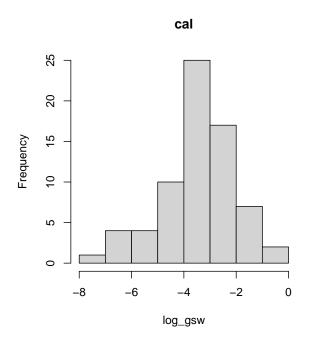
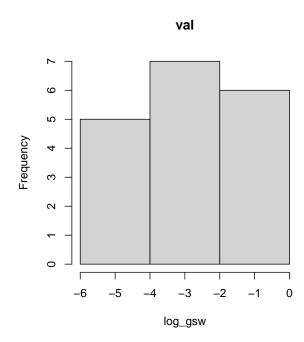
### Use side-view HSI data to predict log gsw

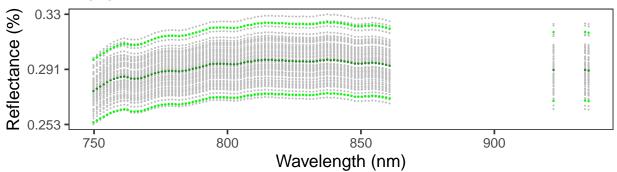
#### 2023-08-08

```
## $plsralg
## [1] "oscorespls"
   [1] "936" "944" "938" "913" "929" "930" "922" "917" "947" "920" "906" "927"
  [13] "943" "911" "923" "934" "931" "915" "948" "935" "904" "903" "933" "939"
   [25] "941" "937" "908" "918" "910" "924" "942" "905" "916" "946" "988" "991"
  [37] "981" "952" "974" "971" "984" "982" "960" "969" "986" "958" "962" "955"
## [49] "965" "972" "957" "961" "976" "954" "964" "977" "983" "953" "968" "963"
## [61] "989" "996" "959" "973" "979" "980" "994" "951" "987" "995"
   [1] "902" "909" "912" "914" "919" "921" "925" "940" "945" "950" "956" "967"
  [13] "970" "975" "985" "990" "992" "993"
            value
## 365 0.06119654 856.8300
  368 0.06084147 860.7321
## 367 0.06033990 859.4311
## 424 0.05977000 933.9918
## 425 0.05940128 935.3072
## 415 0.05916512 922.1640
```

