UNITED STATES DEPARTMENT OF INTERIOR

GEOLOGICAL SURVEY

Description of single-channel, high-resolution, seismic-reflection data collected from the Continental Shelf, Slope, and upper Rise between Cape Hatteras, North Carolina and Norfolk, Virginia; and Vero Beach and Miami, Florida (Cruise 80-G-9)

by
Peter Popenoe[1] and
Fred W. Meyer[2]

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U.S. Bureau of Land Management

[1]U.S. Geological Survey,
Woods Hole, MA 02543

[2]U.S. Geological Survey
Miami, FL 33155

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Between Sept. 18 and Oct. 14, 1980, single-channel, high-resolution seismic-reflection data and hull-mounted 3.5-kHz echo-sounder data were collected along 2,950 km of traverse by the U.S Geological Survey in cooperation with the U.S. Bureau of Land Management. Traverses were run across on the Continental Shelf, Slope, and upper Rise between Cape Hatteras, N.C. (fig. 1) and Norfolk, Va., and between Vero Beach and Miami, Florida (fig. 2). These data were collected aboard the Research Vessel GYRE (cruise 80-G-9) as part of a regional study to determine environmental constraints to offshore oil and gas or minerals development and to study the stratigraphy of the shelf.

Airgun seismic sources varied throughout the survey because of different subbottom response. In deeper water two 40-in^3 airguns with wave shapers were fired simultaneously at 2000 psi. As water shallowed on the shelf, 10-, 5-, or 1-in^3 airguns were used. Offshore of Florida, the smaller sources were used because larger sources caused signal reverberation. Returning signals were gathered by a 300 m long, 200 element, single-channel hydrophone streamer and recorded on analog magnetic tape. Data were band-pass filtered at 50-2000 Hz, 100-1000 Hz, and 60-200 Hz, and were displayed on two or three EPC recorders at 1.0- and 2.0-sec sweep rates. 3.5-kHz echo-sounder data were obtained from a 12-transducer, hull-mounted unit. Navigation was by Loran-C and was automatically recorded at 5-minute intervals and updated to satellite fixes. A Global Positioning System recorded ship position when these data could be acquired.

Data are of good quality. Original records can be seen and studied at the U.S. Geological Survey offices, Woods Hole, MA 02543. Microfilm or copies of the records can be purchased only from the National Geophysical Data Center NOAA/EDIS, NGSDC, Code E-64, 325 Broadway, Boulder, CO 80303 (303-497-6338).

