

Scenario 1

You are feeling curious and wonder just what is in the water in Ada Hayden Park in Ames. You buy a pretty sophisticated sampling kit, take some water samples from many parts of the lake and nearby marshes, lots of samples over the period of several months. And early on you decide to also go out to Hickory Grove Park, and McFarland Park. Each variable contains the value for one of the different chemicals, which have been standardized. There might be missing values, non-normal distributions, and outliers in the data.

Your primary job is to summarize the variation in the chemical values, particularly considering that you forgot to label the samples according to which lake they were taken from.