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**Stage 1: Topic and Data**

**Water use and availability in Colorado given increased migration.**

**Motivations**: Water has always been a hot topic in Colorado. Being a dry state, yearly snowfall and rainfall influences water availability for the year and can have detrimental effects to agricultural production, recreation, industry, and municipalities. With Colorado’s population increasing, the state’s water supply and demand has been a growing topic of concern. This project aims to shed light on Colorado’s water use and how it relates to migration rates and population growth.

Potential Research Questions:

1. Will increased migration rates in Colorado threaten the water availability?
2. Will types of water use application amounts change based on the increased municipal demand?
3. Based on historical municipal use data, can we make predictions on the future water use? Do these predicted values align Colorado’s supply?

Data:

* <https://gis.dola.colorado.gov/births-deaths-migration/>
* This dataset provides population, birth, deaths, and net migration data by county in Colorado. Observations start in 1970 and includes projections to 2050.
* <https://waterdata.usgs.gov/co/nwis/water_use?format=html_table&rdb_compression=file&wu_area=County&wu_year=ALL&wu_county=ALL&wu_category=ALL&wu_county_nms=--ALL%2BCounties--&wu_category_nms=--ALL%2BCategories-->
  + This dataset describes the total water use, public supply population served by groundwater, public supply population served by surface water, public supply total self-supplied groundwater, surface water withdrawals, public supply per capita use in gallons per person in each day, public supply public use and loses, public supply reclaimed wastewater, public supply number of facilities, domestic self-supplied groundwater and surface water withdrawals, commercial total self-supplied withdrawals, Industrial total self-supplied withdrawals, total thermoelectric power total self-supplied withdrawals and many more.
  + The dataset includes county level data in five-year intervals from 1985 to 2015.

Create a public repository on GitHub: