> #select data by macrogroup

> data <- FQA\_EIA\_1\_2018

> large\_river\_floodplain <- subset(data, Macrogroup == "Large river floodplain")

> northern\_swamp <- subset(data, Macrogroup == "Northern swamp")

>

>

> ##FQA AOV, compared among ecoregions

> boxplot(data$avCOC ~ data$Region, main = "All plots",

+ xlab = "ecoregion", ylab = "avCOC")

> EIA\_floodplain\_AOV\_avCOC <- aov(data$avCOC ~ data$Region)

> summary(EIA\_floodplain\_AOV\_avCOC)

Df Sum Sq Mean Sq F value Pr(>F)

data$Region 2 15.67 7.833 19.95 1.21e-08 \*\*\*

Residuals 206 80.89 0.393

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

2 observations deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_avCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = data$avCOC ~ data$Region)

$`data$Region`

diff lwr upr p adj

59-58 -0.4483892 -0.8027132 -0.09406526 0.0088184

82-58 -0.5929949 -0.8156880 -0.37030181 0.0000000

82-59 -0.1446056 -0.4827583 0.19354706 0.5716724

>

> #FQA AOV, floodplains compared among ecoregion

> boxplot(large\_river\_floodplain$avCOC ~ large\_river\_floodplain$Region, main = "Large river floodplain",

+ xlab = "ecoregion", ylab = "avCOC")

> EIA\_floodplain\_AOV\_avCOC <- aov(large\_river\_floodplain$avCOC ~ large\_river\_floodplain$Region)

> summary(EIA\_floodplain\_AOV\_avCOC)

Df Sum Sq Mean Sq F value Pr(>F)

large\_river\_floodplain$Region 2 7.9 3.949 16.91 2.41e-07 \*\*\*

Residuals 149 34.8 0.234

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

1 observation deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_avCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = large\_river\_floodplain$avCOC ~ large\_river\_floodplain$Region)

$`large\_river\_floodplain$Region`

diff lwr upr p adj

59-58 -0.1178603 -0.7107191 0.4749986 0.8851846

82-58 -0.4758297 -0.6711891 -0.2804704 0.0000001

82-59 -0.3579695 -0.9420642 0.2261252 0.3176909

>

> #FQA AOV, northern swamp compared among ecoregion

> boxplot(northern\_swamp$avCOC ~ northern\_swamp$Region, main = "Northern swamp",

+ xlab = "ecoregion", ylab = "avCOC")

> EIA\_northern\_swamp\_AOV\_avCOC <- aov(northern\_swamp$avCOC ~ northern\_swamp$Region)

> summary(EIA\_northern\_swamp\_AOV\_avCOC)

Df Sum Sq Mean Sq F value Pr(>F)

northern\_swamp$Region 2 2.193 1.0963 2.623 0.0868 .

Residuals 35 14.628 0.4179

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> TukeyHSD(EIA\_northern\_swamp\_AOV\_avCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = northern\_swamp$avCOC ~ northern\_swamp$Region)

$`northern\_swamp$Region`

diff lwr upr p adj

59-58 -0.55597618 -1.1864939 0.0745415 0.0928751

82-58 -0.52756433 -1.2188430 0.1637143 0.1631599

82-59 0.02841185 -0.5837948 0.6406185 0.9929151

>

>

> #################

> #EIA regressions, floodplains, avCOC, NEW COCs

> plot(large\_river\_floodplain$avCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA score", ylab = "avCOC")

> EIA\_floodplain\_regression\_avCOC <- lm(large\_river\_floodplain$avCOC

+ ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

> abline(EIA\_floodplain\_regression\_avCOC)

> summary(EIA\_floodplain\_regression\_avCOC)

Call:

lm(formula = large\_river\_floodplain$avCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-1.20863 -0.30033 0.00617 0.36774 1.13937

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.70235 0.27038 9.994 < 2e-16 \*\*\*

large\_river\_floodplain$EIA\_score\_NOSIZE 0.48324 0.09448 5.115 1.3e-06 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.4977 on 113 degrees of freedom

(38 observations deleted due to missingness)

Multiple R-squared: 0.188, Adjusted R-squared: 0.1808

F-statistic: 26.16 on 1 and 113 DF, p-value: 1.295e-06

>

> #EIA regressions, floodplains, avCOC, OLD COCs

> plot(large\_river\_floodplain$OLDavCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA score", ylab = "avCOC")

> EIA\_floodplain\_regression\_avCOC\_OLD <- lm(large\_river\_floodplain$OLDavCOC

+ ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

> abline(EIA\_floodplain\_regression\_avCOC\_OLD)

> summary(EIA\_floodplain\_regression\_avCOC\_OLD)

Call:

lm(formula = large\_river\_floodplain$OLDavCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-1.10038 -0.29523 -0.01108 0.27968 1.32284

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.65799 0.25832 10.289 < 2e-16 \*\*\*

large\_river\_floodplain$EIA\_score\_NOSIZE 0.35303 0.09026 3.911 0.000157 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.4755 on 113 degrees of freedom

(38 observations deleted due to missingness)

Multiple R-squared: 0.1192, Adjusted R-squared: 0.1114

F-statistic: 15.3 on 1 and 113 DF, p-value: 0.0001572

>

> #################

> #EIA AOV, floodplains, avCOC, NEW COCs

> boxplot(large\_river\_floodplain$avCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA rank", ylab = "avCOC")

> EIA\_floodplain\_AOV\_avCOC <- aov(large\_river\_floodplain$avCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

> summary(EIA\_floodplain\_AOV\_avCOC)

Df Sum Sq Mean Sq F value Pr(>F)

large\_river\_floodplain$EIA\_RANK\_NOSIZE 2 5.634 2.8170 10.94 4.57e-05 \*\*\*

Residuals 112 28.835 0.2575

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

38 observations deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_avCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = large\_river\_floodplain$avCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

$`large\_river\_floodplain$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.1545128 -0.6302937 0.3212681 0.7213066

C-A -0.6336189 -1.1379592 -0.1292785 0.0097037

C-B -0.4791061 -0.7354644 -0.2227478 0.0000628

>

> #EIA AOV, floodplains, avCOC, OLD COCs

> boxplot(large\_river\_floodplain$OLDavCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA rank", ylab = "avCOC")

> EIA\_floodplain\_AOV\_avCOC\_OLD <- aov(large\_river\_floodplain$OLDavCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

> summary(EIA\_floodplain\_AOV\_avCOC\_OLD)

Df Sum Sq Mean Sq F value Pr(>F)

large\_river\_floodplain$EIA\_RANK\_NOSIZE 2 3.451 1.7255 7.562 0.000831 \*\*\*

Residuals 112 25.555 0.2282

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

38 observations deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_avCOC\_OLD)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = large\_river\_floodplain$OLDavCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

$`large\_river\_floodplain$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.1927655 -0.6406698 0.25513886 0.5644279

C-A -0.5533610 -1.0281513 -0.07857057 0.0179738

C-B -0.3605955 -0.6019335 -0.11925753 0.0016300

>

> #################

> #EIA regressions, floodplains, cwCOC, NEW COCs

> plot(large\_river\_floodplain$cwCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA score", ylab = "cwCOC")

> EIA\_floodplain\_regression\_cwCOC <- lm(large\_river\_floodplain$cwCOC

+ ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

> abline(EIA\_floodplain\_regression\_cwCOC)

> summary(EIA\_floodplain\_regression\_cwCOC)

Call:

lm(formula = large\_river\_floodplain$cwCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-2.0707 -0.5798 0.1301 0.7159 1.4610

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.0895 0.4507 4.636 9.61e-06 \*\*\*

large\_river\_floodplain$EIA\_score\_NOSIZE 0.7559 0.1575 4.799 4.91e-06 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.8297 on 113 degrees of freedom

(38 observations deleted due to missingness)

Multiple R-squared: 0.1693, Adjusted R-squared: 0.162

F-statistic: 23.03 on 1 and 113 DF, p-value: 4.914e-06

>

> #EIA regressions, floodplains, cwCOC, OLD COCs

> plot(large\_river\_floodplain$OLDcwCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA score", ylab = "cwCOC")

