Analysis Results - Random Forest

importance_mean
regression
0.7844445013444865
0.02710784245940001
0.028558972459068705
0.0013978572437800712
kkeeping fields; high importance for them usually reflects row ordering, not biology. Consider excluding them.']
R_TOTAL_AUG', 'PASTURE_TOTALAREA', 'PASTURE_FORESTAREA', 'ENV_AIRTEMP', 'GH_COUNT', 'COVER_RICHNESS_JUL', 'CO
156], 'predicted': [1.4479082866681883, 1.2590615211915546, 1.4573706956880648, 1.295610399107072, 2.2403943408357634, 1.600
0.5565824544612828
0.24643479941920665
0.01574002529463575
0.013174674682843932
0.010817534125111586
0.010812870463076113
0.010539915825681104
0.00970444281020315
0.00967778376366228
0.009176108581810718
0.008267966566526825
0.008139451619430284
0.007904727126205975
0.007681369106705536
0.007556975004175637
0.006373449509471717
0.006122504228894643
0.006106660811908595
0.005716861517064004
0.00546011774757178
0.005344116568574732
0.00512851659601339
0.004816372456979862

0.004513188611571369
0.003953618540702311
0.0038859436557307074
0.003823969283643827
0.0036741696445991095
0.002869411976715606

Pre-Modeling Statistics

Feature	Pearson r	Pearson FDR	Spearman rho	Spearman FDR	ANOVA F	ANOVA FDR	Sig?
PLOT	0.0327	0.7545	0.0396	0.6266	0.4206	0.7545	No
ENV_SOILNH4	-0.0655	0.6241	-0.0088	0.9248	1.6951	0.6241	No
ENV_SOILNO3	-0.0852	0.3274	-0.0869	0.2614	2.8827	0.3274	No
ENV_SOILP	-0.0423	0.7502	-0.0244	0.7289	0.7054	0.7502	No
ENV_SOILOC	-0.0274	0.7729	-0.0811	0.2614	0.2966	0.7729	No
ENV_SOILTN	-0.0180	0.8373	-0.0366	0.6456	0.1280	0.8373	No
ENV_SOILTC	-0.0132	0.8524	-0.0398	0.6266	0.0685	0.8524	No
ENV_PH	-0.0469	0.7502	-0.0304	0.7208	0.8680	0.7502	No
ENV_SOILCLAY	-0.0568	0.6843	-0.0808	0.2614	1.2747	0.6843	No
ENV_SOILSILT	-0.0193	0.8373	-0.0580	0.4106	0.1467	0.8373	No
ENV_SOILSAND	0.0382	0.7545	0.0818	0.2614	0.5758	0.7545	No
ENV_SOILMOIS	-0.0412	0.7502	-0.0859	0.2614	0.6690	0.7502	No
PC_SHOOTMASS	-0.0286	0.7729	-0.1051	0.1763	0.3230	0.7729	No
PC_WOODMASS	0.0575	0.6843	0.0698	0.3201	1.3084	0.6843	No
PC_LITTERMASS	-0.0924	0.2742	-0.1464	0.0204	3.3942	0.2742	Yes
PC_HEIGHT	-0.0324	0.7545	-0.0052	0.9508	0.4140	0.7545	No
COVER_RICHNESS_JUN	0.4070	0.0000	0.4176	0.0000	78.2461	0.0000	Yes
COVER_TOTAL_JUN	0.1136	0.1382	0.0574	0.4106	5.1470	0.1382	No
COVER_RICHNESS_AUG	0.3853	0.0000	0.4381	0.0000	68.7058	0.0000	Yes
COVER_TOTAL_AUG	-0.0165	0.8373	-0.0756	0.2974	0.1076	0.8373	No
PASTURE_TOTALAREA	0.0479	0.7502	0.0714	0.3201	0.9063	0.7502	No
PASTURE_FORESTAREA	-0.0036	0.9425	-0.0256	0.7289	0.0052	0.9425	No
ENV_AIRTEMP	-0.0038	0.9425	-0.0134	0.8819	0.0056	0.9425	No
GH_COUNT	-0.0333	0.7545	-0.0245	0.7289	0.4366	0.7545	No

