

A cartoon illustration of two people hiking on a rocky trail. On the left, a man wearing a white t-shirt, black shorts, a red cap, and a blue backpack is pointing forward. On the right, a woman wearing a black tank top, white shorts, a blue backpack, and a bun hairstyle is looking towards him. The trail is rocky and brown, with green bushes and trees in the background.

National Park Data

2021

Introduction: Group 11



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National Park Data

Why we picked this dataset?

We wanted to do Maps.

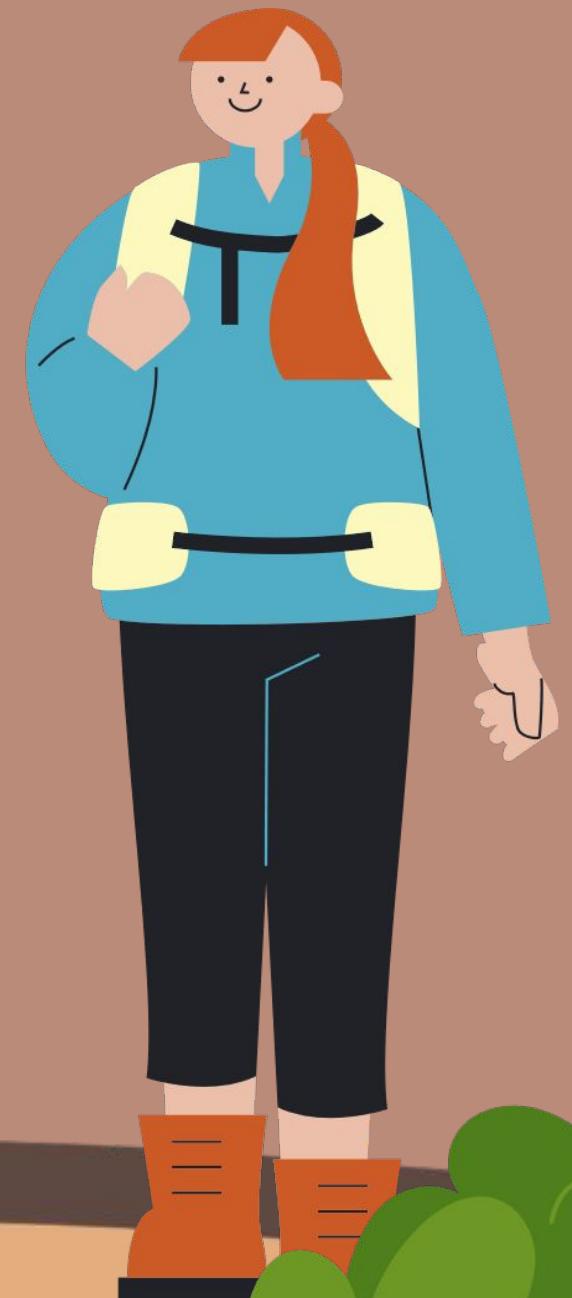
We wanted to do a T-Test.

Everyone loves parks!



Table Of Contents

- Introduction
- National Park Data
- Data Cleaning
- Question 1
- Question 2
- Question 3
- T-Test
- Conclusions/Future Work
- Bias/Limitations
- Questions
- Credits



Data Cleaning

Read CSV

Tried to merge two data sets unsuccessfully.

DateTime

Changed integer into date. Made year into a separate column.

Pulled Data

Latitude, Longitude, and State and created their own columns.

Changed Column Names

Used lower case names with no spaces.

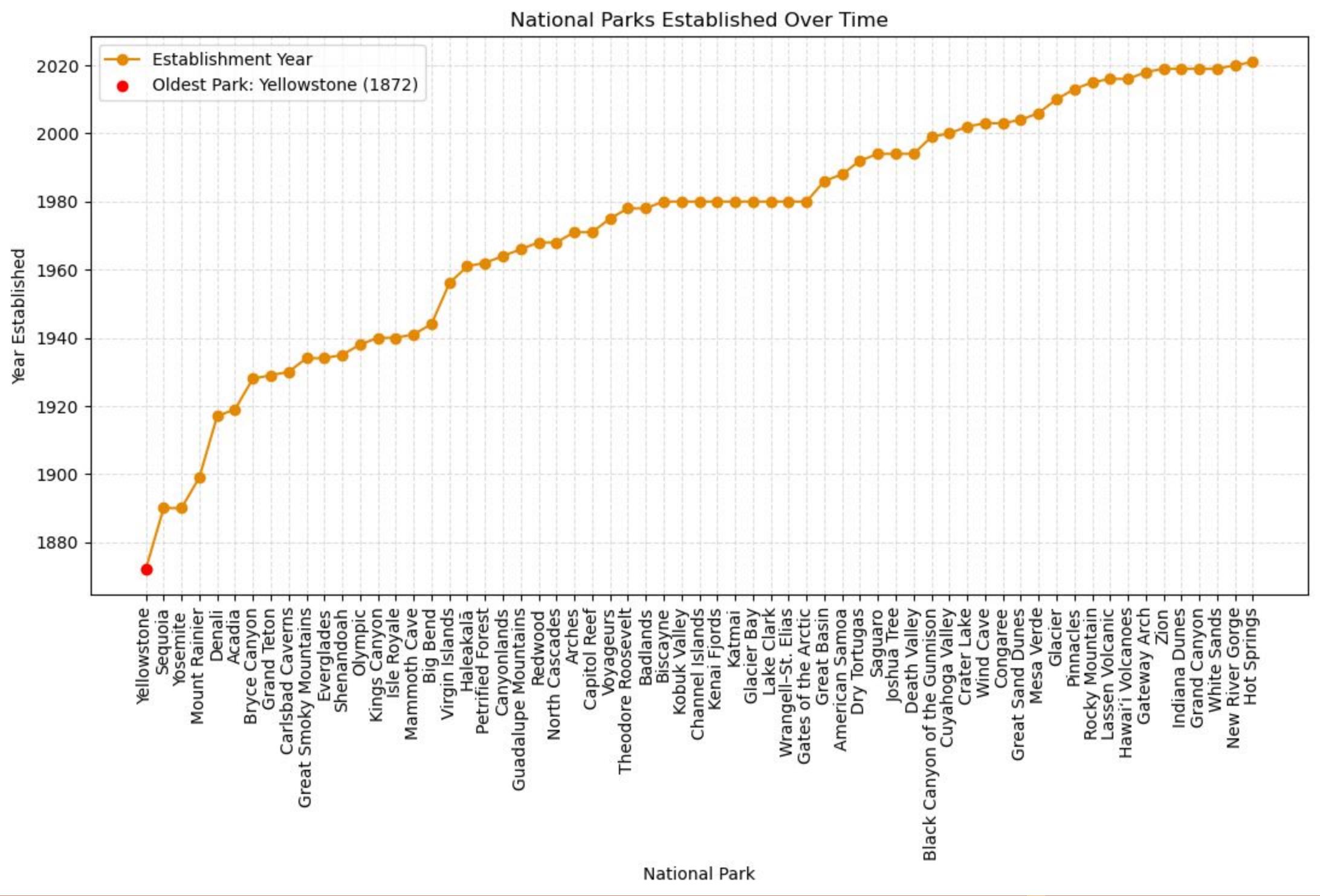


A stylized illustration of two people walking away from the viewer on a dirt path. The person in the foreground is wearing a blue tank top, black pants, and orange boots with a cross pattern. The person behind them has dark hair tied back and is wearing a light blue top and dark pants. In the background, there are two orange tents set up on a grassy hillside with green bushes. The sky is a light beige color.

