

Geometric models to predict lake depth are sensitive to mis-measurement of in-lake slope

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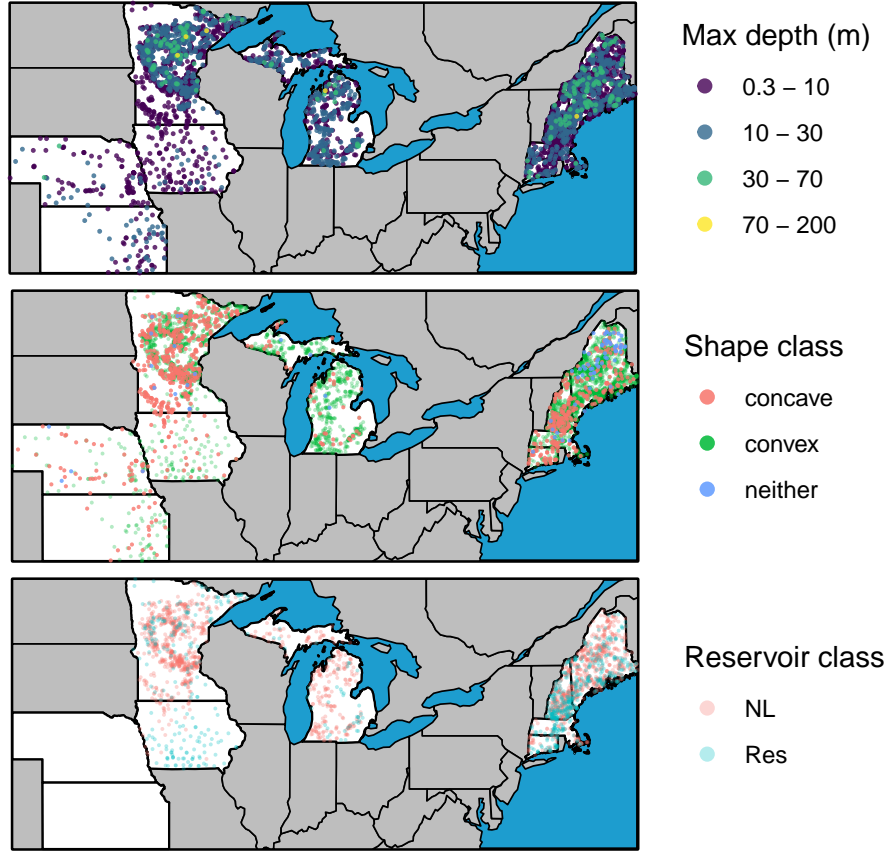


Figure S1: Map of study lakes showing A) lake maximum depth measurements, B) cross-section shape class, and C) reservoir classification.

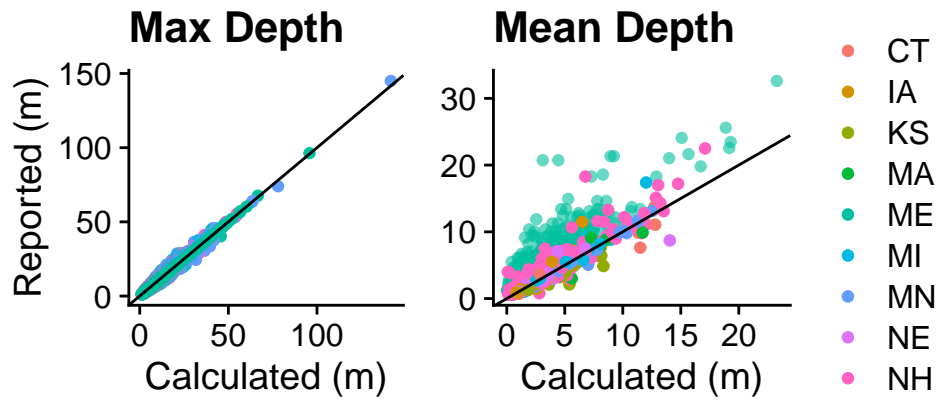


Figure S2: Comparison between reported depth and depth extracted from bathymetry surfaces by US State where reported depths come from the LAGOSUS-Depth product (citation). For this figure, no reported depth values originated from the same source as its corresponding bathymetry-derived value.

