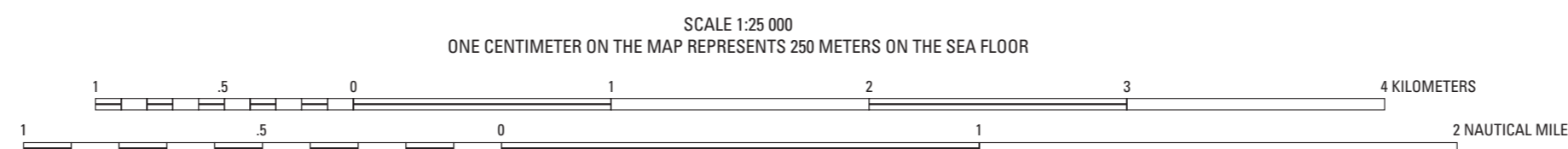


Mercator projection  
Geodetic Reference System 1980; North American Datum of 1983  
Longitude of central meridian 70°19' W; latitude of true scale 41°29' N  
False easting 0 m; false northing 0 m  
This map is not intended for navigational purposes



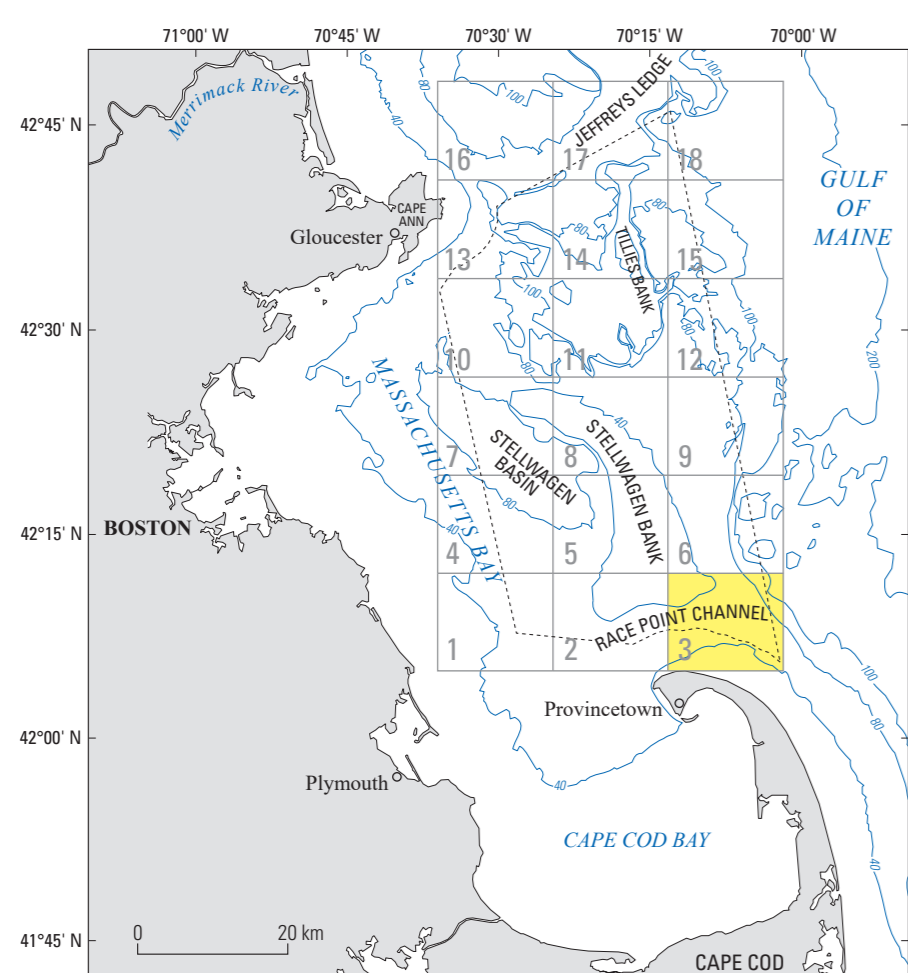
CONTOURS SHOW SEABED DEPTH BELOW DATUM; CONTOUR INTERVAL 5 METERS  
ADDITIONAL 1-METER CONTOURS INCLUDED TO SHOW BOTTOM ROUGHNESS  
DATUM MEAN LOWER LOW WATER

**DESCRIPTION OF MAP UNITS**

[Mud content is given in mean weight percents. For textural characteristics of individual substrates, see the section "Description of Map Units (Substrates)" (in pamphlet), tables 6 and 7 (in pamphlet), and Valentine and Cross (2026b). The southernmost part of the map area was not mapped because multibeam sonar data were not collected there.]

- M <1** Mud content <1—Equivalent to substrates A1, A3, AG, AI, AL, AN, and AP on map D
- M 1 to <5** Mud content 1 to <5—Equivalent to substrates A2, E, Y, Z, AB, AC, AK, AM, AO, and AQ on map D

- M 5 to <10** Mud content 5 to <10—Equivalent to substrates F, G1, and AJ on map D
- Boulder ridge ≥1 m in height**—Equivalent to substrate C on map D



**Location Map.** Map showing the location of quadrangle 3 (highlighted in yellow) of the Stellwagen Bank National Marine Sanctuary region offshore of Boston, Massachusetts. The numbered grid indicates the quadrangles of the U.S. Geological Survey multibeam sonar substrate-mapping project. The dashed line represents the Stellwagen Bank National Marine Sanctuary boundary. Bathymetric contours are labeled in meters and the contour interval is variable. Figure modified from Valentine and Cross (2024d).

**Map G.—Distribution of Substrate Mud Content and Boulder Ridges**  
Seabed Maps Showing Topography, Ruggedness, Backscatter Intensity, Sediment Mobility, and the Distribution of Geologic Substrates in Quadrangle 3 of the Stellwagen Bank National Marine Sanctuary Region Offshore of Boston, Massachusetts

By  
**Page C. Valentine and VeeAnn A. Cross**  
2026

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For sale by U.S. Geological Survey, Box 25286, Denver Federal Center, Denver, CO 80225; <https://store.usgs.gov/>; 1-888-ASK-USGS (1-888-275-8747).  
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