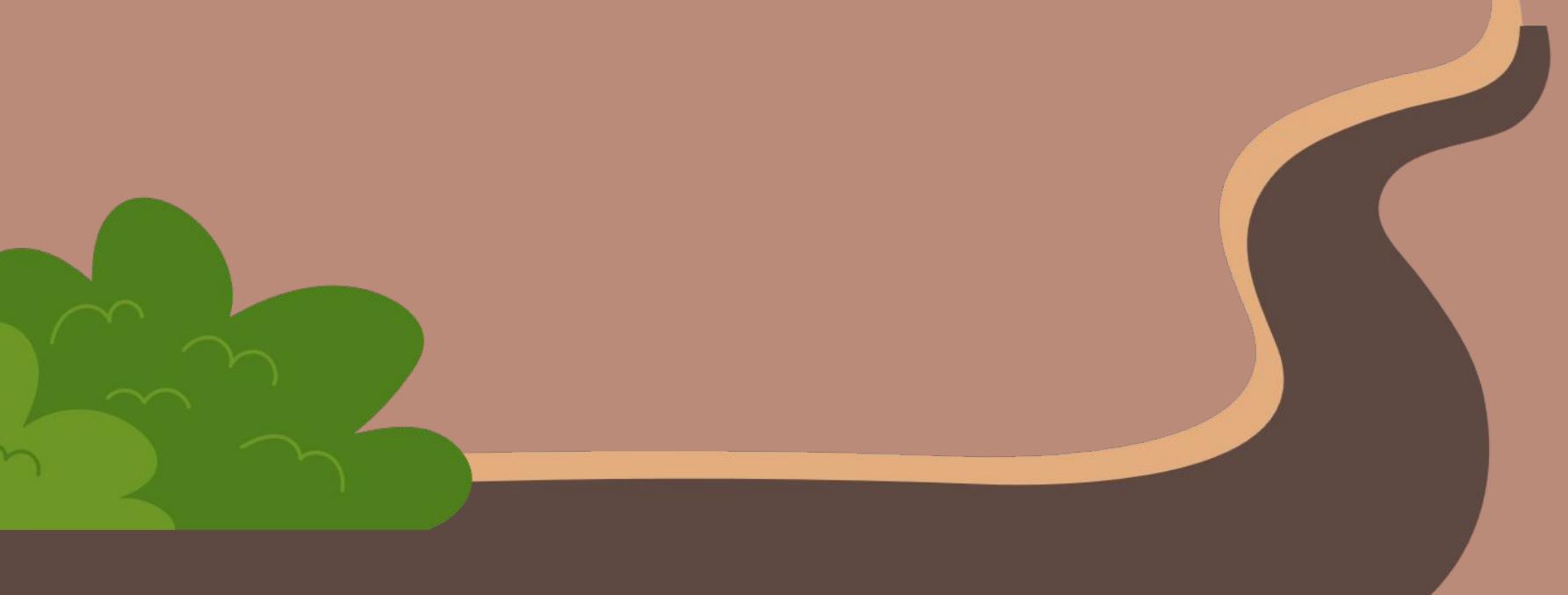
1

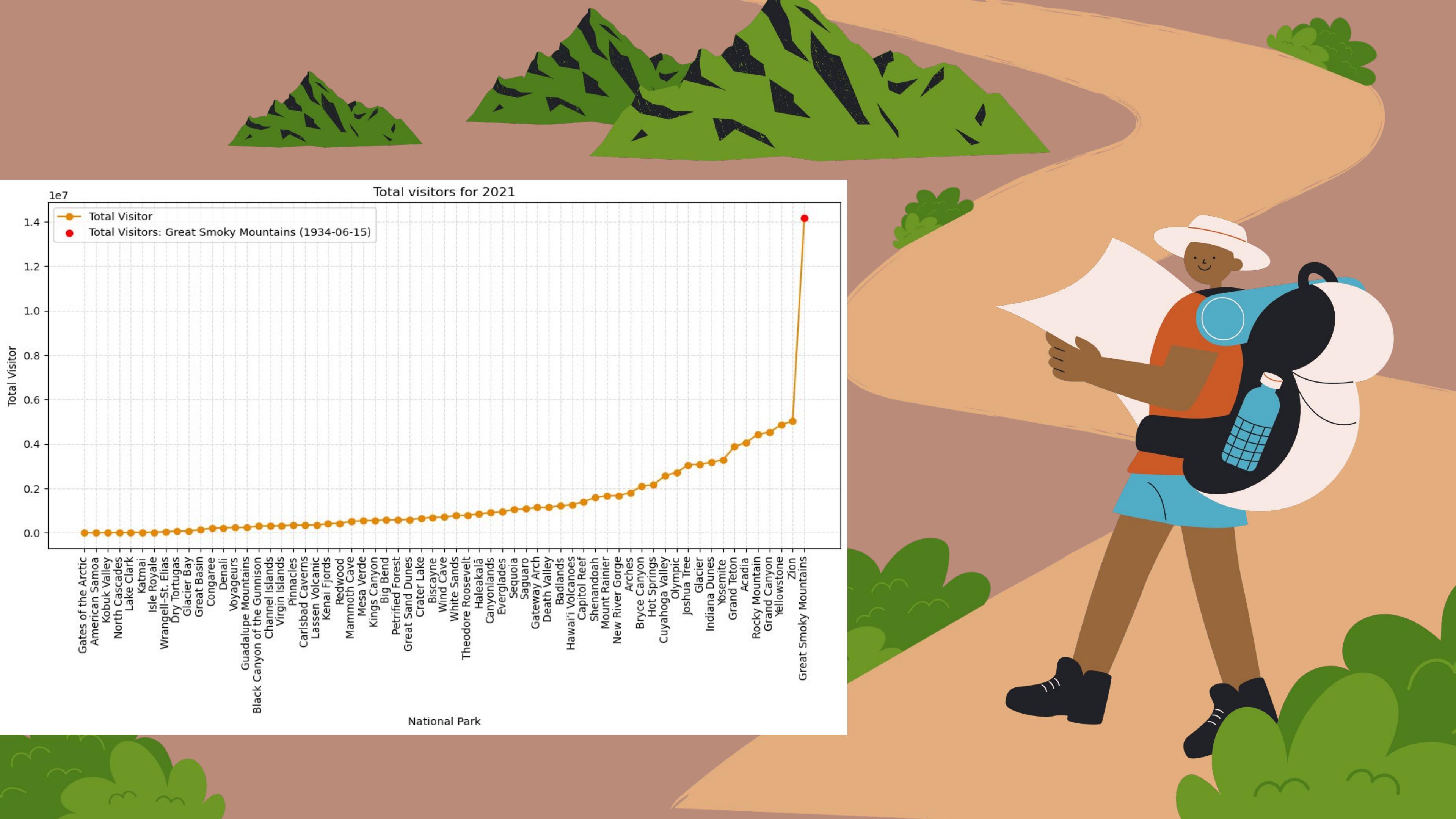
Question:

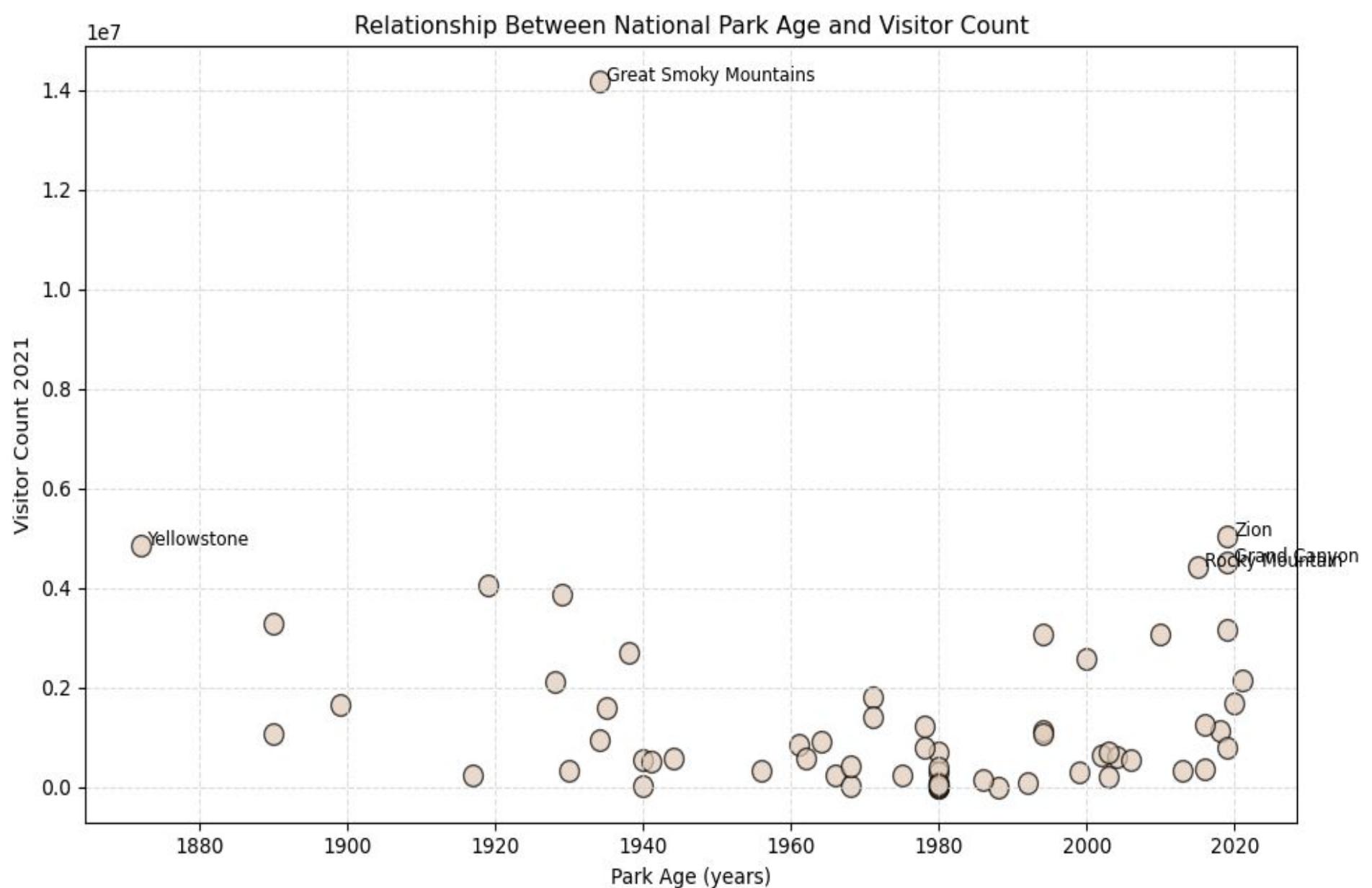
#1 What are the oldest parks in the country?



The oldest national park in the
United States is Yellowstone and
it was established on 1st March
1872.







Park age is not
related to visitor
count.

	<u>National Park</u>	<u>Year Established</u>	<u>Visitors</u>
27	Great Smoky Mountains	1934	14161548
62	Zion	2019	5039835
60	Yellowstone	1872	4860242
23	Grand Canyon	2019	4532677
50	Rocky Mountain	2015	4434848
..
39	Lake Clark	1980	18278
45	North Cascades	1968	17855
38	Kobuk Valley	1980	11540
1	American Samoa	1988	8495
19	Gates of the Arctic	1980	7362

[63 rows x 3 columns]

2

Question

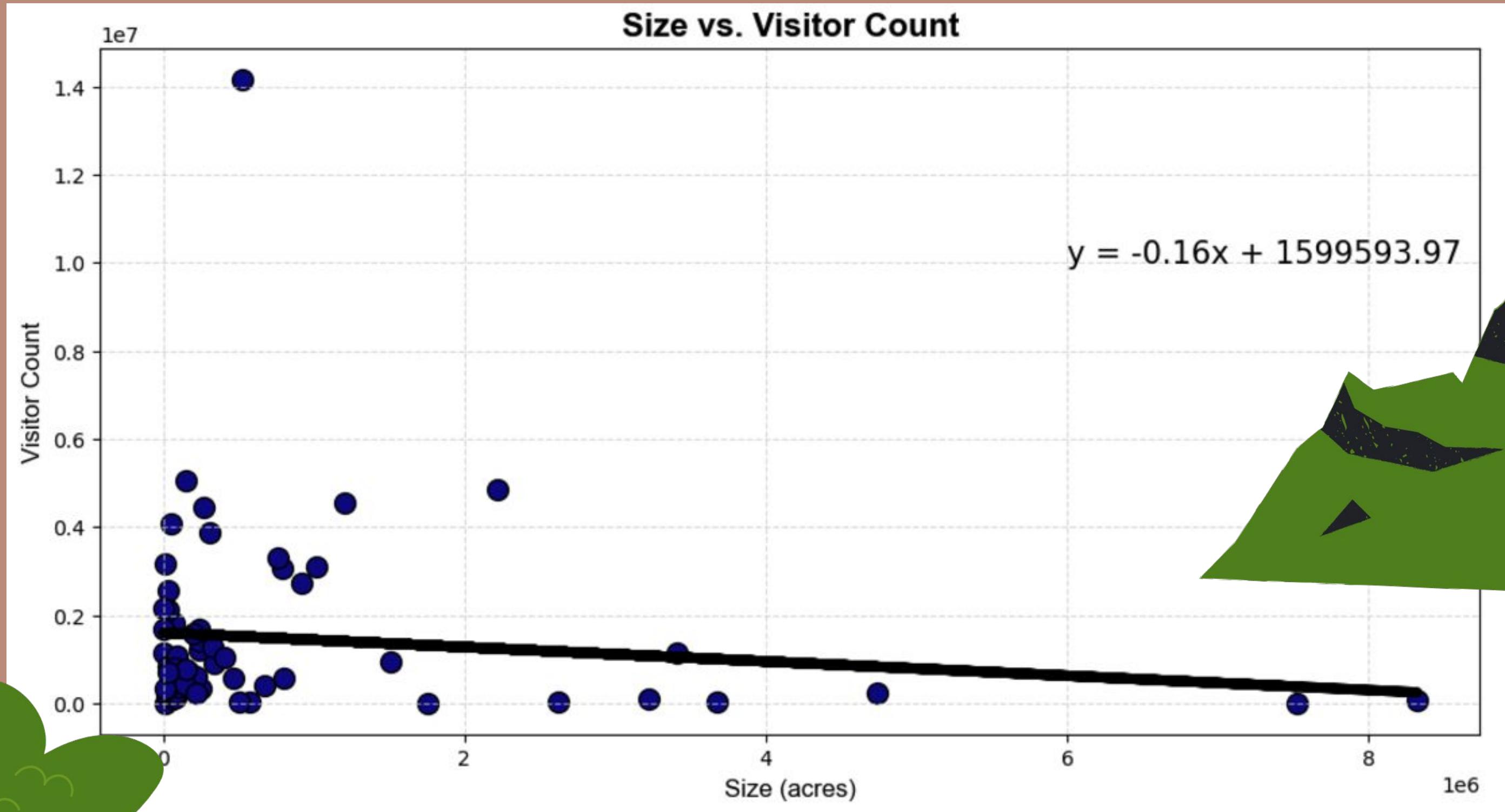
How does the size of the park affect its
number of visitors?