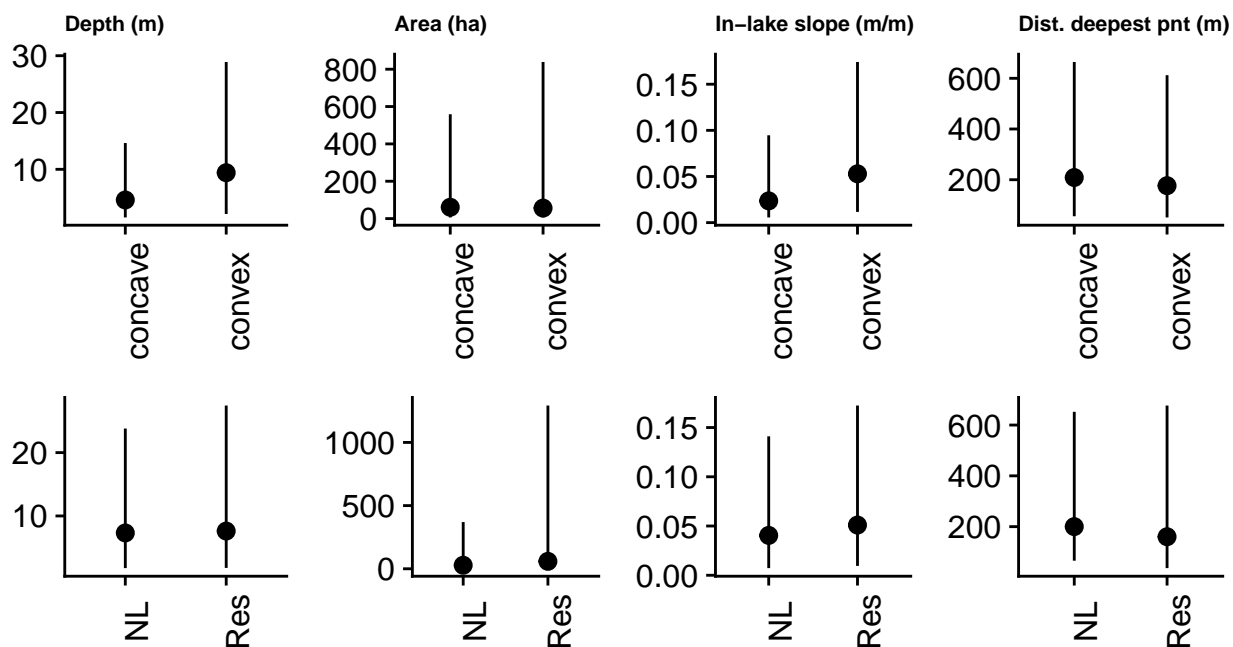


Figure S3: Lake characteristics by categorical variables.

