



Figure 18. Location of Bethany New City Lake near Bethany, Missouri.

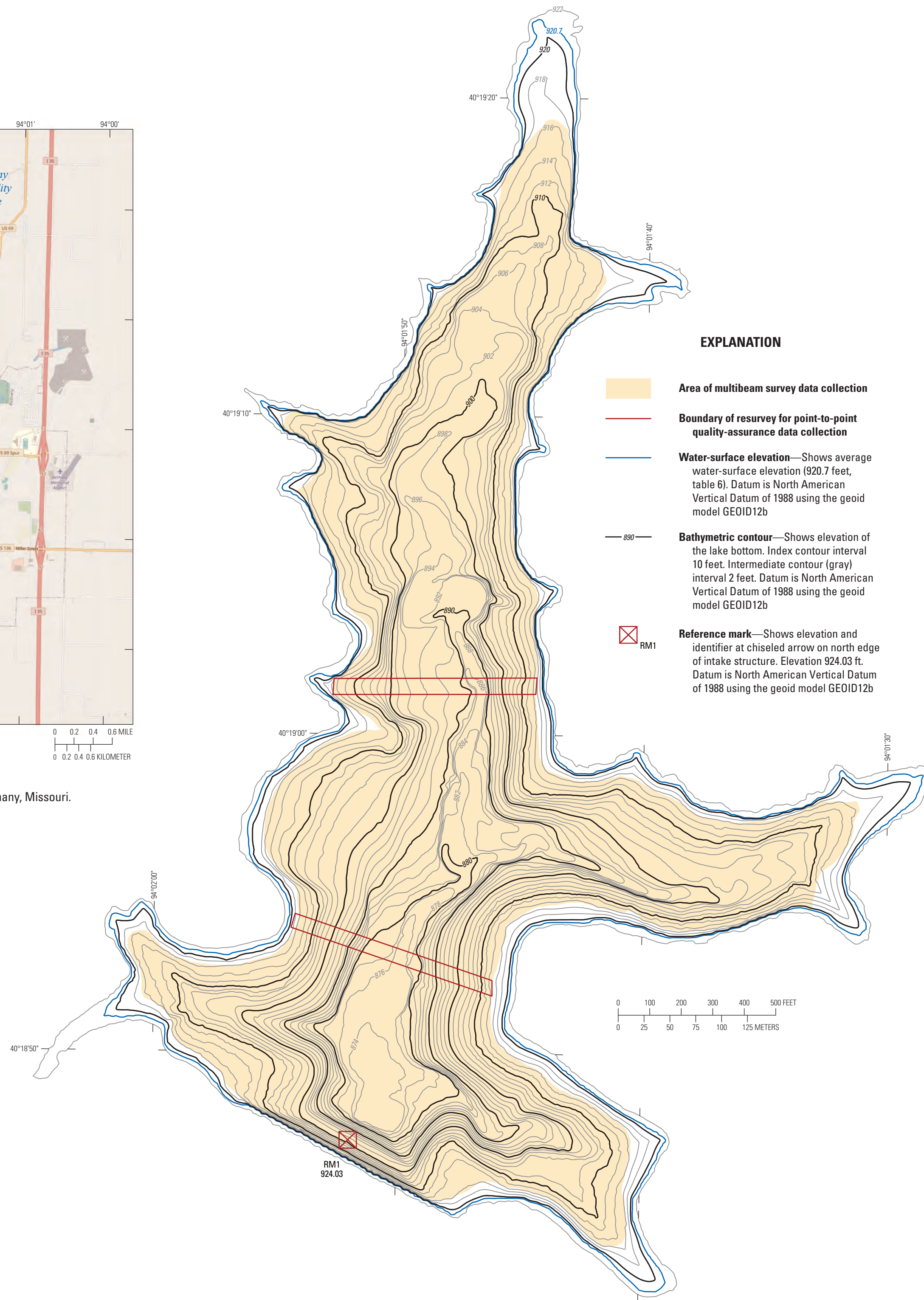


Figure 19. Bathymetric contours for Bethany New City Lake (lake 4; fig. 1; table 1) near Bethany, Missouri, resulting from a survey on March 18, 2020.

EXPLANATION

- Area of multibeam survey data collection
- Boundary of resurvey for point-to-point quality-assurance data collection
- Water-surface elevation—Shows average water-surface elevation (920.7 feet, table 6). Datum is North American Vertical Datum of 1988 using the geoid model GEOID12b
- Bathymetric contour—Shows elevation of the lake bottom. Index contour interval 10 feet. Intermediate contour (gray) interval 2 feet. Datum is North American Vertical Datum of 1988 using the geoid model GEOID12b
- Reference mark—Shows elevation and identifier at chiseled arrow on north edge of intake structure. Elevation 924.03 ft. Datum is North American Vertical Datum of 1988 using the geoid model GEOID12b

Table 6. Surface area and capacity at specified water-surface elevations for Bethany New City Lake near Bethany, Missouri, March 18, 2020.