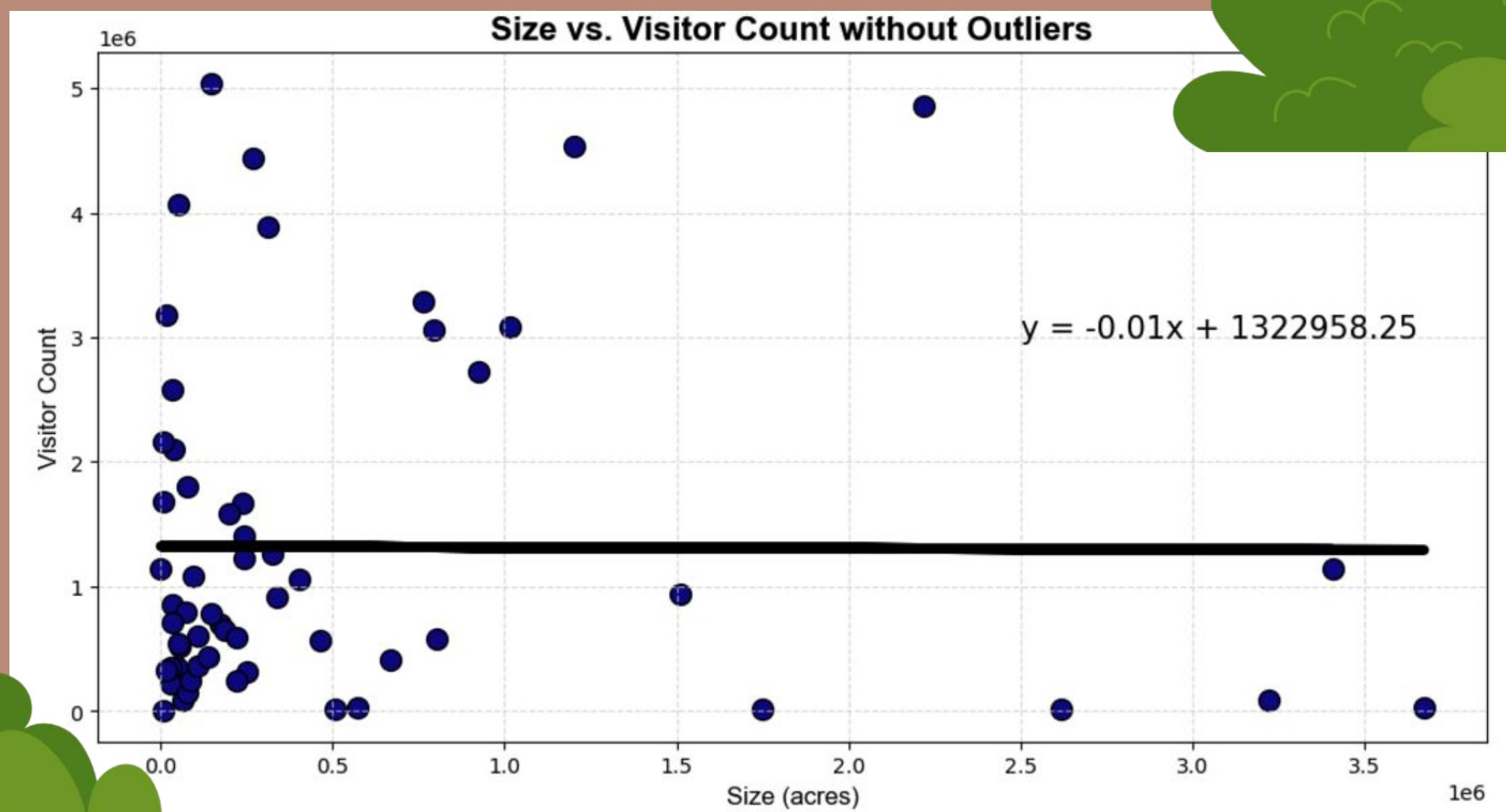
Short Answer...

