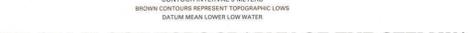


Map projection: Clarke Reference System 1880, North American Datum 1983
Longitude of central meridian 70°19' W; latitude of true scale 41°39' N.
This map is not intended for navigational purposes.

DISCUSSION
The Stellwagen Bank National Marine Sanctuary Mapping Project is a cooperative effort of the U.S. Geological Survey (USGS) and the National Oceanic and Atmospheric Administration, with support from the University of New Brunswick and the Canadian Hydrographic Service. The maps generated from this project are products of a 1994-96 multibeam echosounder survey. This map is part of a three-map series; the other two maps, also at 1:60,000 scale, show sea floor topography (USGS Geologic Investigations Series Map I-2676-A) and combined imagery of sonar-derived sea floor topography and backscatter intensity (Map I-2676-C). Preliminary versions of all three maps are shown on a CD-ROM as USGS Open File Report OF-410. The project also has published an illustrated sea floor topography by quadrangle location map at 1:25,000 scale as USGS Geologic Investigations Series Map I-2701 for quadrangle I-1 to I-2718 for quadrangle I-18. On this map, the corners of the 18 quadrangles are shown for reference as ticks labeled outside the map edges and as large crosses within the map area. The image shown here uses a six-division angle of 45 degrees above the horizon from an azimuth of 250 degrees and a vertical exaggeration of four times. Ultrasonic sounding stripes and patterns oriented parallel or perpendicular to survey tracklines are artifacts of data collection. Major topographic features depicted here were formed by glacial processes. Clastic ice containing rock debris moved across the region, sculpting its surface and depositing sediment to form the large basins, banks, ridges, and valleys. Other features were formed during the later stages of deglaciation when much of the area was covered by stationary retreating ice, and when small valley glaciers and ice falls were formed. Today, the sea floor is modified mostly by strong southwesterly flowing bottom currents, caused by storm winds from the northeast. But erode sediments from the shallow banks. With time, these banks corner, as sand and mud are removed and gravel remains, and their western flanks are built up by deposits of mud and sand.

The great topographic detail of the shaded relief by this survey warranted the naming here of many geographic features. Some features were named in consultation with local fishermen. All names shown have been approved by the U.S. Board on Geographic Names. Information on the process of naming these features is available online at <http://woodhole.usgs.gov/projects/naming/>.

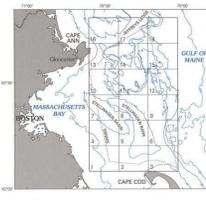
SCALE 1:60,000
ONE CENTIMETER ON THE MAP REPRESENTS 600 METERS ON THE SEA FLOOR



CONTOUR INTERVAL: 5 METERS
BROWN CONTOURS REPRESENT TOPOGRAPHIC LOWS
DASHED LINE SHOWS DEPTH TO AN LOWER LOW WATER

**SUN-ILLUMINATED SEA FLOOR TOPOGRAPHY OF THE STELLWAGEN BANK
NATIONAL MARINE SANCTUARY OFF BOSTON, MASSACHUSETTS**

By
Page C. Valentine, Tanya S. Unger, and Jessica L. Baker
2003



Location map outlining the area of this map and showing the 18 quadrangles mapped at scale 1:25,000 (see discussion). Dashed line shows Stellwagen Bank National Marine Sanctuary (SBNS) boundary. Bathymetric contours in meters.

