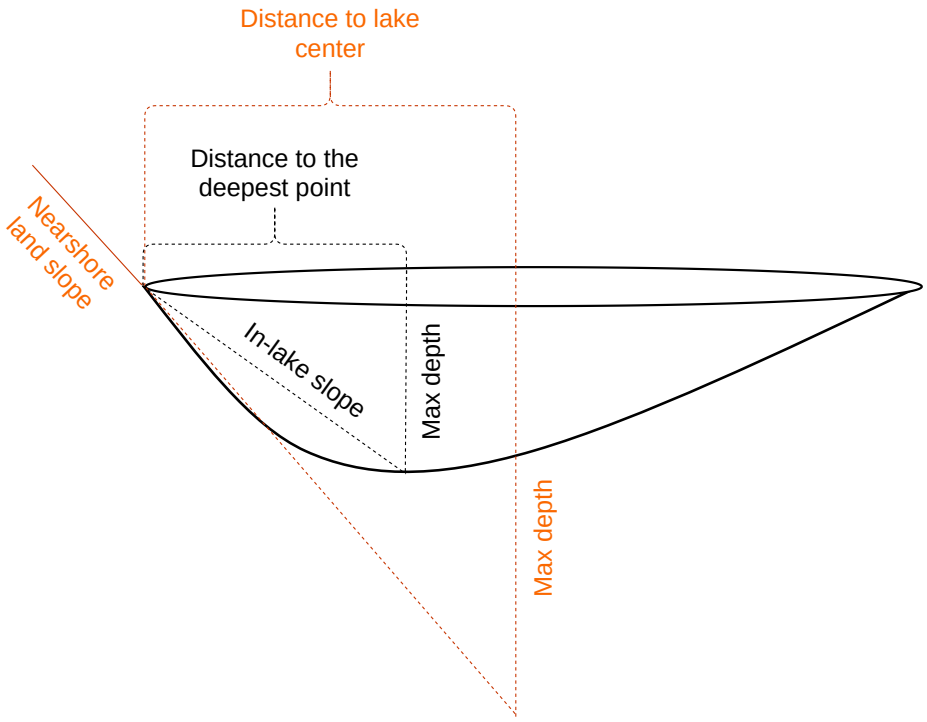

Figure 1: Diagram showing the relations between true (black) and proxy (orange) metrics of lake geometry. Geometric depth calculated via Equation 1 requires a single distance and slope metric.

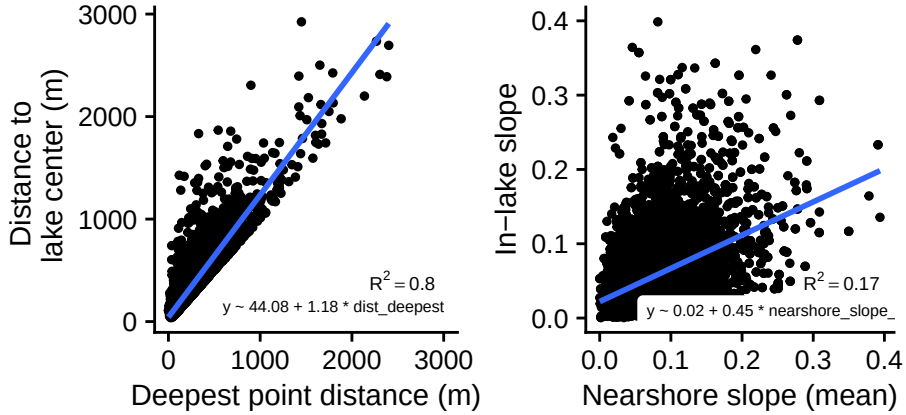

Figure 2: Comparison among proxy and true values of lake geometry for A) distance to deepest point versus distance distance to lake center and B) nearshore land slope versus in-lake slope. A best-fit line and equation is shown to shown to facilitate computation of correction factors for proxy values of lake geometry. Coefficients of determination are shown to illustrate representativeness.

slope	distance	rmse	rsq	mape
true	true	-	-	-
true	proxy	4.4 m	0.70	29 %
proxy	true	6.6 m	0.32	60 %
proxy	proxy	6.4 m	0.35	59 %

Table 1: Model fit and predictive accuracy metrics (RMSE = root mean square error, R2 = coefficient of determination) for all combinations of true (in-lake slope, distance to the deepest point of the lake) and proxy (nearshore land slope, distance to lake center) metrics.

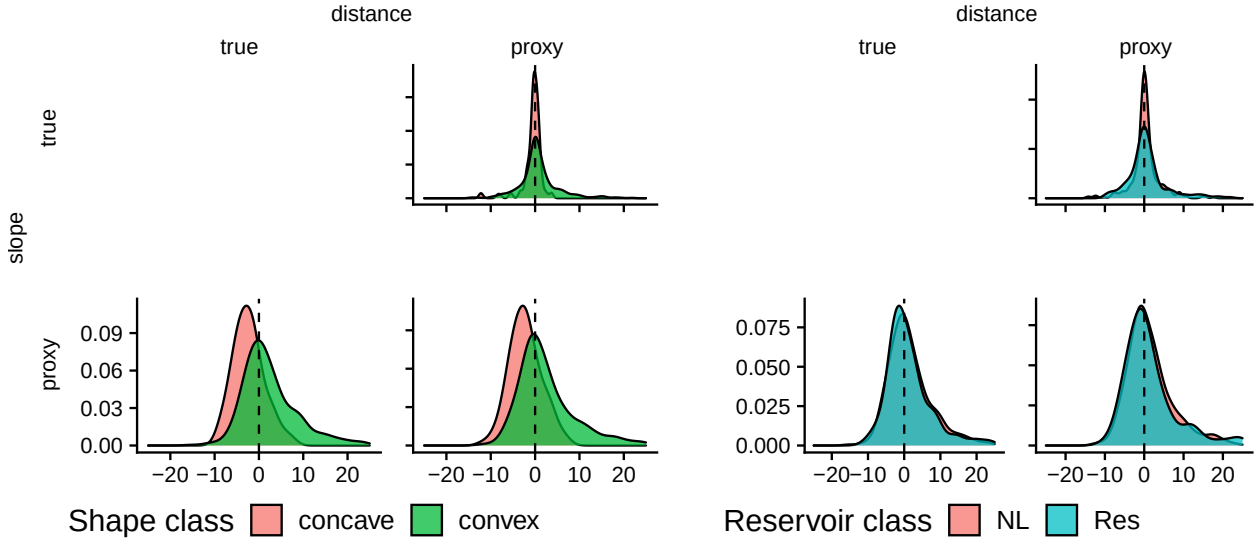

Figure 3: Depth model residuals (residual = observed - predicted) in meters by cross-section shape and reservoir class indicating overprediction of concave and reservoir lakes.