

**Units of Measurement**

International System (SI or metric) units of measurement herein are used in preference to Customary (English) units. Some conversion factors are given below.

Multiply	By	To obtain
meters (m)	3.2808	feet
meters	0.5467	fathoms
kilometers (km)	0.6214	miles (mi)
kilometers	0.540	nautical miles (nmi)
nautical miles	1.1508	miles

**EXPLANATION**

This map was prepared as part of a study of geologic hazards to resource exploration and development on the Continental Slope in the Baltimore Canyon Trough area, off southern New Jersey. Detailed bathymetric maps are required for engineering studies of bottom stability and for geologic interpretation of the nature of the submarine topography. This map presents the morphology of the Continental Slope in greater detail than do other available bathymetric maps (Veatch and Smith, 1939; Uchupi, 1965, sheet 2; U.S. Coast and Geodetic Survey, 1967; Belding and Holland, 1970, sheet 1; National Ocean Survey, 1977).

The map was prepared from echo-sounding data gathered by the U.S. Geological Survey (USGS) in 1978 aboard the R.V. *Columbus Iselin* (cruise 7807-1) and in 1979 aboard the R.V. *James M. Gilliss* (cruise 7903-4). The trackline grid spacing is generally 900 x 1700 m. Navigation used Loran-C fixes at 5-minute intervals, corroborated by satellite fixes. High-resolution seismic-reflection data were acquired along the same tracklines as these echo-sounding data; they are discussed by Robb (1980a, 1980b).

Soundings were digitized from profiles at 60-m or 120-m intervals and depths were calculated assuming a sound velocity in sea water of 1500 m/s. The reader should note that slope angles that may be measured on this contour map will represent minimum gradients because the wide-angle echo-sounding equipment used in these surveys shows only diffractions where steeper canyon walls are crossed (Krause, 1962, p. 107-111). Side-scan sonar and deep-towed hydrophone records (USGS, unpublished data, 1979, 1980) show that canyons and valleys in this area have wide flat bottoms, which were obscured by diffractions in the echo-sounding profiles used for this study.

Tracklines of R. V. *Columbus Iselin* and R. V. *James M. Gilliss*

**REFERENCES CITED**

Belding, H. P., and Holland, W. C., 1970, Bathymetric maps, eastern continental margin, U.S.A.: Tulsa, Oklahoma, American Association of Petroleum Geologists, scale 1:1,000,000, 3 sheets. (Contour interval on Continental Slope, 25 fathoms.)

Krause, D. C., 1962, Interpretation of echo-sounding profiles: International Hydrographic Review, v. 39, no. 1, p. 65-123.

National Ocean Survey, 1977, Bathymetric Map NJ18-6, Wilmington Canyon: Washington, D.C., scale 1:250,000. (Contour interval on Continental Slope, 50 m.)

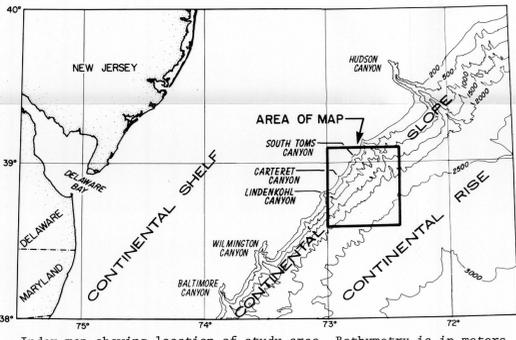
Robb, J. M., 1980a, High-resolution seismic-reflection profiles collected by the R.V. *Columbus Iselin*, cruise CI 7807-1, in the Baltimore Canyon Outer Continental Shelf area: U.S. Geological Survey Open-File Report 80-935, 2 p.

Robb, J. M., 1980b, 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: U.S. Geological Survey Open-File Report 80-934, 2 p.

Uchupi, Elazar, 1965, Map showing relation of land and submarine topography, Nova Scotia to Florida: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-451, scale 1:1,000,000, 3 sheets. (Contour interval on Continental Slope, 200 m.)

U.S. Coast and Geodetic Survey, 1967, Bathymetric Map C&GS 0807N-53, Toms Canyon: Washington, D.C., scale 1:125,000. (Contour interval on Continental Slope, 10 fathoms; contours extend to 500 fathoms.)

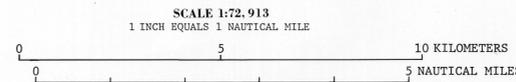
Veatch, A. C., and Smith, P. A., 1939, Atlantic Submarine Valleys of the United States and the Congo Submarine Valleys: Geological Society of America Special Papers, no. 7, 101 p., 9 charts, scale 1:120,000. (Contour interval on Continental Slope, 25 fathoms.)



Index map showing location of study area. Bathymetry is in meters.

Universal Transverse Mercator projection  
Central meridian 75°  
This map is not intended for use in navigation

DEPTHS IN METERS, BASED ON ASSUMED SOUND VELOCITY IN SEA WATER OF 1500 M/S  
CONTOUR INTERVAL 10 METERS  
CONTOURS DASHED WHERE INFERRRED  
DATUM IS SEA LEVEL



Mapped in 1979-1980

**BATHYMETRIC MAP OF THE CONTINENTAL SLOPE AND UPPERMOST CONTINENTAL RISE BETWEEN LINDENKOHL CANYON AND SOUTH TOMS CANYON, OFFSHORE EASTERN UNITED STATES**

By  
James M. Robb, John R. Kirby, and John C. Hampson  
1981

MISCELLANEOUS FIELD STUDIES, MAP MF-1270  
Prepared by Branch of Distribution, U.S. Geological Survey,  
1200 South Elm Street, Arlington, VA 22202