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Analysis of Environmental Data

Week 3 Reading Questions

1. Scatter, QQ, coplot.
2. Boxplot, Cleveland dotplot, histogram
3. A coplot or conditional plot is a plot of two variables that is conditional upon the value of the third conditioning variable. This allows you to visualize the relationship between two variables and whether the relationship depends on the third variable.
4. Variance, standard deviation, coefficient of variation
5. Standard deviation is the square root of the variance. The coefficient of variation is the standard deviation relative to the mean, which allows for comparison of the spread of variables with different scales.
6. One reason to perform data exploration is to see if there are significant relationships between variables in a data set. You could use coplots to look at the relationships between multiple variables to inform what significant relationships might exist and how the variables interact. Another reason to perform data exploration is to assess the distribution/evenness of the data. This could be done with a histogram and will give insight into what statistical tests are appropriate to apply to the data.