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1. Histogram, Scatterplot, Cleveland Dotplot, QQ plot, Coplot
2. Boxplot
3. A conditional variable in this context is the third variable used for plots that can show three types of variables. For a coplot, this would be the groupings of plots, not the x and y coordinates. This allows one to measure the effects of the tertiary variable on the other dependent and independent variables.
4. Variance, standard deviation, coefficient of variation
5. Standard deviation shows how many data points are within a certain percentage of the mean. The example in the reading provided shows a standard deviation of +1 captured 68% of the data points, +2 is 95%, and +3 is 99%. This allows us to understand how spread out the data points are from the mean based on a set percentage. Coefficient of variation is the standard deviation divided by the mean. This provides a way of understanding variability without the need to reference the mean. Larger coefficients of variation will mean more variability because the standard deviation is that much larger than the mean; implying the data is more spread out.
6. Numerical data exploration using mean and standard deviation is important to understand what my data is showing. I study microplastic concentration in water so understanding the average concentration and how much this varies in different areas is crucial. I typically use histograms with error bars to display summarized concentrations in different locations. Categorizing by location is another important form of data exploration because this allows me to understand, in my example, where the highest concentrations of microplastics are.