Research Idea

Group 7

10-24-2022

Research Idea: National Parks

Inspiration

Weather affects numerous features in nature. While lots of rain can support agriculture and replenish plants it can also cause property damage. Also, increasing temperatures can directly harm humans, animals, and other biodiversity. National parks, which have the largest biodiversity, can be impacted too due to the weather and climate change. Moreover, in 2021 it was reported by the National Park Service that roughly 297.1 million people visited national parks. Therefore, our team's purpose is to analyze and see how weather affects national parks. To be more specific, we are planning to look at how weather patterns have a relationship with National Parks' visitation rates, revenue, cost of maintenance, and biodiversity.

Data Collection

So far, we had found weather, visitation rates, and biodiversity data. We are still researching to find the cost of maintenance/infrastructure data. Rather than looking at all national parks in the US, we are planning to specify 3-5 states, based on the location, or the average temperature to get a better comparison. Below are datasets we will possibly use like the average temperature by the state in the US, and after analyzing this, we are going to trim down the list of states that we want to focus on.

Below are the datasets we are planning to use for this analysis. Note that we haven't decided which state we would like to focus on yet, and we are planning to do this after wrangling the average temperature data. Therefore, we did not export all the datasets to xls or csv format, so for this reference, we are just listing the URL that we are going to use to obtain the data we want.

Update: We were not able to find data for costs of maintenance/infrastructure for the desired states we are looking at. We have decided to focus on 3 states: Florida, Colorado, and California. This gives us a total of 16 state parks to look at. Flordia has 3, Colorado has 4, and California has 9 state parks. We picked these 3 different states because they experience different weather patterns throughout the year and we want to investigate if that affects the national parks' visitation rates and biodiversity.

Data Set Links

National Park by State: https://www.nationalparktrips.com/parks/us-national-parks-by-state-list/

Daily Temp of Major Cities: https://www.kaggle.com/datasets/sudalairajkumar/daily-temperature-of-major-cities

Hourly weather data: https://www.kaggle.com/datasets/selfishgene/historical-hourly-weather-data?select=temperature.csv

Visitation data: https://irma.nps.gov/STATS/SSRSReports/National%20Reports/Current%20Year%20Monthly%20and%20Annual%20Summary%20Report%20(1979%20-%20Present)

Biodiversity data: https://irma.nps.gov/NPSpecies/Search/SpeciesList/WSALAT