[Emergency spillway elevation is about 921.6 feet; the average water-surface elevation during the survey was about 920.7 feet (row shaded in the table)]

Water-surface elevation, ^a in feet	Surface area, in acres	Capacity ^b in acre-feet
874.0	1.00	1.00
876.0	2.20	4.30
878.0	3.10	9.50
880.0	4.10	16.8
882.0	5.20	26.1
884.0	6.50	37.8
886.0	7.70	52.0
888.0	8.90	68.6
890.0	10.3	87.8
892.0	12.5	111
894.0	14.8	138
896.0	17.2	170
898.0	19.7	207
900.0	23.0	249
902.0	26.7	299
904.0	31.1	357
906.0	35.3	423
908.0	39.1	498
910.0	43.2	580
912.0	48.0	671
914.0	53.4	772
916.0	59.4	885
918.0	64.4	1,010
920.0	69.5	1,140
920.7	71.6	1,190
921.6	75.2	1,260

^aElevations are referenced to the North American Vertical Datum of 1988 using the geoid model GEOID12b.

^bCapacities were calculated from surface testing at 0.44-foot vertical accuracy at a 95-percent confidence level. An explanation of the vertical accuracy calculation can be found in the "Bathymetric Surface, Contour Map, and Bathymetric Change Quality Assurance" section of the report of which this sheet is a part.

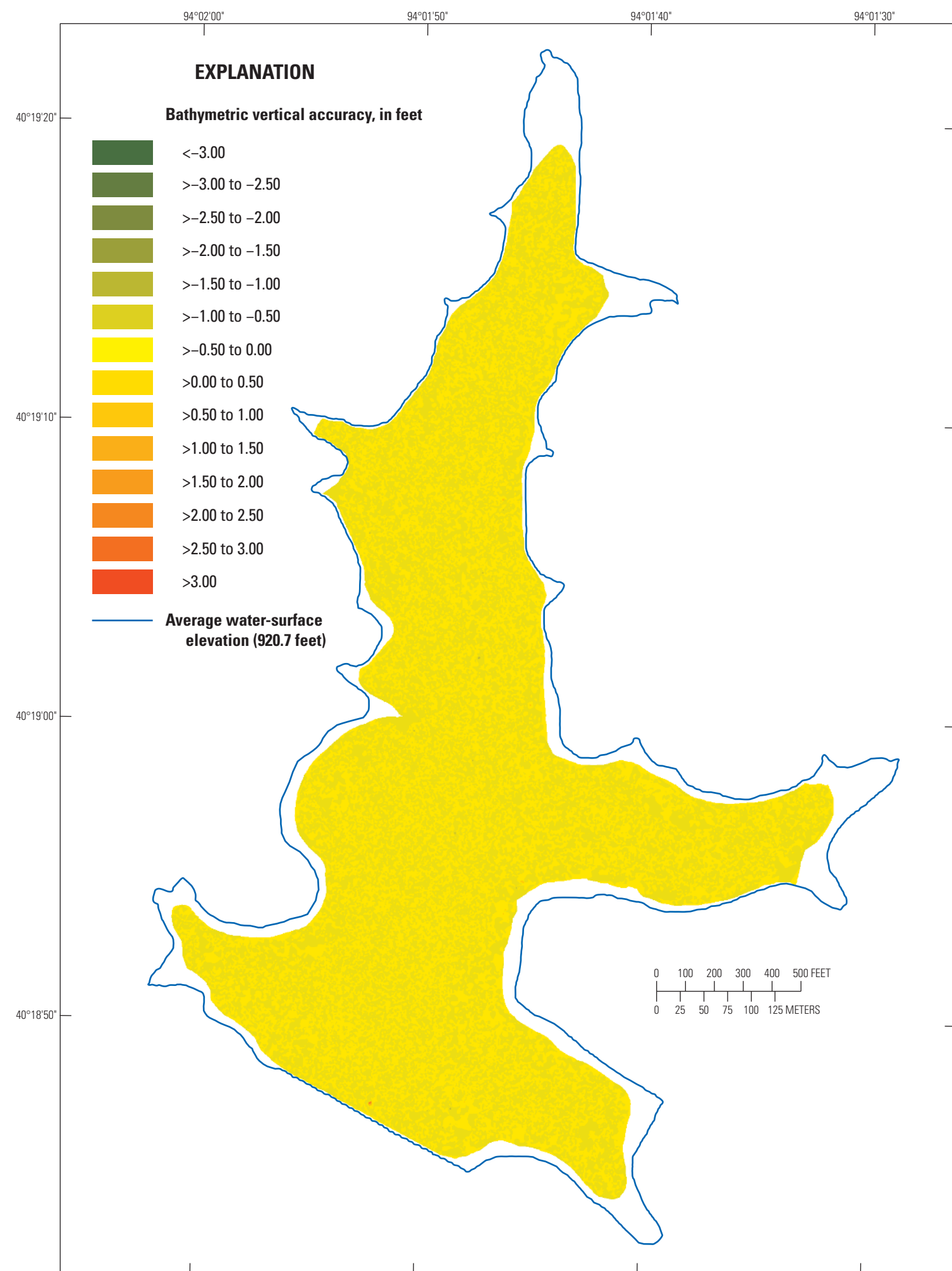


Figure 20. Vertical accuracy of the bathymetric surface of Bethany New City Lake near Bethany, Missouri, 2020.

