

ANLY 503 Final Project Proposal

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Your team number as defined in Canvas:

My old team number was 13, but the groups are now locked in Canvas so I am unable to transfer to a new empty group. If you wouldn't mind unlocking the groups for a day, I would be happy to transfer to an empty group. For example, there doesn't appear to be a Group 29, so that can be my new group number.

What dataset(s) are you planning to use? You must provide source URLs so we can take a look, and a brief description of the datasets. Make sure that the URLs for your data sources are correct and functional.

- [This website](#) is the authoritative source on water and salinity levels of the Great Salt Lake and is referenced in most academic papers that have been published about the lake's decline.
- [This website](#) contains geospatial data on the Great Salt Lake such as shoreline contours at various water levels, shapefiles, and more.
- [This website](#) features data on municipal and industrial/agricultural water usage throughout the state of Utah, and [this website](#) features the state's water budget (aka intended water usage).
- [This website](#) contains data on brine shrimp levels in the lake.

Why do you want to use this data? What do you wish to explore? (We don't expect this to be a final answer, but at least show directional thinking.)

- Water and salinity levels of the Great Salt Lake – This will be the primary data source of my project. It reflects the primary issue I am wishing to highlight, which is that the Great Salt Lake is declining. I plan to use the water and salinity level data to highlight where the lake is at now, where it has been historically, and where it must be in order to prevent toxic chemicals from the dried lakebed from blowing into the surrounding populated areas. If time permits, I would also like to visualize what the lake could look like in five years if it continues on this trajectory. I also plan to contrast the lake's current water and salinity levels with the water and salinity levels necessary to sustain the brine shrimp ecosystem, the source of an \$80 million industry.
- Geospatial data on the Great Salt Lake – I am eager to use this dataset in order to create interesting visualizations of the Great Salt Lake's shorelines at various water levels. The only visualizations I have found of this nature are satellite images with a year-to-year slider, such as [this one](#). While these are already interesting visualizations, I am eager to try my hand at a more complex/innovative visualization using the geospatial tools discussed in lecture.
- Water usage – This will be an important dataset for my project because the Great Salt Lake refills after every dry season through runoff from the snow and rain in the winter. Based on my initial research, the primary reason the Great Salt Lake has been declining is because this runoff water has been intercepted for use in agriculture and the demands of the growing population. I plan to supplement my findings above with visualizations

addressing the increased water usage in recent years, highlighting the expected correlation between water usage and the lake's decline.

- Brine shrimp data – As mentioned above, the Great Salt Lake sustains an \$80 million brine shrimp industry. I plan to use this information to create visualizations that highlight the role that the Great Salt Lake plays in contributing to the local economy.