**Case 8:** This is the extreme states random forest vimp classifying for the refined NEE definition (low NEE = high gpp + low reco, etc) on the dataset with all combined sites.

| | strong sink | strong source | inactive |
|---|---|---|---|
| misclassifications | 0.0698 | 0.0745 | 0.1159 |
| SiteID | 0.0022929 | 0.00102186 | 0.00191959 |
| TA_avg | 0.0099186 | 0.07744988 | 0.0064969 |
| VPD_avg | 0.0080245 | 0.06373009 | 0.00246632 |
| SW_IN_avg | 0.054041 | 0.02226423 | 0.01163547 |
| P_int | 0.0023523 | 0.00465143 | 0.00033918 |
| SWC_avg | 0.0077201 | 0.00246671 | 0.00723422 |
| TA_avg_1 | 0.0044072 | 0.01205454 | 0.00968519 |
| VPD_avg_1 | 0.0020526 | 0.01169685 | 0.00342087 |
| SW_IN_avg_1 | 0.0040489 | 0.00954849 | 0.00543899 |
| P_int_1 | 0.0003746 | 0.02683107 | 0.00012356 |
| SWC_avg_1 | 0.0100654 | 0.00580241 | 0.0069023 |
| NEE_state_1 | 0.102064 | 0.09254032 | 0.00443679 |
| TA_avg_7 | 0.0073104 | 0.01357954 | 0.01230737 |
| VPD_avg_7 | 0.0044392 | 0.0154125 | 0.00474528 |
| SW_IN_avg_7 | 0.0148503 | 0.01295321 | 0.01053314 |
| P_int_7 | 0.0027035 | 0.00713299 | 0.00277562 |
| SWC_avg_7 | 0.0154294 | 0.0101392 | 0.00713569 |
| NEE_state_7 | 0.1147009 | 0.05774883 | 0.01198596 |
| TA_avg_sd_7 | 0.0041769 | 0.00296614 | 0.0015473 |
| VPD_avg_sd_7 | 0.0022711 | 0.00047939 | 0.0022402 |
| SW_IN_avg_sd_7 | 0.0029368 | 0.00184261 | 0.00365587 |
| P_int_sd_7 | 0.0033044 | 0.00952846 | 0.00256807 |
| SWC_avg_sd_7 | 0.0121632 | 0.00598349 | 0.01711565 |
| NEE_state_sd_7 | 0.0160951 | 0.0048377 | 0.00555447 |
| TA_avg_30 | 0.0131903 | 0.00784242 | 0.01405172 |
| VPD_avg_30 | 0.0076655 | 0.01674901 | 0.00720676 |
| SW_IN_avg_30 | 0.0250639 | 0.02341967 | 0.02468339 |
| P_int_30 | 0.0248946 | 0.00537052 | 0.01415671 |
| SWC_avg_30 | 0.0182881 | 0.0120345 | 0.00912474 |
| NEE_state_30 | 0.0513508 | 0.02780246 | 0.00895676 |
| TA_avg_sd_30 | 0.0083156 | 0.00305074 | 0.00402412 |
| VPD_avg_sd_30 | 0.0065222 | 0.00572004 | 0.0090359 |
| SW_IN_avg_sd_30 | 0.0244544 | 0.00364293 | 0.01119696 |
| P_int_sd_30 | 0.0240127 | 0.0044199 | 0.01179053 |
| SWC_avg_sd_30 | 0.0186986 | 0.01363965 | 0.0164809 |
| NEE_state_sd_30 | 0.012857 | 0.0050722 | 0.00672222 |
| TA_avg_365 | 0.0107124 | 0.00483621 | 0.00746276 |
| VPD_avg_365 | 0.0117511 | 0.00577718 | 0.00804259 |
| SW_IN_avg_365 | 0.0052984 | 0.0055219 | 0.00641049 |
| P_int_365 | 0.0094441 | 0.0066061 | 0.02088054 |
| SWC_avg_365 | 0.0117706 | 0.00747212 | 0.00882755 |
| NEE_state_365 | 0.0100794 | 0.00182777 | 0.00964885 |
| TA_avg_sd_365 | 0.0087433 | 0.00700238 | 0.01092481 |
| VPD_avg_sd_365 | 0.0110011 | 0.00576383 | 0.00862324 |
| SW_IN_avg_sd_365 | 0.0077264 | 0.0036971 | 0.00428174 |
| P_int_sd_365 | 0.0055357 | 0.0077927 | 0.01041362 |
| SWC_avg_sd_365 | 0.0101824 | 0.00510633 | 0.00891477 |
| NEE_state_sd_365 | 0.0071091 | 0.00186191 | 0.00463707 |

**Case 9:** This is the same models with the previous NEE states removed as predictors. No site id.

| | strong sink | strong source | inactive |
|---|---|---|---|
| misclassifications | 0.0491 | 0.0713 | 0.1328 |
| TA_avg | 0.02813028 | 0.10291253 | 0.007542707 |
| VPD_avg | 0.01244182 | 0.08220298 | 0.003171329 |
| SW_IN_avg | 0.07775472 | 0.03053633 | 0.015197667 |
| P_int | 0.00223675 | 0.00506107 | 0.000554801 |
| SWC_avg | 0.02193278 | 0.0076339 | 0.010432194 |
| TA_avg_1 | 0.01144051 | 0.0212587 | 0.011914893 |
| VPD_avg_1 | 0.00453047 | 0.01672081 | 0.004511896 |
| SW_IN_avg_1 | 0.0152639 | 0.01556315 | 0.00708966 |
| P_int_1 | 0.0009576 | 0.03553729 | 0.000125173 |
| SWC_avg_1 | 0.02501943 | 0.01111431 | 0.009739299 |
| TA_avg_7 | 0.01726729 | 0.02720731 | 0.015602259 |
| VPD_avg_7 | 0.01103702 | 0.02690231 | 0.005855693 |
| SW_IN_avg_7 | 0.04447665 | 0.02077931 | 0.016753047 |
| P_int_7 | 0.00576591 | 0.01576351 | 0.00327066 |
| SWC_avg_7 | 0.03902916 | 0.01831334 | 0.010311866 |
| TA_avg_sd_7 | 0.00814704 | 0.00521913 | 0.002957323 |
| VPD_avg_sd_7 | 0.00393655 | 0.00269157 | 0.003196363 |
| SW_IN_avg_sd_7 | 0.00559421 | 0.00318209 | 0.004837346 |
| P_int_sd_7 | 0.0054311 | 0.01913854 | 0.003219783 |
| SWC_avg_sd_7 | 0.03128717 | 0.01221334 | 0.023631931 |
| TA_avg_30 | 0.03618366 | 0.02226349 | 0.017496819 |
| VPD_avg_30 | 0.02233393 | 0.03506532 | 0.009533368 |
| SW_IN_avg_30 | 0.0659638 | 0.0415037 | 0.033607848 |
| P_int_30 | 0.05258701 | 0.00918116 | 0.015951937 |
| SWC_avg_30 | 0.07258039 | 0.02486304 | 0.013765037 |
| TA_avg_sd_30 | 0.02259772 | 0.00821347 | 0.006232828 |
| VPD_avg_sd_30 | 0.01133749 | 0.01087387 | 0.012818564 |
| SW_IN_avg_sd_30 | 0.05359456 | 0.00606586 | 0.014388481 |
| P_int_sd_30 | 0.05756155 | 0.0082669 | 0.015918019 |
| SWC_avg_sd_30 | 0.05511876 | 0.02608749 | 0.023295175 |
| TA_avg_365 | 0.03446357 | 0.01141485 | 0.012977656 |
| VPD_avg_365 | 0.03553512 | 0.01314393 | 0.013919283 |
| SW_IN_avg_365 | 0.0268363 | 0.01244339 | 0.010704345 |
| P_int_365 | 0.031597 | 0.01476762 | 0.029255044 |
| SWC_avg_365 | 0.04030128 | 0.01540657 | 0.015829187 |
| TA_avg_sd_365 | 0.03691338 | 0.01366562 | 0.018026586 |
| VPD_avg_sd_365 | 0.03114747 | 0.01341182 | 0.01429561 |
| SW_IN_avg_sd_36 | 0.02352879 | 0.00736378 | 0.00700002 |
| P_int_sd_365 | 0.02306754 | 0.01504442 | 0.016550347 |
| SWC_avg_sd_365 | 0.02629545 | 0.0103455 | 0.013183586 |