> EIA\_floodplain\_regression\_cwCOC\_OLD <- lm(large\_river\_floodplain$OLDcwCOC

+ ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

> abline(EIA\_floodplain\_regression\_cwCOC\_OLD)

> summary(EIA\_floodplain\_regression\_cwCOC\_OLD)

Call:

lm(formula = large\_river\_floodplain$OLDcwCOC ~ large\_river\_floodplain$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-1.9726 -0.8199 0.1529 0.7716 1.6739

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.9086 0.5087 3.752 0.000279 \*\*\*

large\_river\_floodplain$EIA\_score\_NOSIZE 0.6622 0.1777 3.725 0.000306 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.9363 on 113 degrees of freedom

(38 observations deleted due to missingness)

Multiple R-squared: 0.1094, Adjusted R-squared: 0.1015

F-statistic: 13.88 on 1 and 113 DF, p-value: 0.000306

>

>

> ################

> #EIA AOV, floodplains, cwCOC, NEW COCs

> boxplot(large\_river\_floodplain$cwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA rank", ylab = "cwCOC")

> EIA\_floodplain\_AOV\_cwCOC <- aov(large\_river\_floodplain$cwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

> summary(EIA\_floodplain\_AOV\_cwCOC)

Df Sum Sq Mean Sq F value Pr(>F)

large\_river\_floodplain$EIA\_RANK\_NOSIZE 2 18.15 9.077 13.47 5.73e-06 \*\*\*

Residuals 112 75.48 0.674

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

38 observations deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_cwCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = large\_river\_floodplain$cwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

$`large\_river\_floodplain$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A 0.06460786 -0.7051749 0.83439063 0.9783328

C-A -0.83550797 -1.6514980 -0.01951793 0.0434831

C-B -0.90011582 -1.3148870 -0.48534462 0.0000033

>

> #EIA AOV, floodplains, cwCOC, OLD COCs

> boxplot(large\_river\_floodplain$OLDcwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE, main = "Large river floodplain",

+ xlab = "EIA rank", ylab = "cwCOC")

> EIA\_floodplain\_AOV\_cwCOC\_OLD <- aov(large\_river\_floodplain$OLDcwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

> summary(EIA\_floodplain\_AOV\_cwCOC\_OLD)

Df Sum Sq Mean Sq F value Pr(>F)

large\_river\_floodplain$EIA\_RANK\_NOSIZE 2 15.94 7.971 9.368 0.000173 \*\*\*

Residuals 112 95.30 0.851

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

38 observations deleted due to missingness

> TukeyHSD(EIA\_floodplain\_AOV\_cwCOC\_OLD)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = large\_river\_floodplain$OLDcwCOC ~ large\_river\_floodplain$EIA\_RANK\_NOSIZE)

$`large\_river\_floodplain$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A 0.004812783 -0.8601335 0.86975905 0.9999037

C-A -0.834635724 -1.7515016 0.08223014 0.0822690

C-B -0.839448506 -1.3054953 -0.37340170 0.0001173

>

>

>

>

>

> ######################################################################################################

>

> #################

> #EIA regressions, northern\_swamps, avCOC, NEW COCs

> plot(northern\_swamp$avCOC ~ northern\_swamp$EIA\_score\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA score", ylab = "avCOC")

> EIA\_northern\_swamp\_regression\_avCOC <- lm(northern\_swamp$avCOC

+ ~ northern\_swamp$EIA\_score\_NOSIZE)

> abline(EIA\_northern\_swamp\_regression\_avCOC)

> summary(EIA\_northern\_swamp\_regression\_avCOC)

Call:

lm(formula = northern\_swamp$avCOC ~ northern\_swamp$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-0.90944 -0.21758 -0.00808 0.18758 0.77829

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.63977 0.26569 9.936 2.42e-10 \*\*\*

northern\_swamp$EIA\_score\_NOSIZE 0.53325 0.09498 5.615 6.69e-06 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.4431 on 26 degrees of freedom

