Table 1: Parameters manipulated

Parameter	Levels	Rationale
Predictor variables	water quality, meteorology, both	Random forests only use a subset of predictors for each tree
Model package	randomForest, ranger	Different packages use different implementations and default parameters
Training:testing ratio	0.7, 0.8, 0.9	The ratio can influence over-fitting or under-fitting
Variables per split (mtry)	2, 3, 4	The number of variables for each split influence what data a tree receives
Number of trees (ntree)	100, 500, 1000	Represents a trade-off between model performance and computational time