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U.S. Geological Survey Open-File Report 80-934

High-resolution seismic-reflection profiles collected by the R/V JAMES M. GILLISS, cruise GS 7903-4, in the Baltimore Canyon Outer Continental Shelf area, offshore New Jersey

by

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High-resolution seismic-reflection profiles were collected by the U.S. Geological Survey (USGS) aboard R/V JAMES M. GILLIS (cruise GS 7903-4) from 27 June to 11 July 1979 over the Continental Slope of the Eastern United States between Lindenkohl and Hudson Canyons. These data were acquired as part of a study to determine potential geologic hazards to petroleum development of the Baltimore Canyon trough area. On this cruise, the Continental Slope between Carteret and South Toms Canyons was surveyed along lines spaced one-half nautical mile apart (fig. 1) to study the size and distribution of mass-wasting features as a guide to assess the importance of mass-wasting processes on the Continental Slope. The seimsic-reflection profiles were placed to complement other data gathered previously by the USGS (Robb and Kirby, in press) and to continue a survey grid begun in 1978 aboard the R/V COLUMBUS ISELIN, cruise CI 7807-1 (Robb, 1980).

Track lines are shown in figure 1. Track-line distances totaled 1,555 km of 40-in^3 air-gun (with wave shaper) profiles, 1,750 km of 800-J sparker data, and 1,780 km of 3.5-kHz data. All data are of high quality. A side-scan sonar system was operated briefly along the

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uppermost Continental Slope to acquire data over 70 km of ship's track. In addition, experimental profiling data were collected from a hydrophone towed at depth over the midslope on the end of the side-scan cable; the surface-towed sparker was used as a sound source. High-resolution profiles were collected by this method over 105 km of track.

Navigation was by Loran-C (5-minute fix interval) and satellite.

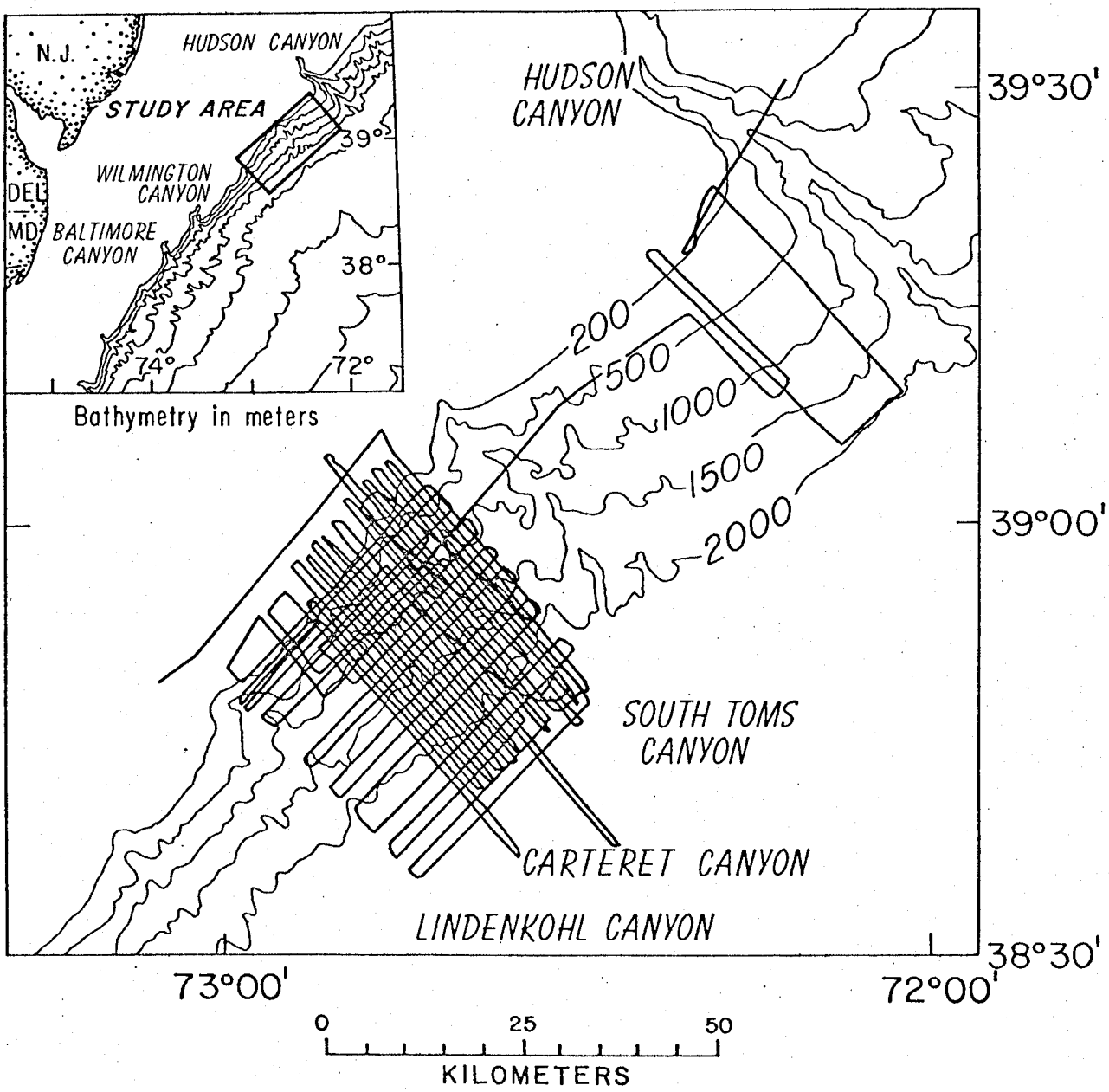
The original data may be inspected at the offices of the U.S. Geological Survey in Woods Hole, Massachusetts 02543. Microfilm copies of the data from this cruise are available for purchase from the National Geophysical and Solar-Terrestrial Data Center (NGSDC), Boulder, Colorado 80303.

REFERENCES CITED

Robb, J. M., 1980, High-resolution seismic-reflection profiles collected by the R/V COLUMBUS ISELIN, cruise CI 7807-1, in the Baltimore Canyon Outer Continental Shelf Area: U.S. Geological Survey Open-File Report 80-935.

Robb, J. M., and Kirby, J. R., in press, Maps showing kinds and sources of environmental geologic and geophysical data collected by the U.S. Geological Survey in the Baltimore Canyon trough area: U.S. Geological Survey Miscellaneous Field Studies Map MF-1210.

Figure 1

USGS TRACKLINE MAP
R/V JAMES M. GILLISS

GS 7903-4 27 JUNE - 11 JULY 1979