

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DIGITAL MARINE GRAVITY DATA COLLECTED IN THE
SOUTHERN CHUKCHI SEA IN 1976

By

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

Any use of trade names is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey

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The U.S. Geological Survey (USGS) collected approximately 570 km of digital marine gravity data in 1976 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 L676AR). 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 Eittrheim 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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- International Association of Geodesy, 1971, Geodetic reference system, 1967: Paris Bureau Central de l'Association Internationale de Geodesie Special Publication 3, 116 p.
- La Coste, L. J. B., Clarkson, Neal, and Hamilton, George, 1967, La Coste and Romberg stabilized platform shipboard gravity meter: Geophysics, v. 32, no. 1, p. 99-109.
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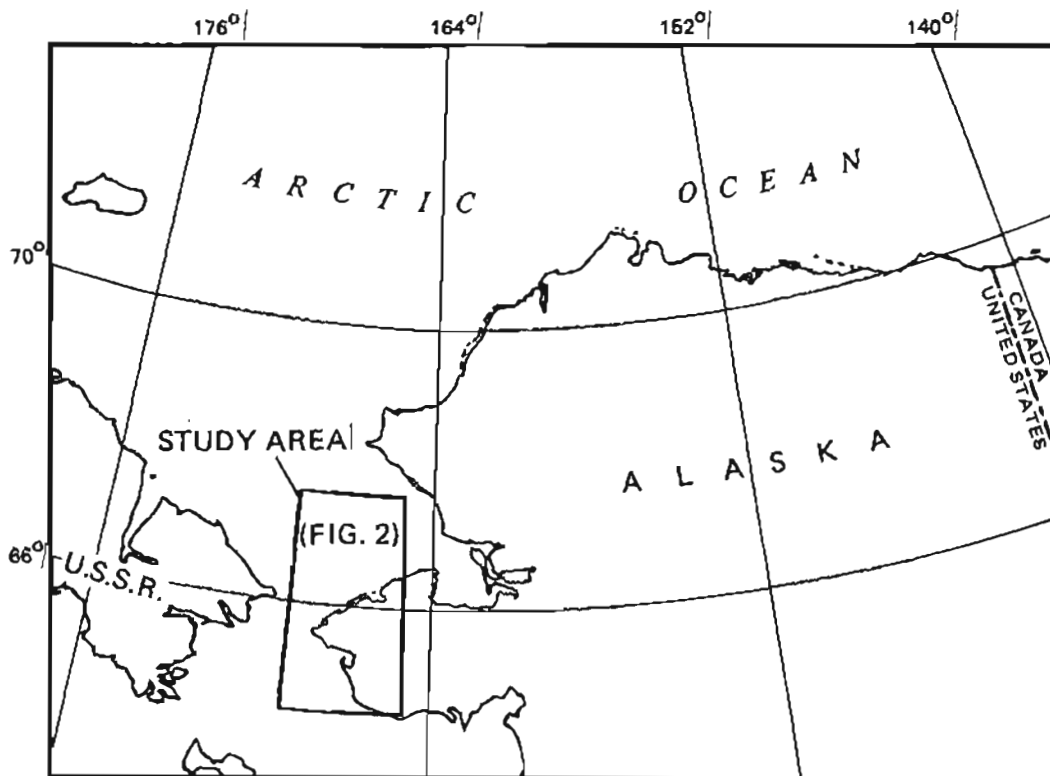


FIGURE 1: Index map showing location of trackline map, Figure 2.

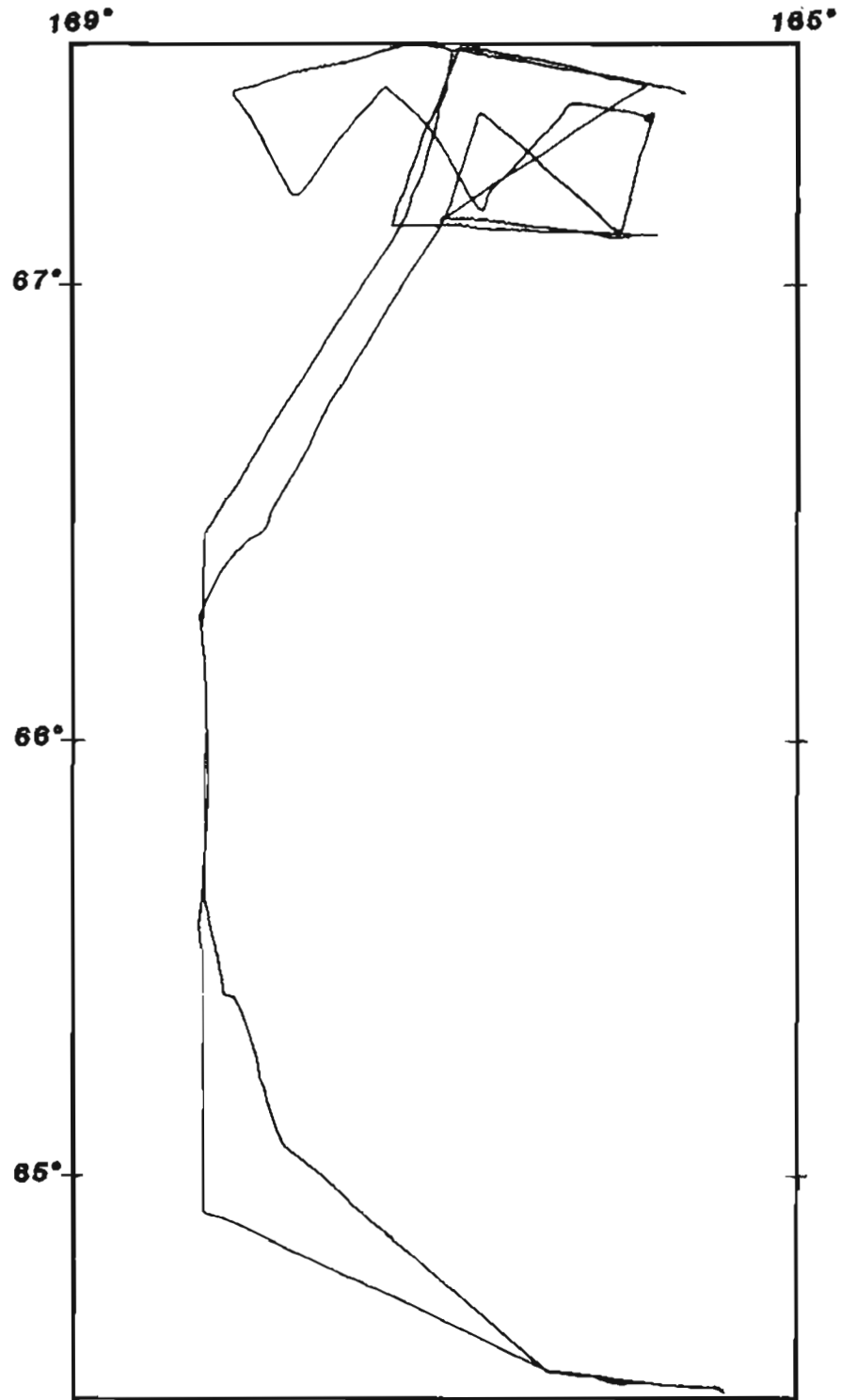


Figure 2.--Location of U.S. Geological Survey R/V S. P. LEE cruise L676AR digital marine gravity data collected in the southern Chukchi Sea in 1976.