**Elaborate on the questions you asked, describing what kinds of data you needed to answer them, and where you found it**

I set out to try and find data that supported my theory that, by being the major source of fresh water for many different major cities, the Colorado river will someday start to dry up. I started to try and narrow down my search to find some actual datasets that I could work with that might convey that an increase in water usage was threatening the Colo General

-Where does our water come from?

-How are areas that primarily depend on surface water affected by climate change and human impact?

-What is an area that is particularly influenced by these factors and what are some observable trends unique to these areas that might impact future water availability.

Specific

-Does increased population (and in turn, increased water needs) result in a measurable impact on Lake Mead, the larges reservoir in the Western U.S fed directly by the Colorado River. rado river, which 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 and Nevada 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.

**Describe the exploration and cleanup process**

I 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. So in trying to narrow may focus, I found water usage data sets by county for both Nevada and Arizona and decided to plot them. Both data sets were from USGS and both included a seemingly endless amount of different categories pertaining to water usage. So, in my limited abilities and in wanting to try to formulate a narrative, I decided to cut out all the other categories and just focus on surface water, which is what water taken from a source like the Colorado river is categorized as. When I graphed the both states by county surface water usage, both Phoenix and Las Vegas immediately stood out as accounting for a vast majority of state wide surface water usage.

QUESTIONS:

General

-Where does our water come from?

-How are areas that primarily depend on surface water affected by climate change and human impact?

-What is an area that is particularly influenced by these factors and what are some observable trends unique to these areas that might impact future water availability.

Specific

-Does increased population (and in turn, increased water needs) result in a measurable impact on Lake Mead, the larges reservoir in the Western U.S fed directly by the Colorado River.

INTRO

Water is undervalued and generally taken for granted in the U.S. and the world.

-long showers, growing crops in the desert, real cost of cheap goods that rely on water to produce. All of these indicate

There is a disconnect between water usage and how much water is actually available.

-this is especially true in arid climates where fluctuations in water availability are more observable.

Areas where water is scarce, human impact is more observable

**BODY**

Nearly 40 million Americans rely on the Colorado River system for drinking water and to support livelihoods ranging from farming to recreation. The Colorado River and its tributaries provide water to nearly 40 million people and supply water to irrigate nearly 5.5 million acres of land, and is the lifeblood for at least 22 federally recognized tribes, 7 National Wildlife Refuges, 4 National Recreation Areas, and 11 National Parks.

As the largest reservoir in the Western U.S., Lake Mead, the source of which is the Colorado River, provides a solid data set to highlight how the growth of major metropolitan areas such as Phoenix and Las Vegas, who draw a majority of their water from the lake, directly impact the amount of water available in the Colorado river. In a warming world, snowmelt has been decreasing while evaporation of reservoirs is increasing making the human toll on this resource more and more evident.

As the data shows, both Phoenix and Las Vegas are predominantly reliant on surface water. This was expected: surface water is less available in dry arid climates. But it was suprising to discover just how reliant these cities are on this water.

**Maricopa county (Phoenix)**

In 2007, phoenix became the second-fastest growing metro area in the US after behind [Las Vegas](https://worldpopulationreview.com/us-cities/las-vegas-population/) with a growth of 24%. As a result, surface water use in the city has more than tripled since 1985. By 2020, it's forecasted that Phoenix will become the 4th most populous city in the US, and by 2030, the US Census Bureau estimates its population will [reach 2.2 million](http://growthnation.com/azigg/why-phoenix/) with a metropolitan area that's home to 6.3 million. So this problem isn’t going away.

**Other data sets to look at going forward**

Drought trends.

River flow at the end of the river

-but they would both show the same trend…drought and demand increase exasperates the depletion of the Colorado river