**Case 10:** This is the same models with the previous NEE states removed as predictors. With site id.

| | strong sink | strong source | inactive |
|---|---|---|---|
| misclassifications | 0.05 | 0.0737 | This was too large to run without monsoon. I moved on. |
| SiteID | 0.01016761 | 0.002184 | |
| TA_avg | 0.02722496 | 0.101366 | |
| VPD_avg | 0.01221549 | 0.0822661 | |
| SW_IN_avg | 0.07660357 | 0.0291776 | |
| P_int | 0.00208378 | 0.0050536 | |
| SWC_avg | 0.02184381 | 0.0077185 | |
| TA_avg_1 | 0.0114327 | 0.0194302 | |
| VPD_avg_1 | 0.00477709 | 0.0173894 | |
| SW_IN_avg_1 | 0.01549257 | 0.0146823 | |
| P_int_1 | 0.00093263 | 0.0354549 | |
| SWC_avg_1 | 0.02430611 | 0.0106698 | |
| TA_avg_7 | 0.01739216 | 0.0274522 | |
| VPD_avg_7 | 0.01236846 | 0.025689 | |
| SW_IN_avg_7 | 0.04495662 | 0.0214049 | |
| P_int_7 | 0.00518604 | 0.0154192 | |
| SWC_avg_7 | 0.03876615 | 0.0187118 | |
| TA_avg_sd_7 | 0.00808304 | 0.0051026 | |
| VPD_avg_sd_7 | 0.00368525 | 0.0023146 | |
| SW_IN_avg_sd_7 | 0.00611633 | 0.0032786 | |
| P_int_sd_7 | 0.00530623 | 0.0189946 | |
| SWC_avg_sd_7 | 0.03040136 | 0.0123996 | |
| TA_avg_30 | 0.0367331 | 0.0219444 | |
| VPD_avg_30 | 0.02055296 | 0.0379751 | |
| SW_IN_avg_30 | 0.06411337 | 0.0422562 | |
| P_int_30 | 0.05379747 | 0.0095003 | |
| SWC_avg_30 | 0.07144172 | 0.0243785 | |
| TA_avg_sd_30 | 0.02269996 | 0.0077986 | |
| VPD_avg_sd_30 | 0.01153728 | 0.010954 | |
| SW_IN_avg_sd_3 | 0.05357505 | 0.0053742 | |
| P_int_sd_30 | 0.05742263 | 0.0083975 | |
| SWC_avg_sd_30 | 0.05672726 | 0.0252912 | |
| TA_avg_365 | 0.03410066 | 0.0108523 | |
| VPD_avg_365 | 0.03308921 | 0.0134771 | |
| SW_IN_avg_365 | 0.02608474 | 0.0119818 | |
| P_int_365 | 0.03027493 | 0.0143973 | |
| SWC_avg_365 | 0.04051512 | 0.0159691 | |
| TA_avg_sd_365 | 0.03549297 | 0.0140285 | |
| VPD_avg_sd_365 | 0.0308907 | 0.0129027 | |
| SW_IN_avg_sd_3 | 0.02330558 | 0.0070187 | |
| P_int_sd_365 | 0.02314403 | 0.0153568 | |
| SWC_avg_sd_365 | 0.02626814 | 0.0103759 | |