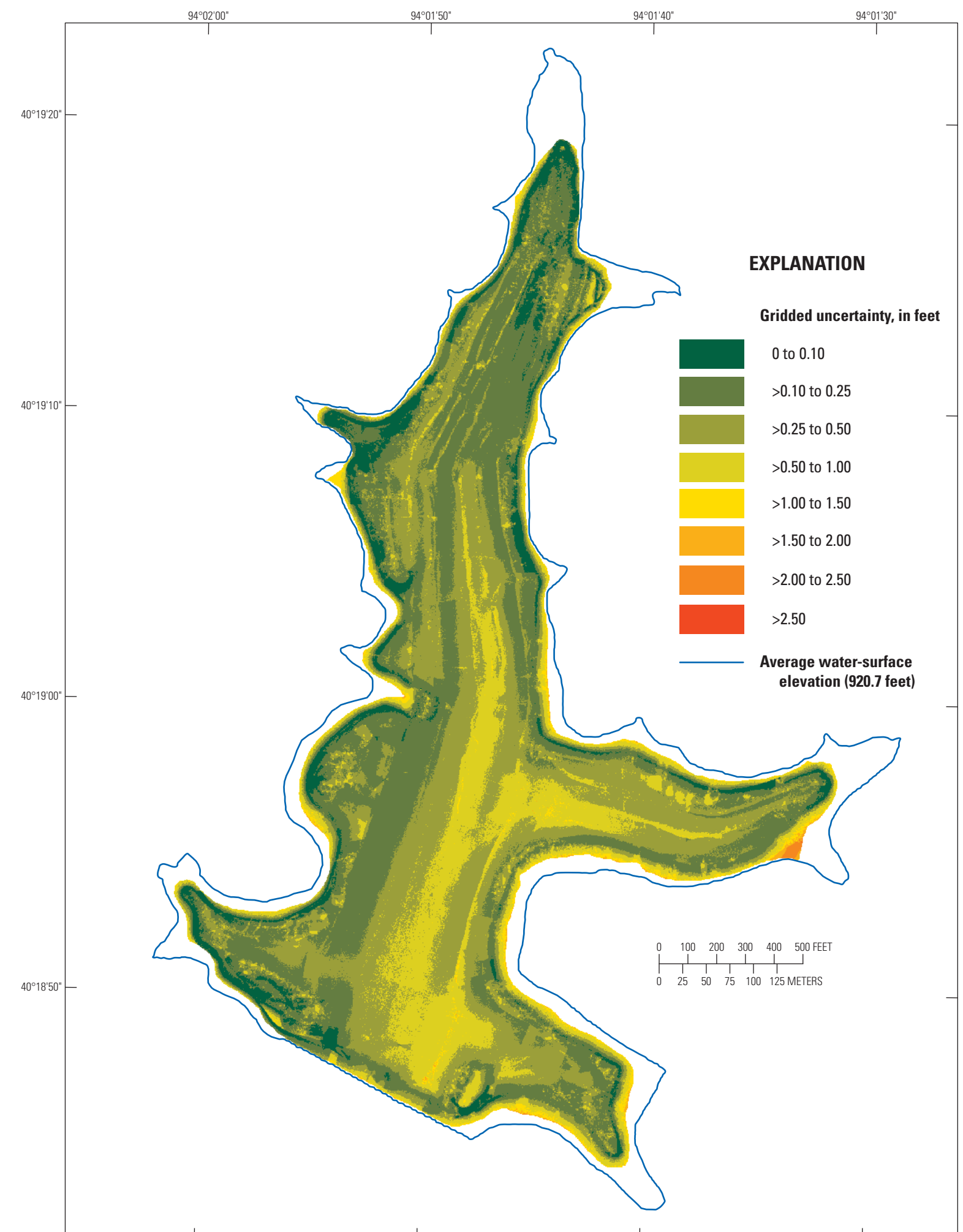


Figure 21. Gridded uncertainty of the bathymetric surface of Bethany New City Lake near Bethany, Missouri, 2020.

Bathymetric Contour Map, and Surface Area and Capacity Table for Bethany New City Lake near Bethany, Missouri, 2020

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