(10 observations deleted due to missingness)

Multiple R-squared: 0.548, Adjusted R-squared: 0.5306

F-statistic: 31.52 on 1 and 26 DF, p-value: 6.69e-06

>

> #EIA regressions, northern\_swamps, avCOC, OLD COCs

> plot(northern\_swamp$OLDavCOC ~ northern\_swamp$EIA\_score\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA score", ylab = "avCOC")

> EIA\_northern\_swamp\_regression\_avCOC\_OLD <- lm(northern\_swamp$OLDavCOC

+ ~ northern\_swamp$EIA\_score\_NOSIZE)

> abline(EIA\_northern\_swamp\_regression\_avCOC\_OLD)

> summary(EIA\_northern\_swamp\_regression\_avCOC\_OLD)

Call:

lm(formula = northern\_swamp$OLDavCOC ~ northern\_swamp$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-0.69035 -0.24429 0.02535 0.18206 0.98220

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.8465 0.2283 8.089 1.44e-08 \*\*\*

northern\_swamp$EIA\_score\_NOSIZE 0.5117 0.0816 6.271 1.23e-06 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.3807 on 26 degrees of freedom

(10 observations deleted due to missingness)

Multiple R-squared: 0.602, Adjusted R-squared: 0.5867

F-statistic: 39.33 on 1 and 26 DF, p-value: 1.227e-06

>

> #################

> #EIA AOV, northern\_swamps, avCOC, NEW COCs

> boxplot(northern\_swamp$avCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA rank", ylab = "avCOC")

> EIA\_northern\_swamp\_AOV\_avCOC <- aov(northern\_swamp$avCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

> summary(EIA\_northern\_swamp\_AOV\_avCOC)

Df Sum Sq Mean Sq F value Pr(>F)

northern\_swamp$EIA\_RANK\_NOSIZE 2 2.531 1.2658 10.54 0.000617 \*\*\*

Residuals 22 2.643 0.1201

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

13 observations deleted due to missingness

> TukeyHSD(EIA\_northern\_swamp\_AOV\_avCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = northern\_swamp$avCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

$`northern\_swamp$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.4118025 -0.8820087 0.05840366 0.0933868

C-A -0.7979660 -1.2398390 -0.35609303 0.0004601

C-B -0.3861635 -0.7907211 0.01839418 0.0631775

>

> #EIA AOV, northern\_swamps, avCOC, OLD COCs

> boxplot(northern\_swamp$OLDavCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA rank", ylab = "avCOC")

> EIA\_northern\_swamp\_AOV\_avCOC\_OLD <- aov(northern\_swamp$OLDavCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

> summary(EIA\_northern\_swamp\_AOV\_avCOC\_OLD)

Df Sum Sq Mean Sq F value Pr(>F)

northern\_swamp$EIA\_RANK\_NOSIZE 2 2.603 1.3014 11.48 0.000385 \*\*\*

Residuals 22 2.494 0.1134

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

13 observations deleted due to missingness

> TukeyHSD(EIA\_northern\_swamp\_AOV\_avCOC\_OLD)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = northern\_swamp$OLDavCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

$`northern\_swamp$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.3045608 -0.7613601 0.15223851 0.2370093

C-A -0.7830450 -1.2123190 -0.35377103 0.0004119

C-B -0.4784842 -0.8715068 -0.08546158 0.0152692

>

> #################

> #EIA regressions, northern\_swamps, cwCOC, NEW COCs

> plot(northern\_swamp$cwCOC ~ northern\_swamp$EIA\_score\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA score", ylab = "cwCOC")

> EIA\_northern\_swamp\_regression\_cwCOC <- lm(northern\_swamp$cwCOC

+ ~ northern\_swamp$EIA\_score\_NOSIZE)

> abline(EIA\_northern\_swamp\_regression\_cwCOC)

> summary(EIA\_northern\_swamp\_regression\_cwCOC)

Call:

lm(formula = northern\_swamp$cwCOC ~ northern\_swamp$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-1.10821 -0.29962 -0.07724 0.41018 1.05228

