UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

DIGITAL MARINE GRAVITY DATA COLLECTED IN THE SOUTHERN CHUKCHI SEA IN 1980

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Open-File Report No. 85-603

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.
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1985

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The U.S. Geological Survey (USGS) collected approximately 1,350 km of digital marine gravity data in 1980 over the continental shelf of the southern Chukchi Sea (Hope basin) (Figs. 1 and 2). The data were collected aboard the USGS research vessel S. P. Lee (cruise number L880AR). These data have been included in a free-air gravity anomaly map of the United States Beaufort and Chukchi Seas (May, 1985). Geology of the Hope basin is discussed in Eittreim and others (1979) and Grantz and May (1984).

Data were recorded at 20 second intervals using La Coste and Romberg sea gravimeter S-53 mounted on a two-axis inertial platform (La Coste and others, 1967). Navigation of the survey was by satellite fixes integrated with bottom-tracking doppler sonar. Final smoothed navigation was used to make Eotvos corrections and final free-air anomaly values were determined from the 1967 reference ellipsoid (International Association of Geodesy, 1971).

Digital data available from this survey are gravity and navigation at one minute (100 to 300 meter) intervals. Copies of the data are available through the National Geophysical Data Center, NOAA/EDIS/NGDC, Code 64, 325 Broadway, Boulder, CO 80303; telephone (303) 497-6338.

References

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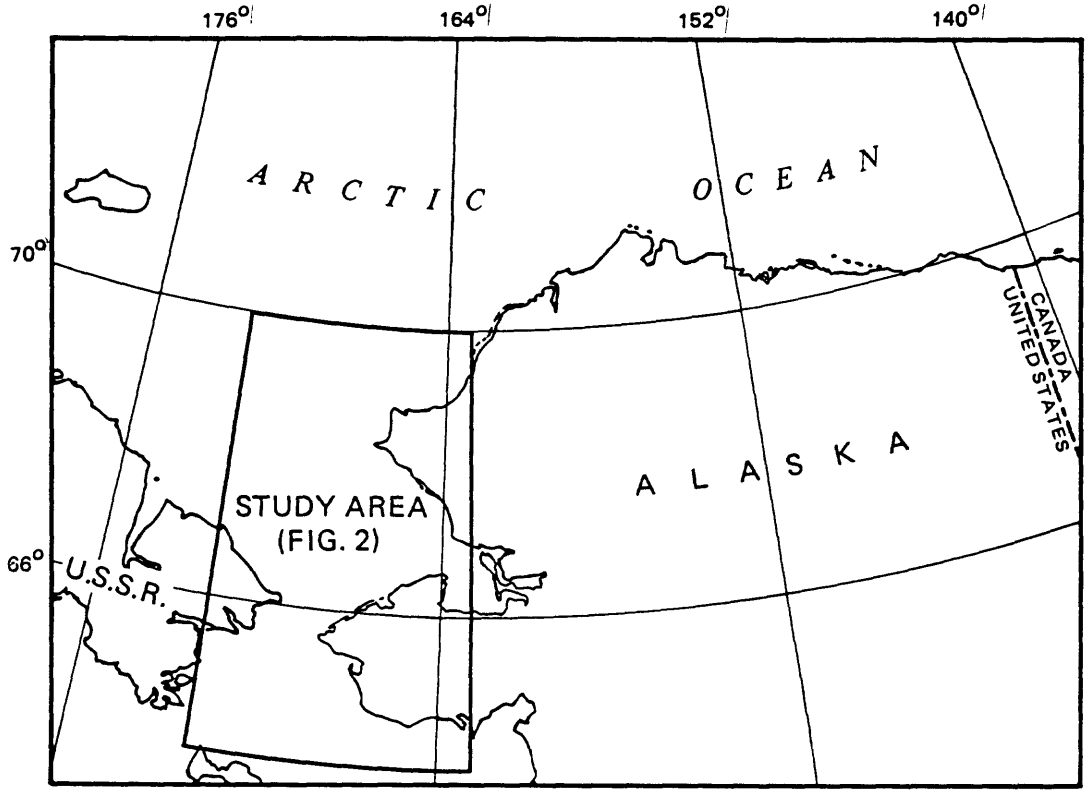

FIGURE 1: Index map showing location of trackline map, Figure 2.