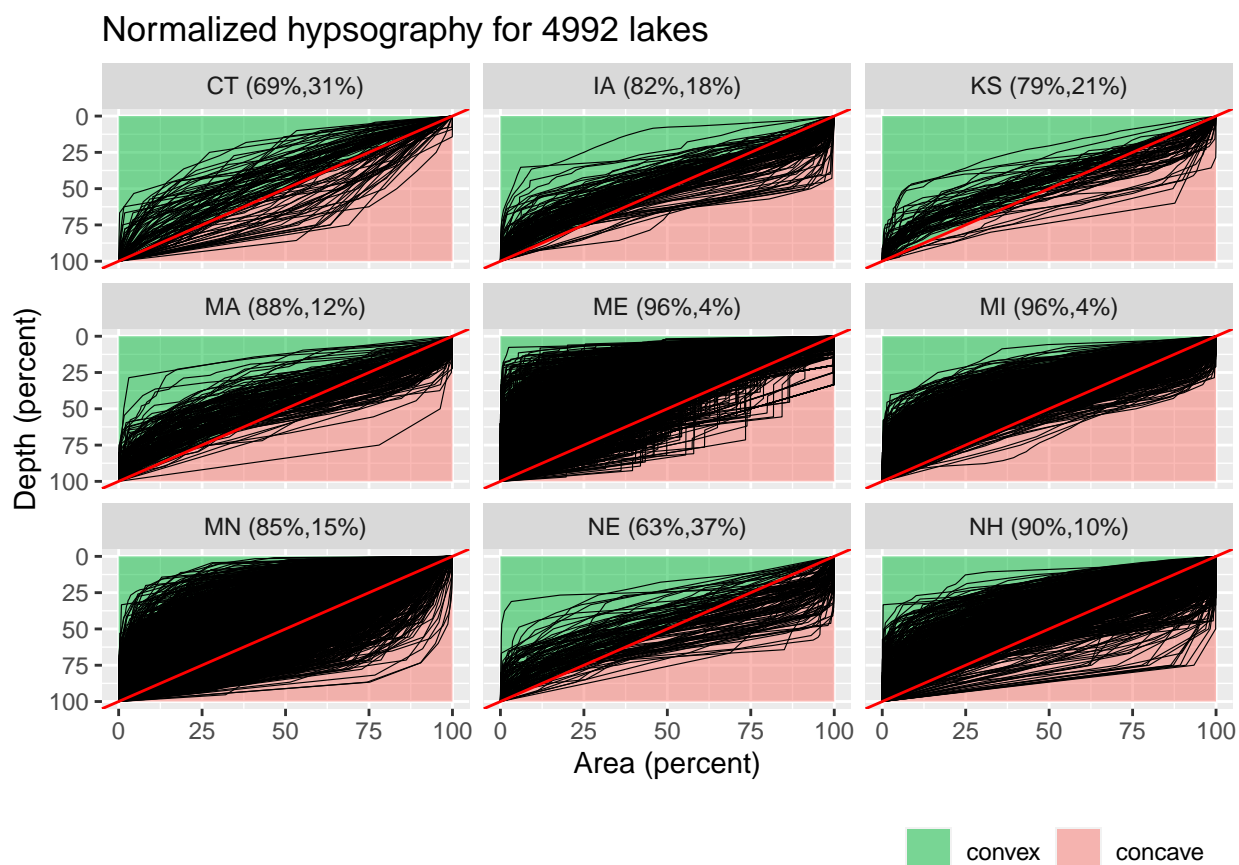


Figure S4: Hypsography classification by state. Numbers on panel labels indicate the percentage of lakes in each state with a convex versus a concave cross-section shape.