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.9256 0.3350 5.747 4.73e-06 \*\*\*

northern\_swamp$EIA\_score\_NOSIZE 0.5972 0.1198 4.986 3.49e-05 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.5588 on 26 degrees of freedom

(10 observations deleted due to missingness)

Multiple R-squared: 0.4888, Adjusted R-squared: 0.4691

F-statistic: 24.86 on 1 and 26 DF, p-value: 3.488e-05

>

> #EIA regressions, northern\_swamps, cwCOC, OLD COCs

> plot(northern\_swamp$OLDcwCOC ~ northern\_swamp$EIA\_score\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA score", ylab = "cwCOC")

> EIA\_northern\_swamp\_regression\_cwCOC\_OLD <- lm(northern\_swamp$OLDcwCOC

+ ~ northern\_swamp$EIA\_score\_NOSIZE)

> abline(EIA\_northern\_swamp\_regression\_cwCOC\_OLD)

> summary(EIA\_northern\_swamp\_regression\_cwCOC\_OLD)

Call:

lm(formula = northern\_swamp$OLDcwCOC ~ northern\_swamp$EIA\_score\_NOSIZE)

Residuals:

Min 1Q Median 3Q Max

-0.91251 -0.38496 -0.02324 0.20353 1.52844

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 1.1623 0.3125 3.720 0.000966 \*\*\*

northern\_swamp$EIA\_score\_NOSIZE 0.5977 0.1117 5.351 1.33e-05 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.5211 on 26 degrees of freedom

(10 observations deleted due to missingness)

Multiple R-squared: 0.5241, Adjusted R-squared: 0.5058

F-statistic: 28.64 on 1 and 26 DF, p-value: 1.332e-05

>

>

> ################

> #EIA AOV, northern\_swamps, cwCOC, NEW COCs

> boxplot(northern\_swamp$cwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA rank", ylab = "cwCOC")

> EIA\_northern\_swamp\_AOV\_cwCOC <- aov(northern\_swamp$cwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

> summary(EIA\_northern\_swamp\_AOV\_cwCOC)

Df Sum Sq Mean Sq F value Pr(>F)

northern\_swamp$EIA\_RANK\_NOSIZE 2 3.304 1.6521 6.956 0.00456 \*\*

Residuals 22 5.226 0.2375

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

13 observations deleted due to missingness

> TukeyHSD(EIA\_northern\_swamp\_AOV\_cwCOC)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = northern\_swamp$cwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

$`northern\_swamp$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.3909491 -1.052143 0.27024518 0.3170181

C-A -0.8952181 -1.516571 -0.27386543 0.0041638

C-B -0.5042690 -1.073150 0.06461164 0.0886872

>

> #EIA AOV, northern\_swamps, cwCOC, OLD COCs

> boxplot(northern\_swamp$OLDcwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE, main = "Northern swamp",

+ xlab = "EIA rank", ylab = "cwCOC")

> EIA\_northern\_swamp\_AOV\_cwCOC\_OLD <- aov(northern\_swamp$OLDcwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

> summary(EIA\_northern\_swamp\_AOV\_cwCOC\_OLD)

Df Sum Sq Mean Sq F value Pr(>F)

northern\_swamp$EIA\_RANK\_NOSIZE 2 4.316 2.1582 7.887 0.00262 \*\*

Residuals 22 6.020 0.2736

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

13 observations deleted due to missingness

> TukeyHSD(EIA\_northern\_swamp\_AOV\_cwCOC\_OLD)

Tukey multiple comparisons of means

95% family-wise confidence level

Fit: aov(formula = northern\_swamp$OLDcwCOC ~ northern\_swamp$EIA\_RANK\_NOSIZE)

$`northern\_swamp$EIA\_RANK\_NOSIZE`

diff lwr upr p adj

B-A -0.2691053 -0.9787915 0.44058097 0.6136937

C-A -0.9664267 -1.6333494 -0.29950402 0.0039628

C-B -0.6973214 -1.3079238 -0.08671909 0.0232975

>