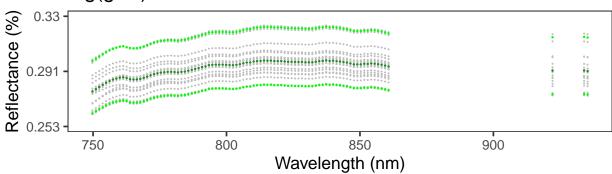


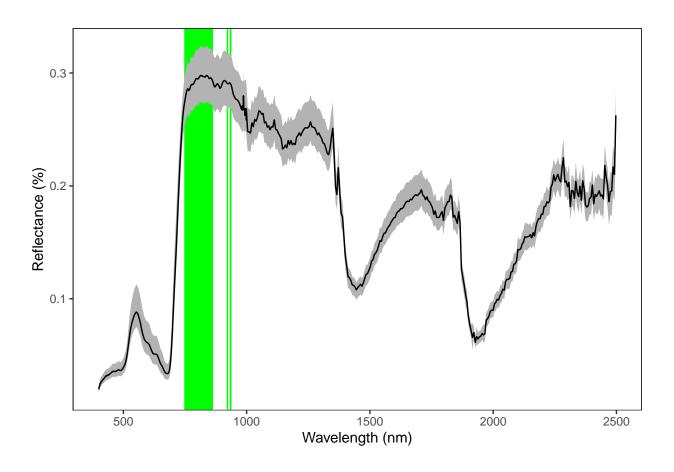


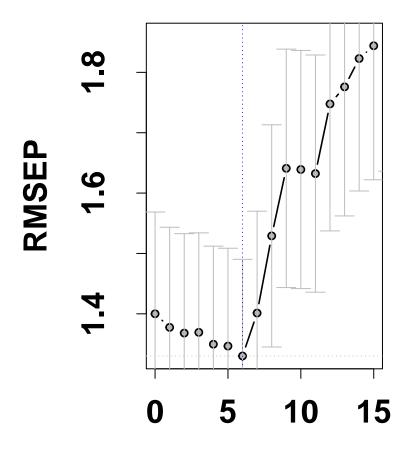
## log(gsw) calibration dataset



# log(gsw) validation dataset





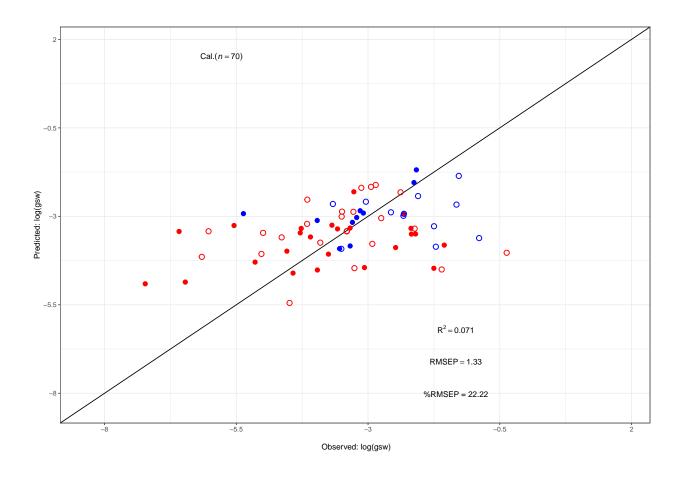


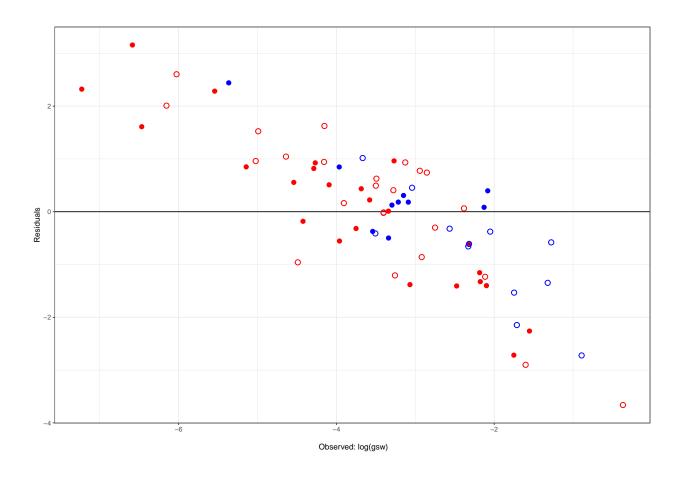
# Number of compone

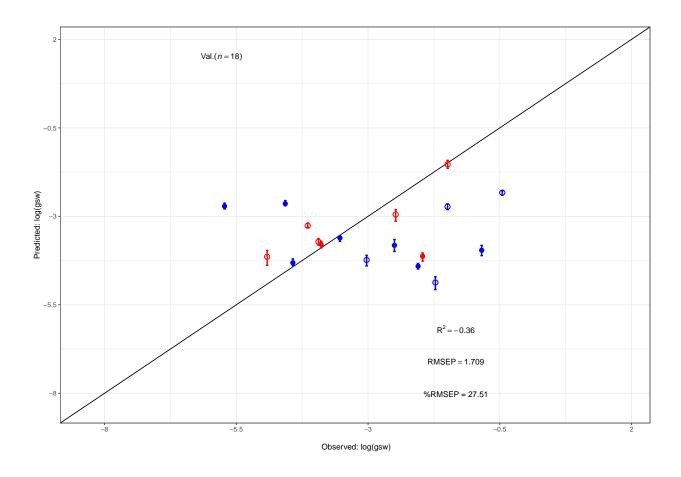
```
## 1
          cal 0.071 1.330 19.391
## 2
          val -0.360 1.709 32.419
##
       Observed Predicted
                            Residuals Treatment Subpop
## 1 -5.7226487 -2.715529 3.00711987
                                             N1
                                                   TRJ -2.626699 -2.791747
## 2 -2.0505350 -4.409388 -2.35885300
                                             N1
                                                   TRJ -4.334561 -4.486929
## 3 -4.4265855 -4.313281 0.11330500
                                             N1
                                                   TRJ -4.203847 -4.392335
## 4 -3.5341375 -3.610144 -0.07600665
                                             N1
                                                   TRJ -3.552584 -3.704971
## 5 -0.8436641 -3.959250 -3.11558610
                                             N1
                                                   TRJ -3.822103 -4.109977
## 6 -3.8903933 -3.792761
                          0.09763213
                                             N1
                                                   IND -3.706965 -3.894329
##
            upi
                      lpi
## 1 0.6328397 -6.051286
## 2 -1.0747878 -7.746702
## 3 -0.9437370 -7.652446
## 4 -0.2933321 -6.964223
## 5 -0.5612056 -7.370875
## 6 -0.4470892 -7.154205
```

