

Models

Hyper-parameter Tuning

1. Regional Model - Basin & Range

- Model to predict BFI trained on Basin & Range training dataset
- optimal model chosen by minimizing RMSE

nrounds	max_depth	eta	gamma	colsample_bytree	min_child_weight	subsample
1000	6	0.025	0	0.8	5	1

2. Regional Model - Colorado Plateau

- Model to predict BFI trained on Colorado Plateau training dataset
- optimal model chosen by minimizing RMSE

nrounds	max_depth	eta	gamma	colsample_bytree	min_child_weight	subsample
550	5	0.025	0.075	0.8	1	0.5

Model Statistics

1. Regional Model - Basin & Range

R2	MSE	RMSE	MAE	Nash-Sutcliffe	pbias
0.7553	0.0173	0.1314	0.084	0.7471	-6

2. Regional Model - Colorado Plateau

R2	MSE	RMSE	MAE	Nash-Sutcliffe	pbias
0.8183	0.0123	0.1108	0.0782	0.8149	-3.7

3. Statewide Model - Basin & Range

R2	MSE	RMSE	MAE	Nash-Sutcliffe	pbias
0.7479	0.0179	0.1336	0.0895	0.7385	-6.2

4. Statewide Model - Colorado Plateau

R2	MSE	RMSE	MAE	Nash-Sutcliffe	pbias
0.8155	0.0125	0.1118	0.0789	0.8116	-3.4