R-Value: -0.1251101661783258

It doesn't!



Eliminating Outliers



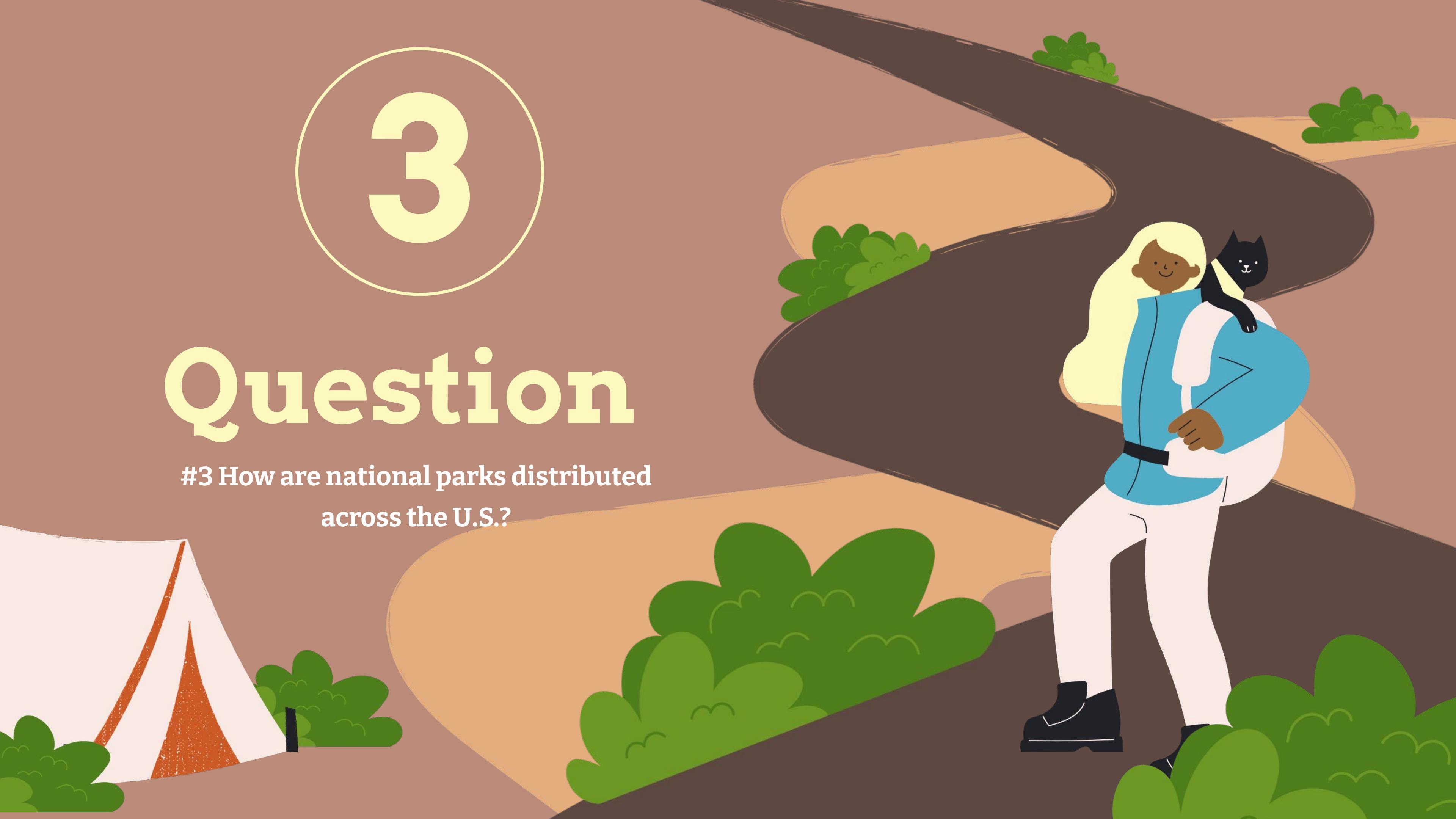
R-Value:
-0.005031628703678563