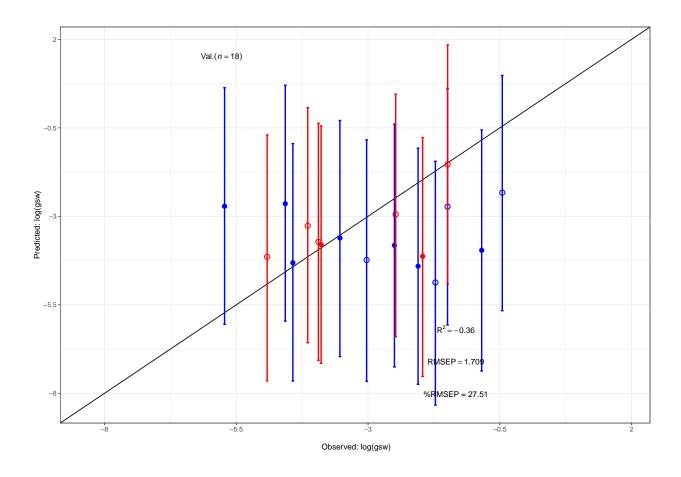
R2 RMSEP NRMSEP

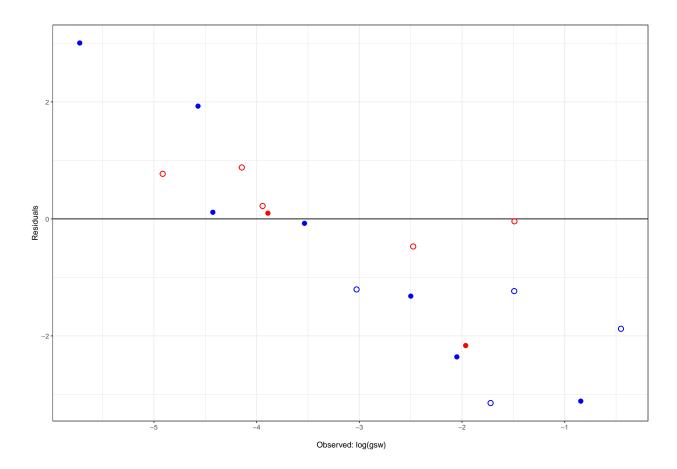
data\_set











```
## Iteration Intercept X757.46119 X760.0231 X758.74202 X756.18063
## Seg 1 1 -12.98177 72.69123 77.19534 -35.25753 -28.85326
## Seg 2
              2 -12.89411
                           71.99608 78.60630 -34.08988 -29.43417
## Seg 3
              3 -13.11927 71.03018 78.66188 -35.25396 -31.26196
## Seg 4
              4 -15.43213
                           69.67072 104.02657 -24.96729 -22.04477
                           71.95609 83.77494 -28.32523 -29.06940
## Seg 5
               5 -13.66436
## Seg 6
                           58.89854 66.88884 -30.43028 -44.55926
               6 -13.10614
               coefs
## 757.46119 71.33866
## 760.0231 77.97673
## 758.74202 -34.17433
## 756.18063 -29.80796
## 761.30443 50.75956
## 754.90031 -68.41036
```