**List of Plots and Analyses**

**Questions**

1. Can I combine all site data between years or does that need to stay separate as well? – \*Question for Bill and Julia\*

**Rules**

1. Cannot compare between 2017 and 2018 because they are different times of year
   1. ALL plots should be made one for the 2017 data and one for the 2018 data, not one containing both to avoid comparisons

**Exploratory Plots**

* ACI and SPL
  1. Averages plotted across 24 hours for each site (5 total)
     + One graph with two y axes (one ACI and one SPL)
* SPL
  1. Averages across 24 hours with all sites plotted on one graph for comparison
  2. Boxplot of median SPL at each site
* ACI
  1. Averages across 24 hours with all sites plotted on one graph for comparison
  2. Boxplot of median ACI at each site
* Spectrograms

1. Representative spectrograms from each site side by side

* Snaps

1. Averages across 24 hours with all sites plotted on one graph
2. Boxplot of medians for each site

* Fish Sounds

1. Averages across 4 sampled times with all sites plotted on one graph
2. Boxplot of medians for each time at each site (sites grouped together)
3. Screenshots of spectrograms for each fish sound that was quantified
   1. Knock
   2. Knock train
   3. Growl
   4. Unidentified sound
   5. Growl
   6. Grunt

* Moon Phase

1. ACI averaged per day vs. moon phase
2. SPL averaged per day vs. moon phase
3. Snaps per day vs. moon phase
4. Fish Sounds per day vs. moon phase

**Exploratory Statistics**

* Run through Zuul data processing first steps to determine the normality of the data and if it needs to be transformed in any way
  + \*based on other papers, ACI and SPL are not transformed for comparisons
* Run an ANOVA to determine significant differences in ACI or SPL between the 5 sites