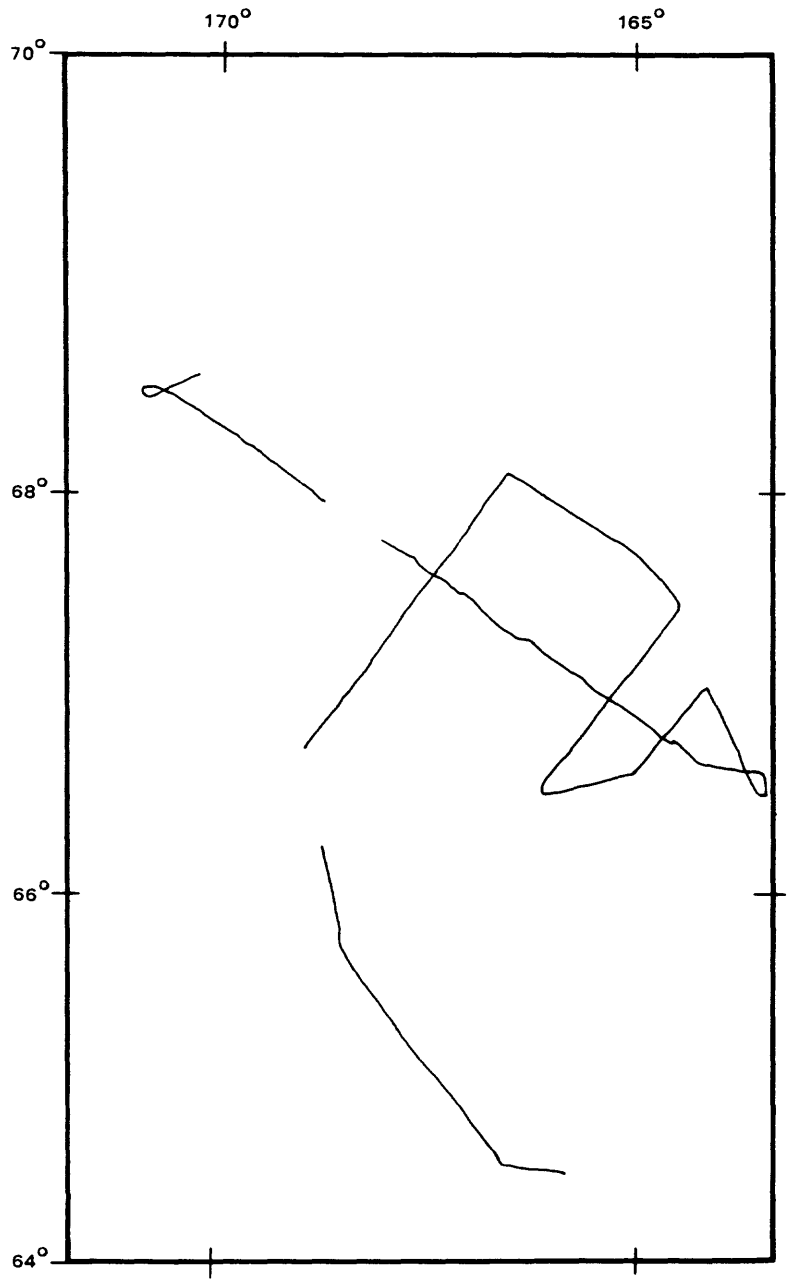

Figure 2.--Location of U.S. Geological Survey R/V S. P. LEE cruise L880AR digital marine gravity data collected in the southern Chukchi Sea in 1980.