COVER_RICHNESS_JUL	0.8524	0.0000	0.8063	0.0000	1047.0461	0.0000	Yes
COVER_TOTAL_JUL	0.6748	0.0000	0.4609	0.0000	329.4078	0.0000	Yes
ENV_PROBEMOIS_AUG	-0.0419	0.7502	-0.0615	0.4028	0.6926	0.7502	No
ENV_PROBEMOIS_JUL	-0.0160	0.8373	-0.0010	0.9845	0.1011	0.8373	No
ENV_PROBEMOIS_JUN	-0.1013	0.2128	-0.0960	0.2336	4.0817	0.2128	No

Permutation Importance

Feature	Mean	SD
COVER_RICHNESS_JUL	0.7960	0.0963
COVER_TOTAL_JUL	0.1961	0.0215
PC_LITTERMASS	0.0112	0.0040
ENV_PROBEMOIS_JUN	0.0059	0.0026
COVER_TOTAL_AUG	0.0031	0.0012
ENV_AIRTEMP	0.0031	0.0012
ENV_SOILMOIS	0.0031	0.0031
PC_WOODMASS	0.0026	0.0023
ENV_SOILOC	0.0020	0.0008
ENV_SOILSAND	0.0019	0.0032
PLOT	0.0017	0.0019
COVER_RICHNESS_JUN	0.0017	0.0018
PASTURE_FORESTAREA	0.0014	0.0007
COVER_TOTAL_JUN	0.0012	0.0015
ENV_SOILNH4	0.0010	0.0015
ENV_PH	0.0010	0.0010
ENV_PROBEMOIS_JUL	0.0008	0.0007
PC_SHOOTMASS	0.0005	0.0008
PASTURE_TOTALAREA	0.0004	0.0003
GH_COUNT	0.0003	0.0017
ENV_SOILSILT	0.0000	0.0013
COVER_RICHNESS_AUG	-0.0000	0.0021
PC_HEIGHT	-0.0001	0.0009
ENV_SOILTC	-0.0003	0.0011
ENV_SOILTN	-0.0003	0.0008

ENV_PROBEMOIS_AUG	-0.0007	0.0027
ENV_SOILNO3	-0.0008	0.0014
ENV_SOILP	-0.0014	0.0018
ENV_SOILCLAY	-0.0015	0.0037

SHAP Values

Feature	Mean |Abs|
COVER_RICHNESS_JUL	0.2029
COVER_TOTAL_JUL	0.0809
PC_LITTERMASS	0.0143
ENV_PROBEMOIS_JUN	0.0143
ENV_PH	0.0060
ENV_AIRTEMP	0.0049
COVER_TOTAL_AUG	0.0046
COVER_TOTAL_JUN	0.0045
COVER_RICHNESS_AUG	0.0040
PC_HEIGHT	0.0038
PC_SHOOTMASS	0.0031
ENV_SOILCLAY	0.0030
ENV_SOILOC	0.0028
ENV_SOILP	0.0027
ENV_PROBEMOIS_AUG	0.0027
ENV_SOILNO3	0.0026
ENV_SOILSILT	0.0026
PLOT	0.0025
COVER_RICHNESS_JUN	0.0022
GH_COUNT	0.0021
ENV_PROBEMOIS_JUL	0.0021
ENV_SOILNH4	0.0019
ENV_SOILSAND	0.0018
ENV_SOILTC	0.0018
ENV_SOILMOIS	0.0017
PASTURE_TOTALAREA	0.0012

ENV_SOILTN	0.0012
PC_WOODMASS	0.0010
PASTURE_FORESTAREA	0.0008

Per-Split Model Metrics

Split	R^2	MSE
	0.7461	0.0302
	0.8046	0.0268
	0.8026	0.0286
Mean ± SD	**0.7844 ± 0.0271**	**0.0286 ± 0.0014**