in Menlo Park, California, in the sequence: editing-demultiplexing, velocity analysis, stacking, deconvolution-filtering, and finally displayed on an electrostatic plotter. Plate 1 is a trackline chart showing shotpoint navigation.

The data are available in 3 formats:

- 1) Electrostatically plotted profiles which have been deconvolved and filtered after stacking. Copies of the profiles may be purchased through:  
National Geophysical and Solar Terrestrial Data Center  
National Oceanic and Atmospheric Administration  
Boulder, Colorado 80302
- 2) Digital magnetic stack tapes which have been processed using velocities derived from velocity analysis. These tapes are not deconvolved or frequency filtered. Copies of the stack tapes and a description of the tape format can be obtained at the requesters expense by contacting:  
Data Curator  
Pacific Branch of Marine Geology  
U.S. Geological Survey  
345 Middlefield Rd.  
Menlo Park, California 94025
- 3) Digital magnetic demultiplexed tapes. These tapes have been edited for missed shots, blanking time, and muting times. Copies of the demultiplexed tapes and a description of the tape formats can be obtained at the requesters expense by contacting the above address.

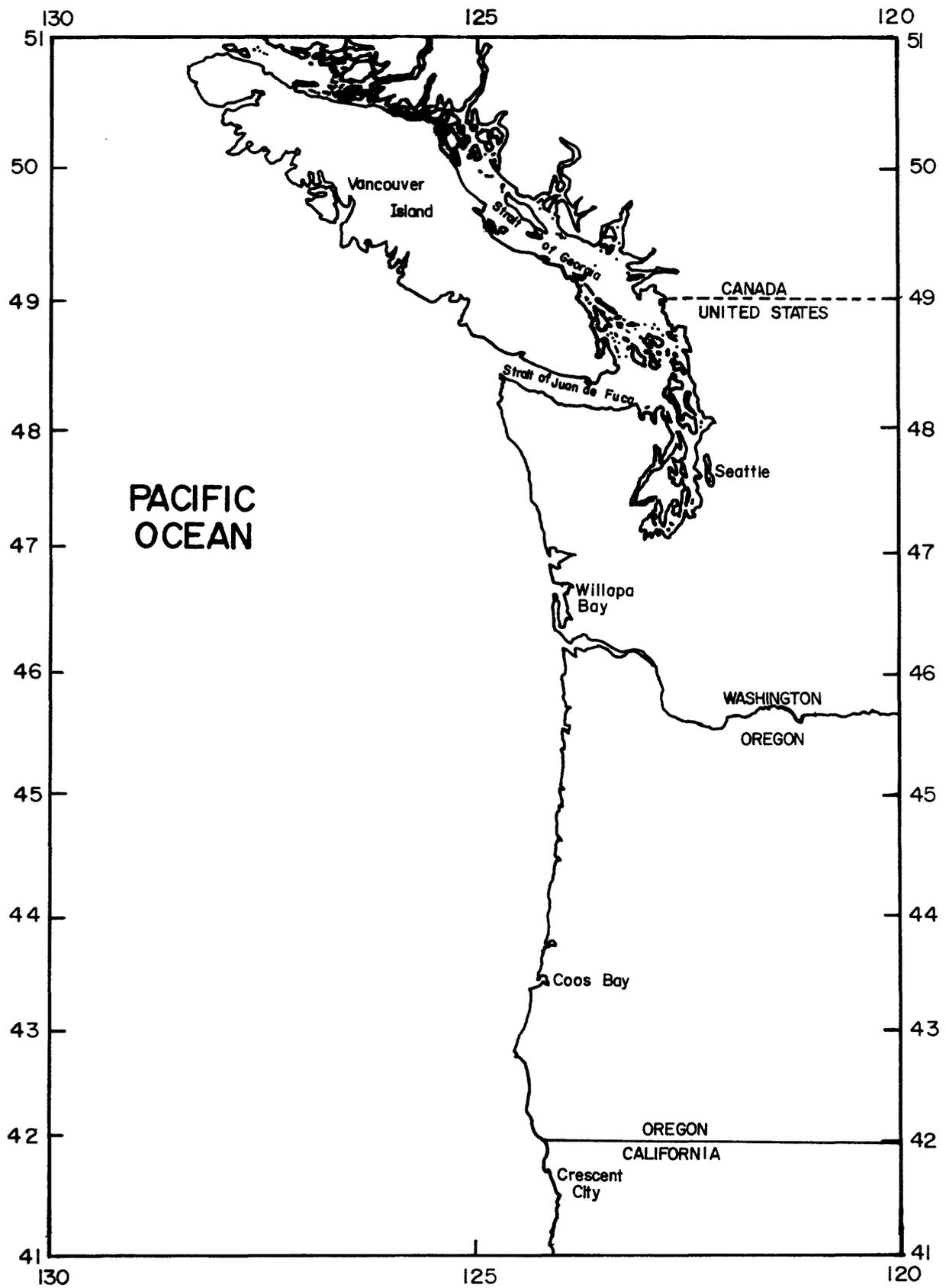


FIGURE 1. AREA OF STUDY. PLATE I SHOWS DETAILED LOCATION OF TRACKLINES AND SHOTPOINTS