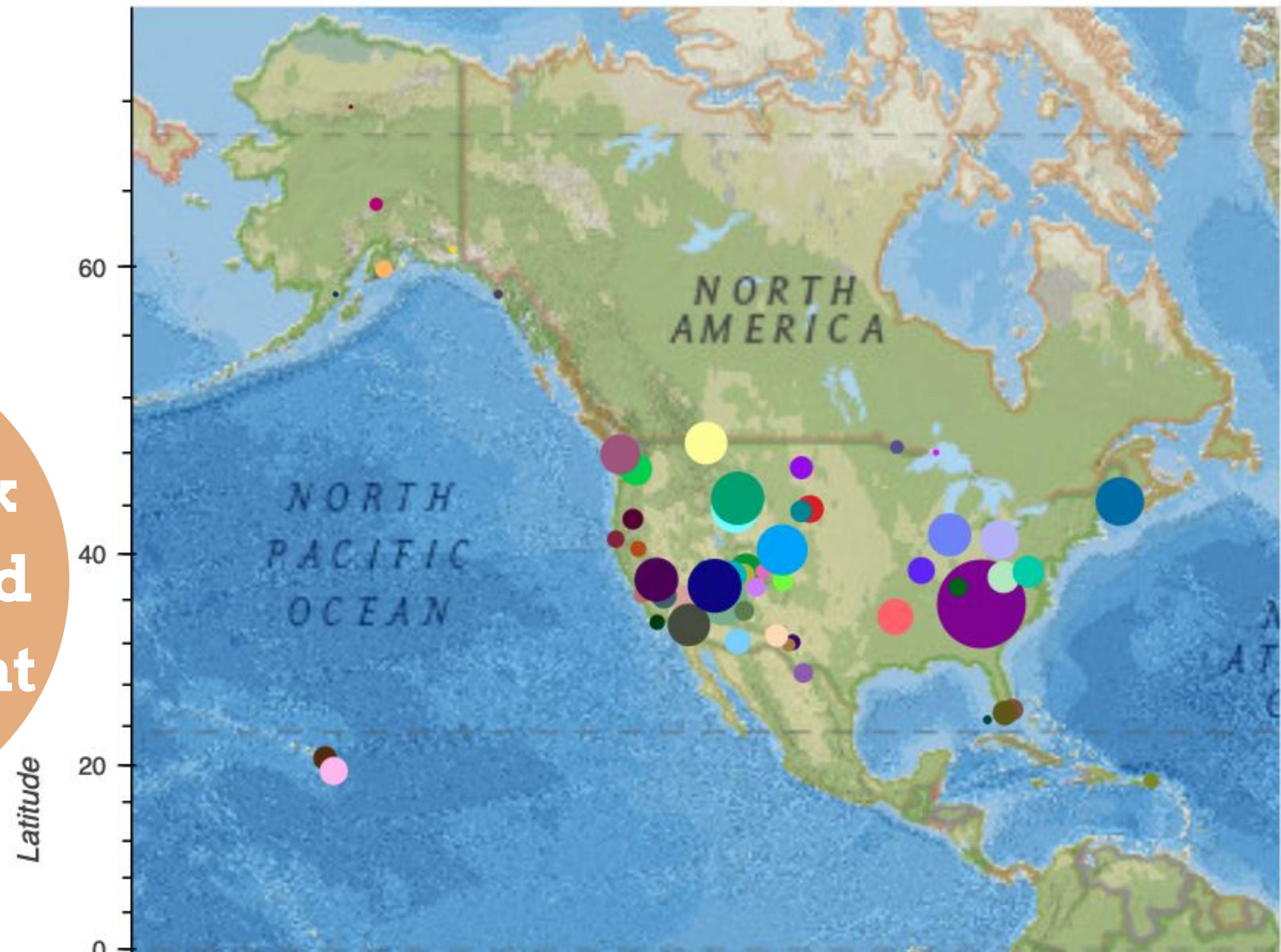
3

Question

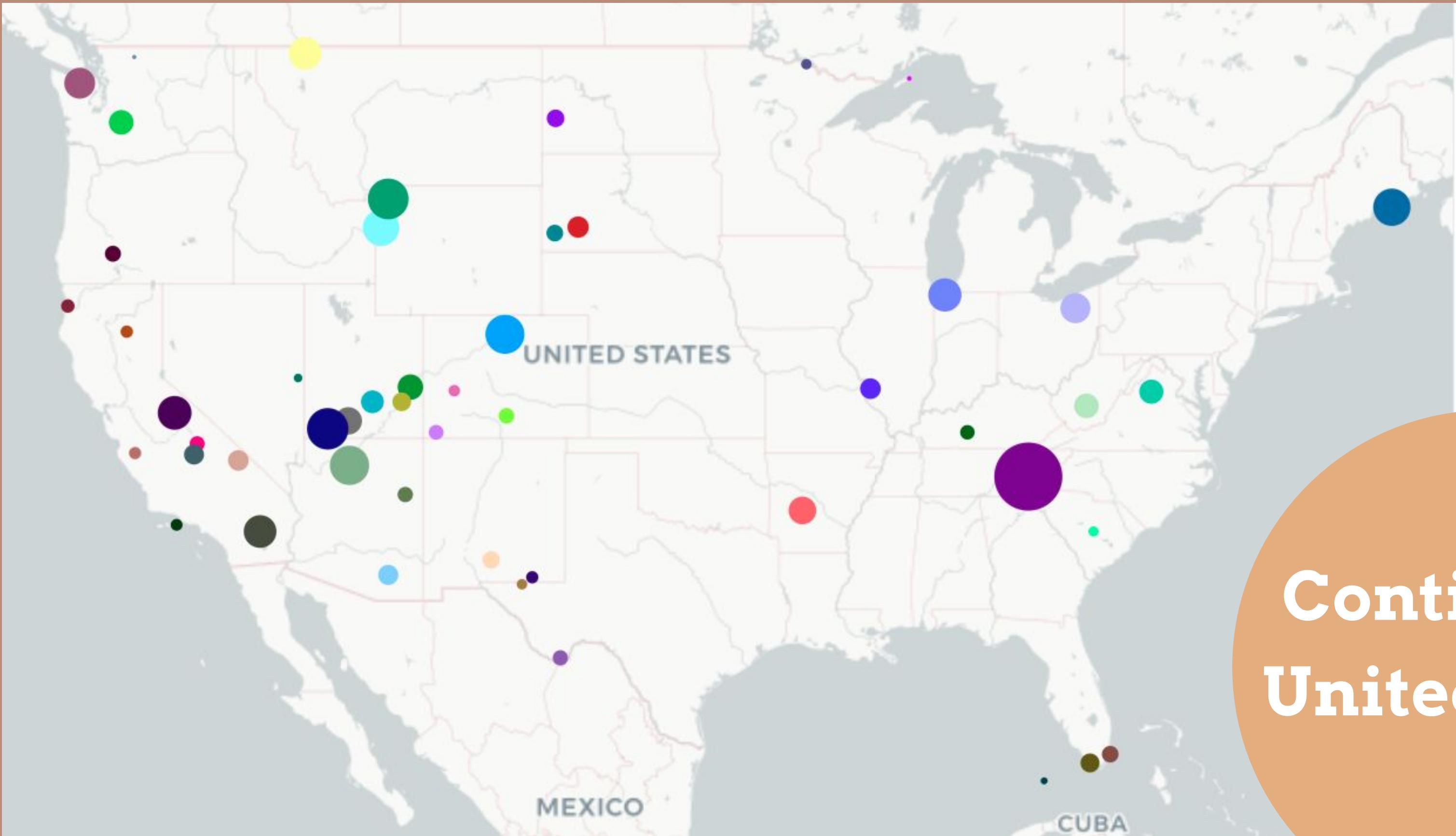
#3 How are national parks distributed
across the U.S.?



