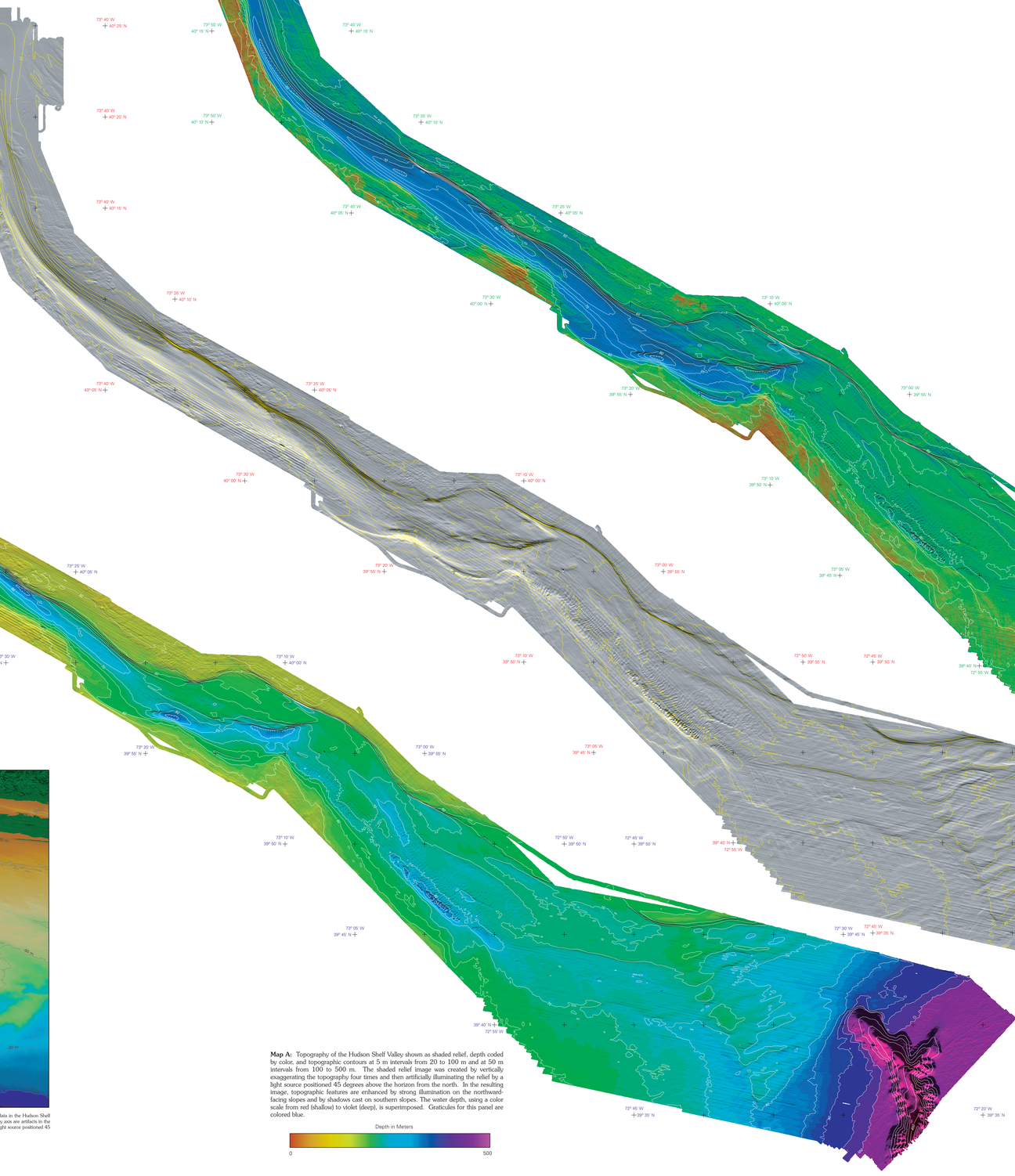


Figure 1. Map showing the location of the Hudson Shelf Valley offshore of the New York - New Jersey metropolitan region. The area surveyed with multibeam is outlined in yellow. VN is the Verrazano Narrows

Map B: Topography of the Hudson Shelf Valley shown as shaded relief and topographic contours at 5 m intervals from 20 to 100 m and at 50 m intervals from 100 to 500 m. Graticules for this panel are colored red.

