United States
Department of the Interior
Geological Survey

MULTICHANNEL SEISMIC-REFLECTION PROFILES COLLECTED IN 1977 IN THE NORTHERN BERING SEA

by

Alan K. Cooper, Michael S. Marlow and Dennis M. Mann [1]

U.S. Geological Survey
Open File Report
86-207

[1] U.S. Geological Survey, Menlo Park, CA

1986

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During the summer of 1977 the U.S. Geological Survey (USGS) collected approximately 3200 km of 24-channel seismic reflection data across the continental margin in the northeastern Bering Sea (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-channel streamer, 2400 meters long with a group interval of 100 m, and a GUS (Global Universal Science) model 4200 digital recording instrument. Shots were fired every 50 meters. Navigational control for the survey was provided by a Marconi integrated navigation system using transit satellites and doppler-sonar augmented by Loran C (Rho-Rho). A 2-millisecond sampling rate was used in the field; the data were later desampled to 4-milliseconds during the demultiplexing process. Record lengths vary from 6 to 12 seconds depending on water depth and geologic structure, to give 6 to 8 seconds of data below the seafloor. Processing was done at the USGS Pacific Marine Geology Multichannel Processing Center in Menlo Park, California, in the sequence: editing-demultiplexing, velocity analysis, CDP stacking, deconvolution-filtering, and plotting on an electrostatic plotter. Plate 1 is a trackline chart showing shotpoint navigation.

The data are available in the following formats:

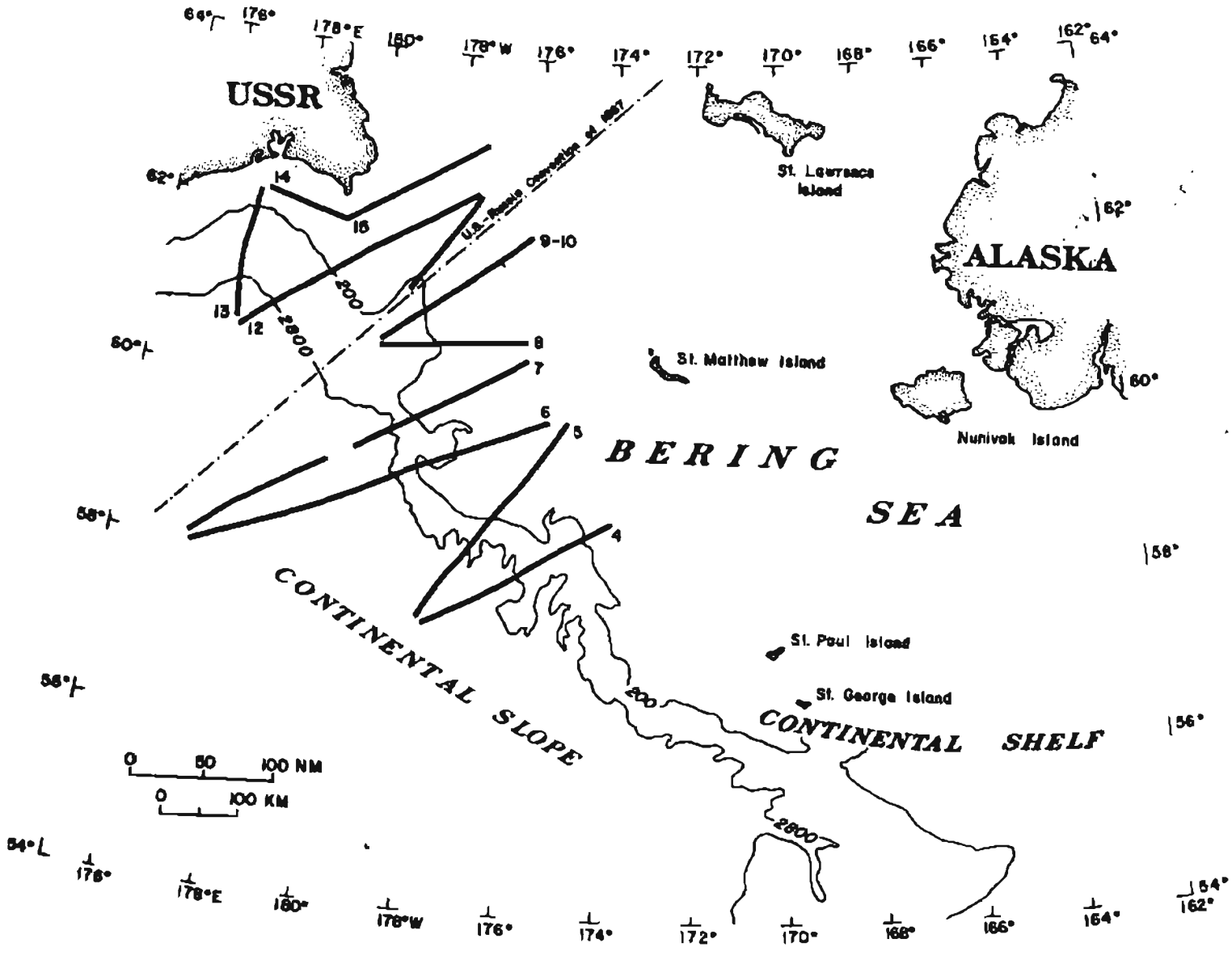
1) Electrostatically plotted profiles which have been deconvolved and filtered after stacking. Copies of the profiles may be purchased through:

   National Geophysical Data Center
   NOAA/EDIS/Code D64
   325 Broadway
   Boulder, Colorado 80302

2) Digital magnetic stack tapes which have been processed using velocities derived from velocity analysis. These tapes are not deconvolved or band-pass filtered. Copies of the stack tapes and a description of the tape format can be obtained at the requesters expense by contacting:

   Dennis M. Mann
   Pacific Branch of Marine Geology
   U.S. Geological Survey
   345 Middlefield Rd. MS 979
   Menlo Park, California 94025

3) Digital magnetic demultiplexed tapes. These tapes have been editted for missed shots, blanking times, and muting times. Copies of the demultiplexed tapes and a description of the tape formats can be obtained at the requesters expense by contacting Dennis Mann at the above address.


USSR
ALASKA
St. Lawrence Island
St. Matthew Island
Nunivak Island
BERING SEA
CONTINENTAL SLOPE
CONTINENTAL SHELF
St. Paul Island
St. George Island
U.S.-Russia Convention of 1867
200
2800
14
15
13
12
9-10
8
7
6
5
4
0 50 100 NM
0 100 KM
64°
62°
60°
58°
56°
54°
178°
178°E
180°
178°W
176°
174°
172°
170°
168°
166°
164°
162°