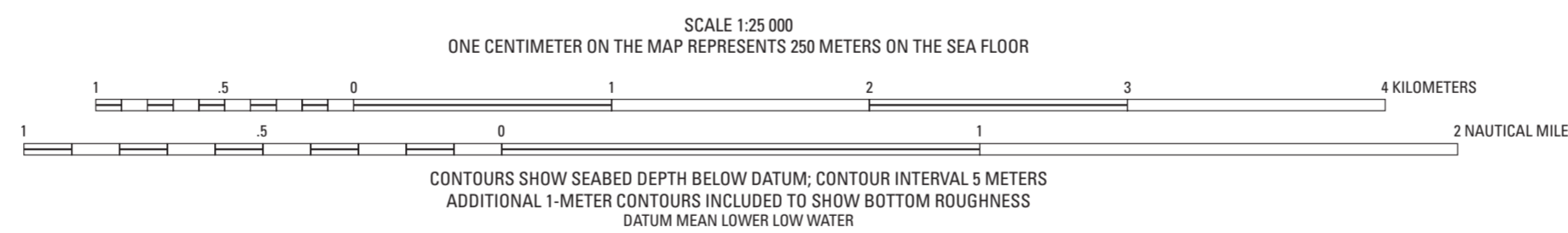


Mercator projection
Geodetic Reference System 1980; North American Datum of 1983
Longitude of central meridian 70°19' W; latitude of true scale 41°39' N
False easting 0 m; false northing 0 m
This map is not intended for navigational purposes

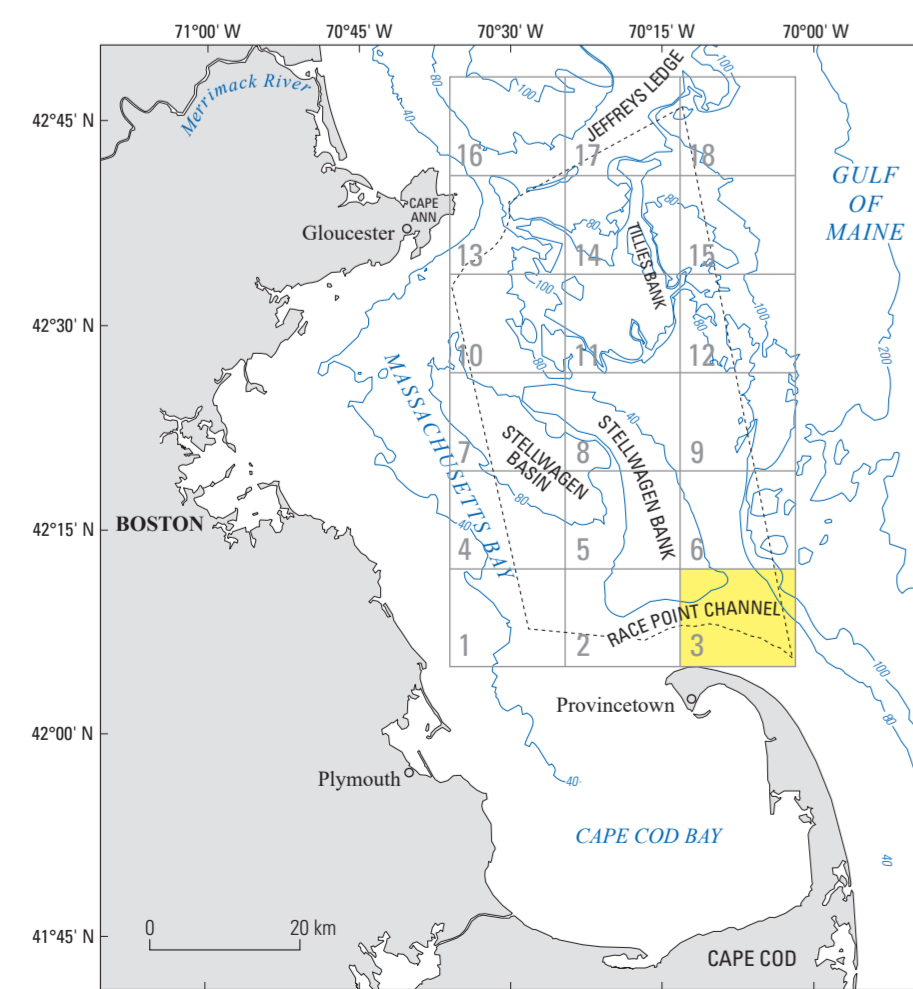


- DESCRIPTION OF MAP UNITS**
[Sediment mobility is based on the presence of sand ripples observed in video and photographic imagery. For textural characteristics of individual substrates, see the section "Description of Map Units (Substrates)" in pamphlet, tables 6 and 7 (in pamphlet), and Valentine and Cross (2026b). The southern-most part of the map area was not mapped because multibeam sonar data were not collected there.]
- Mobile sediment**—Rippled, coarse-grained sand (equivalent to substrates A1, A3, Y, Z, AC, AG, AI, AM, AN, and AO on map D); rippled, fine-grained sand (equivalent to substrates AB and AQ on map D)
 - Mobile and immobile sediment**—Rippled, coarse-grained sand, partial veneer on immobile, pebble, cobble, boulder gravel (equivalent to substrate AP on map D); rippled, gravelly, coarse-grained sand, partial veneer on immobile, pebble, cobble gravel (equivalent to substrate AL on map D)
 - Immobile sediment**—Coarse-grained sand (equivalent to substrates A2, E, and AJ on map D); muddy, fine-grained sand (equivalent to substrate G1 on map D); coarse-grained sand, partial veneer on pebble, cobble, boulder gravel (equivalent to substrate AK on map D); and coarse-grained sand, partial veneer on pebble, cobble, boulder gravel (equivalent to substrate F on map D)
 - Boulder ridge ≥ 1 m in height**—Equivalent to substrate C on map D

Map E.—Sediment Mobility

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



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).

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Suggested citation: Valentine, P.C. and Cross, V.A., 2026, Sediment mobility, map E of 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; U.S. Geological Survey Scientific Investigations Map 3544, 8 sheets, scale 1:25,000, 50 p. pamphlet, <https://doi.org/10.3133/sim3544>.
Associated data for this publication: Valentine, P.C. and Cross, V.A., 2026, Geospatial datasets of seabed topography, sediment mobility, and the distribution of geologic substrates in quadrangle 3 of the Stellwagen Bank National Marine Sanctuary region offshore of Boston, Massachusetts; U.S. Geological Survey data release, <https://doi.org/10.5066/P13PVH1>.