Map C: Topography of the Hudson Shelf Valley shown as shaded relief, backscatter intensity coded by color, and topographic contours at 5 m intervals from 20 to 100 m and at 50 m intervals from 100 to 500 m. The backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). Graticules for this panel are colored green.



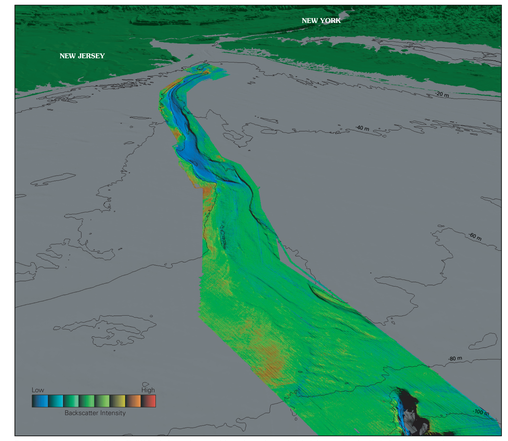


Figure 7. Perspective view of the Hudson Shelf Valley, looking onshore toward the northwest, showing shaded relief topography colored by backscatter intensity in the area covered by the multibeam survey. Outside the valley, the image shows the shaded relief topography from the NOAA coastal relief model. The faint linear features running parallel to the valley axis are artifacts in the multibeam data (see text). The shaded relief image was created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north.

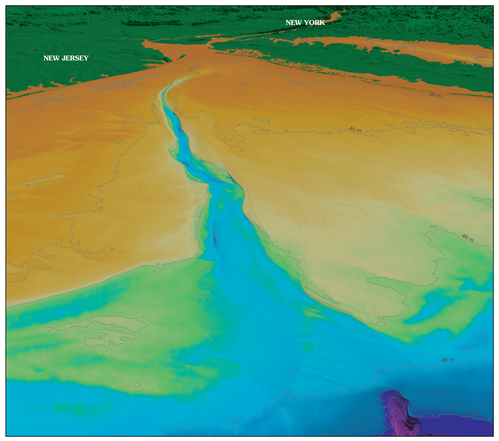


Figure 6. Perspective view of the Hudson Shelf Valley, looking onshore toward the northwest, showing shaded relief topography colored by water depth. The data in the Hudson Shelf Valley are from the multibeam survey and the data outside the valley are from the NOAA coastal relief model. The faint linear features running parallel to the valley axis are artifacts in the multibeam data (see text). The shaded relief image was created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north.

Map A: Topography of the Hudson Shelf Valley shown as shaded relief, depth coded by color, and topographic contours at 5 m intervals from 20 to 100 m and at 50 m intervals from 100 to 500 m. The shaded relief image was created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. In the resulting image, topographic features are enhanced by strong illumination on the northward-facing slopes and by shadows cast on southern slopes. The water depth, using a color scale from red (shallow) to violet (deep), is superimposed. Graticules for this panel are colored blue.

Depth in Meters
0 500

SCALE 1:150,000
ONE CENTIMETER ON THE MAP REPRESENTS 1500 METERS ON THE SEA FLOOR
10 5 0 10 20 KILOMETERS
10 5 0 10 NAUTICAL MILES
TOPOGRAPHIC CONTOURS IN METERS; INTERVAL VARIES
DATUM MEAN SEA LEVEL

TOPOGRAPHY, SHADED RELIEF AND BACKSCATTER INTENSITY OF THE HUDSON SHELF VALLEY, OFFSHORE OF NEW YORK

By
Bradford Butman, Tammie J. Middleton, E. Robert Thieler, and William C. Schwab

2003

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