Project Notes/Outline

**Ask: As population explodes in cities that are mostly reliant upon surface water, can a noticiable and significant enough correlation to water supply be observed. If so, what does this suggest about water usage in these cities?**

Started looking at Colorado River because it is the water source for so many major cities in the southwest and west. Had a surprisingly difficult time finding data for the River as a whole which lead me to conclude that, because it plays such an integral part in so different states and cities, trying to treat it as whole data set was unrealistic. I started to try and narrow down my search to find some datasets that I could actually work with that might still convey an increase in water usage. This led me to start looking at lakes and reservoirs. After looking into several major SW cities and where they get their water, I discovered that both Phoenix and Las Vegas draw a bulk of their water from Lake Mead which is fed by the Colorado river. This was attractive to me since it simplified how many factors I would need to consider in my determinations (Los Angeles/San Diego, for example, pull their water from several different sources as well as the Colorado, so comparing their water usage to Vegas and Phoenix would be less of a direct correlation.) Plus, I couldn’t find raw data on many of those other water sources but was able to find data for Lake Mead dating back to its construction in the 1930’s. Both Phoenix also happen to be in the top 15 for population growth in cities over 50’000, so a comparison between increase in population/water use and increased depletion of Lake Mead (their main water source) could illustrate a growing need for cities predominantly reliant on surface water to find alternative solutions to tackle water supply shortages in the future.

Need to clean the county data for NV and AZ:

Want to limit data to just the surface water usage per county

-bar graph showing each county surface water usage for current year to show that not all cities are reliant on surface water and that it is mainly just the major metropolitan areas, which are also the areas growing the fastest. Just kinda serves as an interesting thing I learned in this process.

Want to group the surface water usage for both Phoenix and Las Vegas for the 7 time periods in the data (1985,90,95,00,05,10,15)

Line plot of increase in surface water usage

Need to convert image of lake mead historical water level data to csv data

Bar or line graph showing average water level since 1935

Interesting to see water level start very low before the creation of the lake.