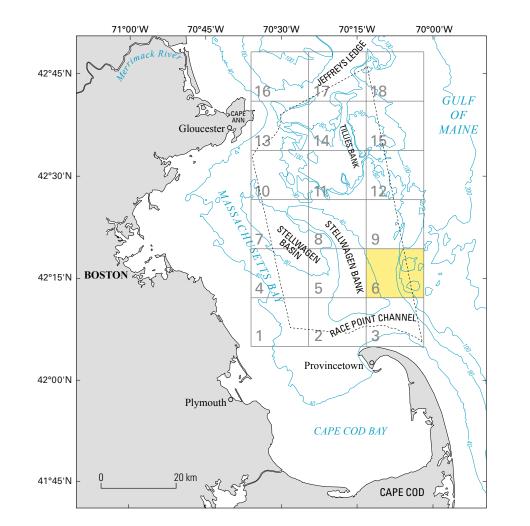
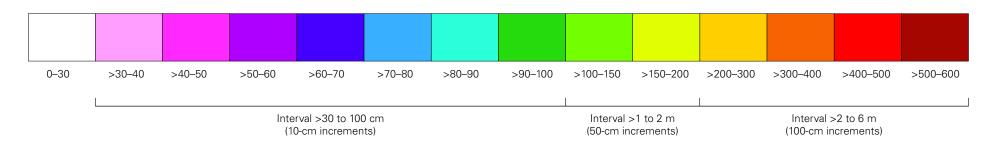


## CONTOUR INTERVAL 5 METERS ADDITIONAL 1-METER CONTOURS INCLUDED TO SHOW BOTTOM ROUGHNESS DATUM MEAN LOWER LOW WATER

## SEABED TERRAIN RUGGEDNESS INDEX



Location Map.—Shows quadrangle 6 (highlighted in yellow). Stellwagen Bank National Marine Sanctuary boundary is shown as a dashed line. Bathymetric contours are labeled in meters.



Colors represent the average change in elevation, in centimeters (cm), between a central area (13-meter [m] pixel) and the surrounding eight pixels (total area analyzed is three pixels by three pixels, or 39 × 39 m in size). For example, on the map, blue represents central pixels having an average elevation change of >70 to 80 cm with respect to their surrounding eight-pixel areas. Note the elevation-change increments in the color scale vary from 10 cm to 50 cm to 100 cm. A filter was applied to the ruggedness index image to smooth the boundaries between the mapped increments. The filter calculated the mean of the seabed terrain ruggedness index (TRI) value of each pixel and its eight neighboring pixels in a three-pixel by three-pixel grid that measures  $39 \times 39$  m.

This index represents the range of seabed ruggedness observed in the Stellwagen Bank National Marine Sanctuary region. In quadrangle 6, seabed ruggedness ranges from 0–30 to >300–400 cm.

See Mapping Methods for explanation of topographic contour intervals.

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## Map B.—Seabed Ruggedness

Seabed Maps Showing Topography, Ruggedness, Backscatter Intensity, Sediment Mobility, and the Distribution of Geologic Substrates in Quadrangle 6 of the Stellwagen Bank National Marine Sanctuary Region Offshore of Boston, Massachusetts

> By Page C. Valentine and Leslie B. Gallea 2015

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