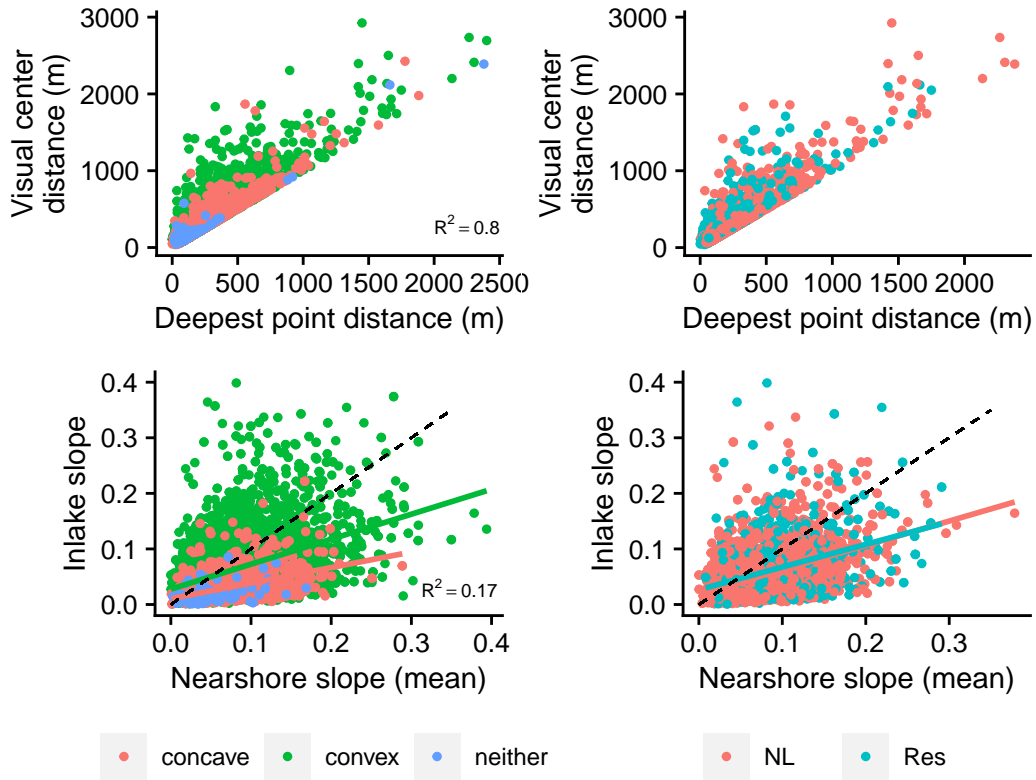


Figure S5: Comparison among lake shape and reservoir classes for A-B) distance to deepest point versus distance to lake visual center and C-D) nearshore slope versus inlake slope. A dashed 1:1 line is shown for comparison. Cross-section shape and reservoir class plots are not identical because not all lakes had a reservoir classification exceeding a 0.75 probability confidence level.

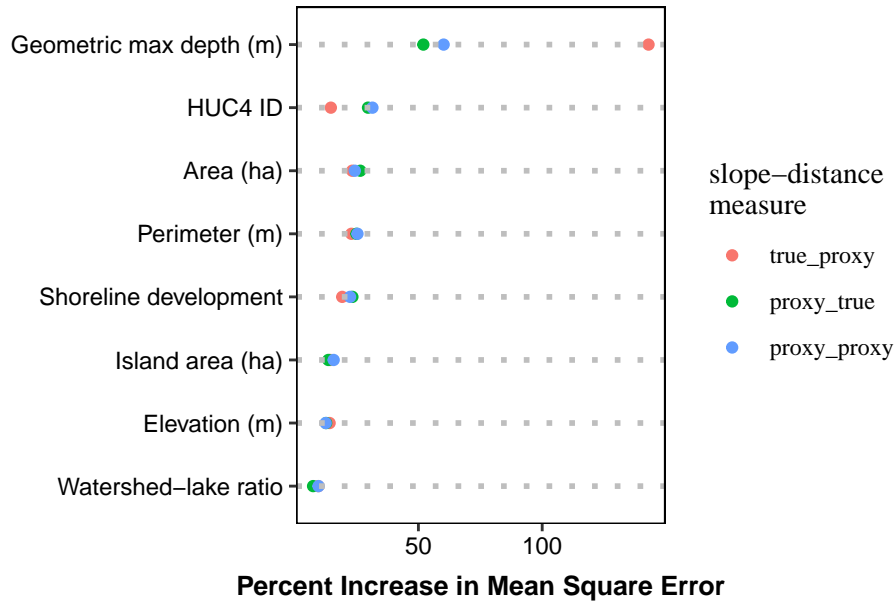


Figure S6: Importance plot for random forest variables showing increase in mean square error. Higher values indicate greater importance to model predictions. See Equation 1 for a definition of geometric max depth. HUC4 ID is a 'dummy' variable of geographic (hydrologic subbasin) location.