

Ordinal Forest of Tree Feasibility

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Contents

This script builds species specific ordinal forest models of feasibility rating for all site units in western North America. The sample set is comprised of 50 sites for each BGC randomly extracted from a 5km grid of locations and attributed with climate data from the climr package. Each training location is replicated for each site units in the BGC and these points are further attributed with site series specific edaphic attributes including mean SNR (ordinal) and rSMR adjusted minimum and maximum climatic moisture deficit to represent aSMR of sites. For each species, the data set is divided into five equal sets with equal balance of expert feasibility ratings. Five ordinal forests models are built using the ordinalForest package each using 4 of the sets (80% of the sample set) and used to predict the left-out test set (20%). The feasibility predictions are aligned with the original feasibility ratings and presented for review.

Still to do: Build adjustment for modified site conditions of specific site series defined by extra edatopic factors for use in normal attribution run. And then to apply top all site series to assist in building footnotes for the Reference Guide. Specific extra-edaphic factors may include insolation or cold slopes (temperature and CMD adjustments), frost prone sites (FFP, temperature), snow accumulation (PAS, DD5)

#Build and predict with cross-validated models and export results to csv.

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[1] 0.1303743

To do: build a final model for prediction of any new site series. If these new site series fall outside the dimensions of the current training set, caution should be used in interpreting the results.

Graphical summaries comparing predicted and actual feasibility ratings for each species.

Mapped distribution of species range colour-themed by highest rating in BGC