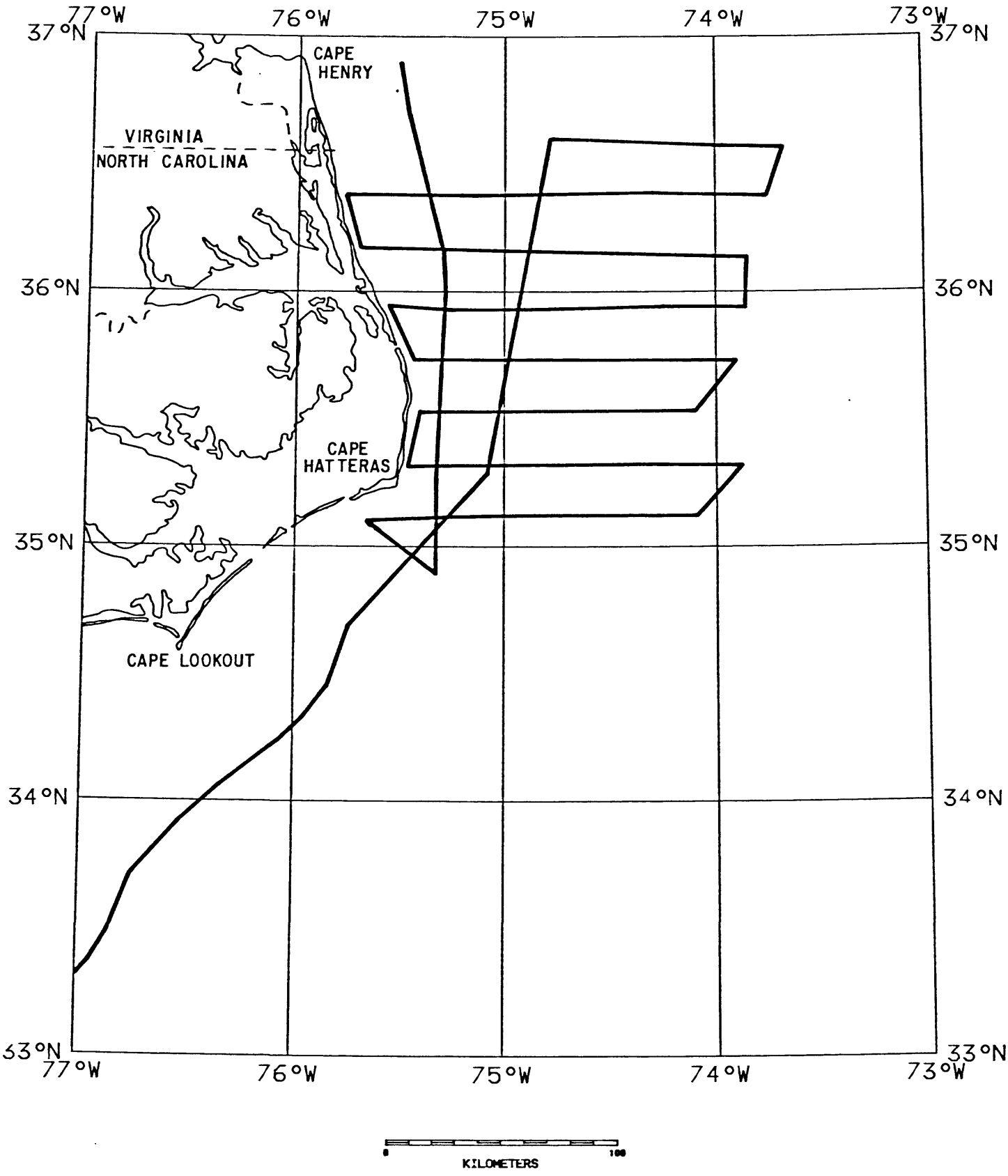

Figure 1: Tracklines, Cruise GYRE 80-G-9, Sept. 18 - Oct. 14, 1980.

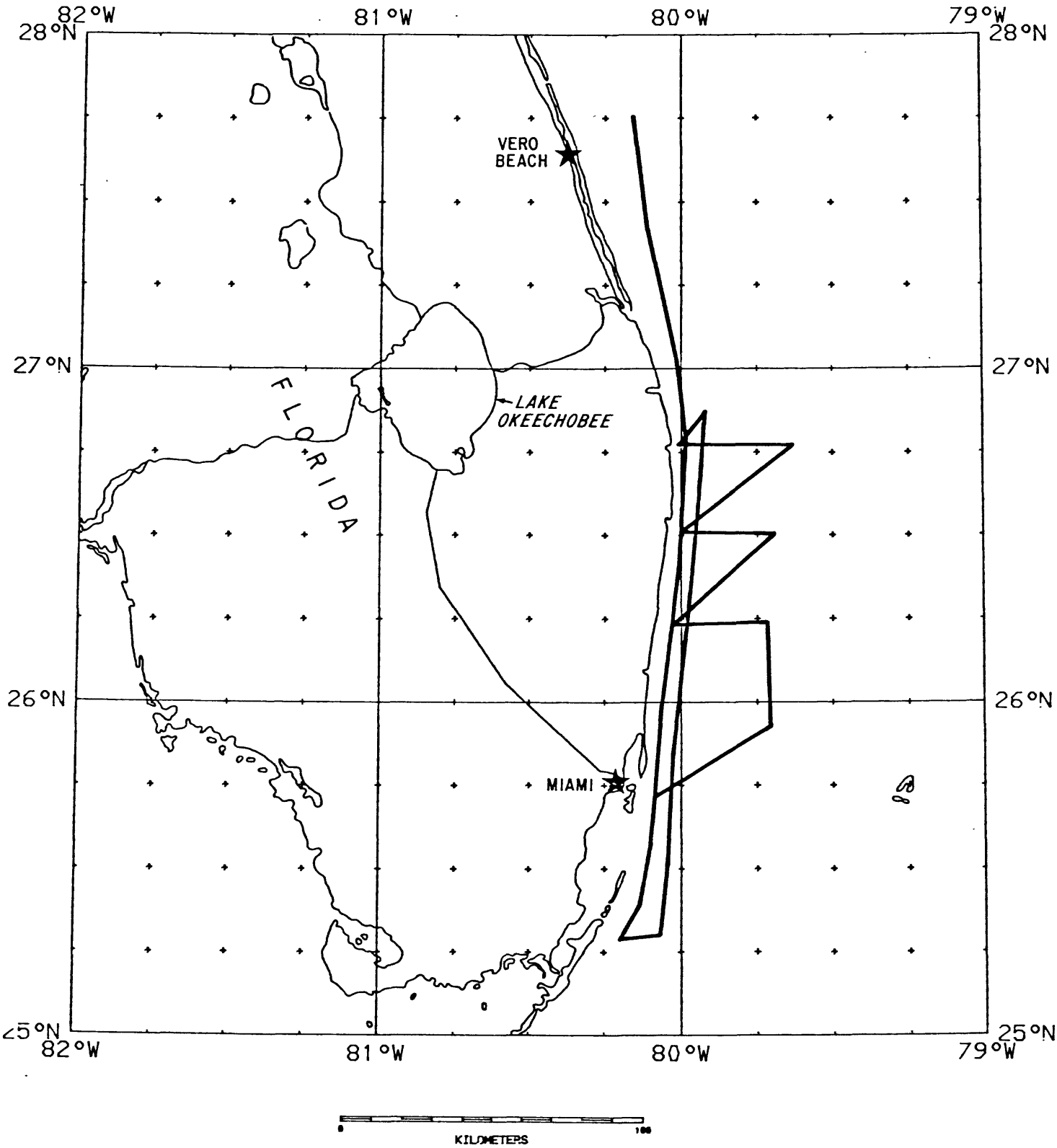

Figure 2: Tracklines, Cruise GYRE 80-G-9, Sept. 18 - Oct. 14, 1980.