# ANOVA Models for variables of interest

```r
library(tidyverse)
dat_small <- read_csv("../data/subsets/dat_small.csv")
```

```r
anova_forprob <- aov(forprob ~ province + section + subsection, data = dat_small)
summary(anova_forprob)
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## province      13   4709   362.2 6771.95 <2e-16 ***
## section       54    818    15.1  283.23 <2e-16 ***
## subsection   412   1745     4.2   79.18 <2e-16 ***
## Residuals  85604   4579     0.1
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 1 observation deleted due to missingness
```

```r
anova_BALIVE_TPA <- aov(BALIVE_TPA ~ province + section + subsection, data = dat_small)
summary(anova_BALIVE_TPA)
```

```
##               Df    Sum Sq Mean Sq F value Pr(>F)
## province      13  46396822 3568986 2418.85 <2e-16 ***
## section       54   6408890  118683   80.44 <2e-16 ***
## subsection   412  19708314   47836   32.42 <2e-16 ***
## Residuals  85605 126308998    1475
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```r
anova_BIOLIVE_TPA <- aov(BIOLIVE_TPA ~ province + section + subsection, data = dat_small)
summary(anova_BIOLIVE_TPA)
```

```
##               Df   Sum Sq Mean Sq F value Pr(>F)
## province      13  6512457  500958 2921.46 <2e-16 ***
## section       54   967169   17911  104.45 <2e-16 ***
## subsection   412  2247965    5456   31.82 <2e-16 ***
## Residuals  85605 14679154     171
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```r
anova_CNTLIVE_TPA <- aov(CNTLIVE_TPA ~ province + section + subsection, data = dat_small)
summary(anova_CNTLIVE_TPA)
```

```
##               Df    Sum Sq  Mean Sq F value Pr(>F)
## province      13 1.110e+09 85365658 1426.55 <2e-16 ***
## section       54 1.357e+08  2512476   41.99 <2e-16 ***
## subsection   412 5.306e+08  1287923   21.52 <2e-16 ***
## Residuals  85605 5.123e+09    59841
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
anova_VOLNLIVE_TPA <- aov(VOLNLIVE_TPA ~ province + section + subsection, data = dat_small)
summary(anova_VOLNLIVE_TPA)
```

```
##                Df    Sum Sq   Mean Sq F value Pr(>F)
## province       13 2.028e+10 1.560e+09 2652.39 <2e-16 ***
## section        54 3.243e+09 6.005e+07  102.11 <2e-16 ***
## subsection    412 7.600e+09 1.845e+07   31.37 <2e-16 ***
## Residuals   85605 5.034e+10 5.881e+05
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
anova_forbio <- aov(forbio ~ province + section + subsection, data = dat_small)
summary(anova_forbio)
```

```
##                Df  Sum Sq Mean Sq F value Pr(>F)
## province       13 7991892  614761 7029.61 <2e-16 ***
## section        54 1172523   21713  248.29 <2e-16 ***
## subsection    412 2539469    6164   70.48 <2e-16 ***
## Residuals   85605 7486423      87
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```