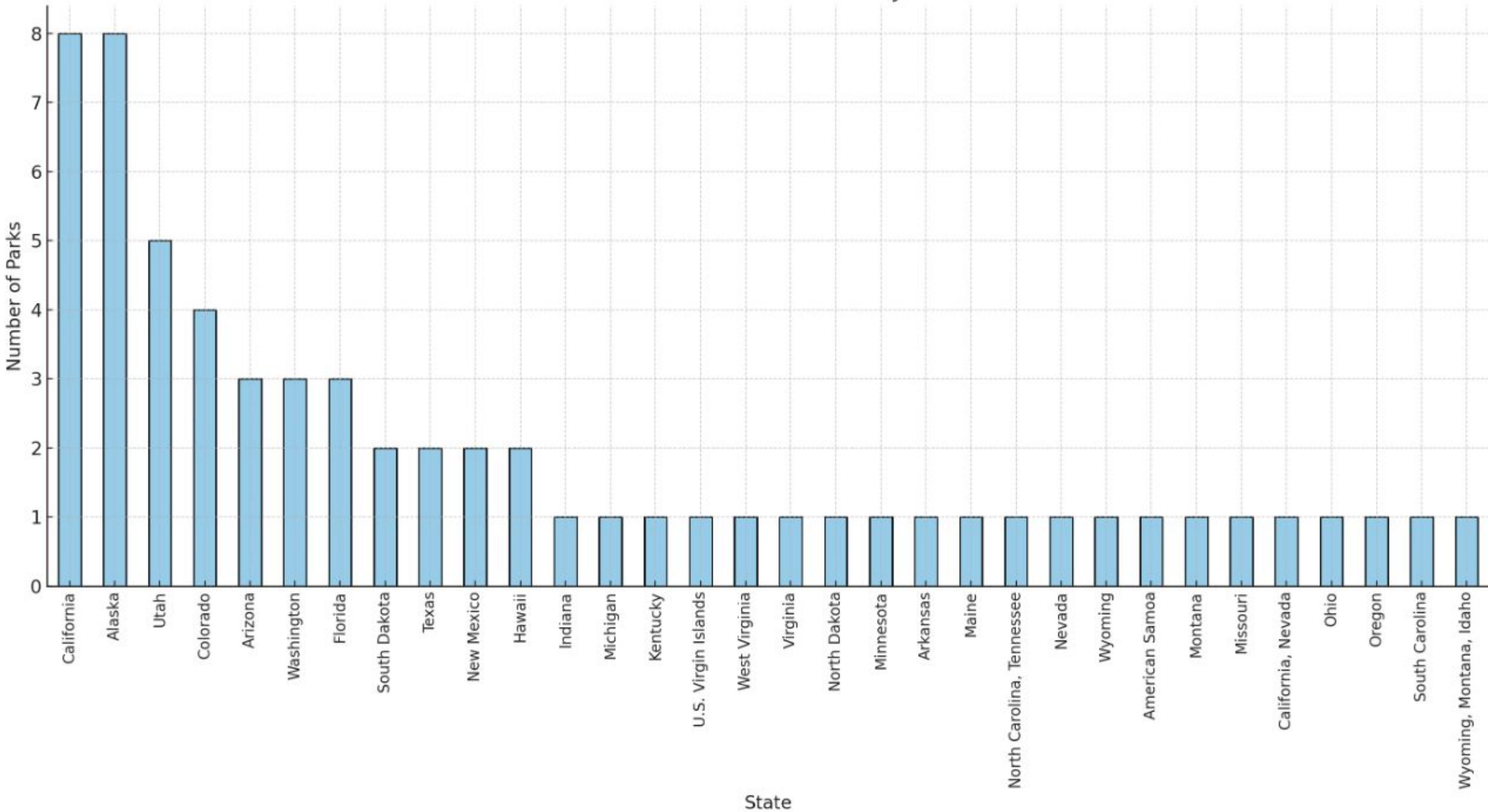
Map of Park Location and Visitor Count



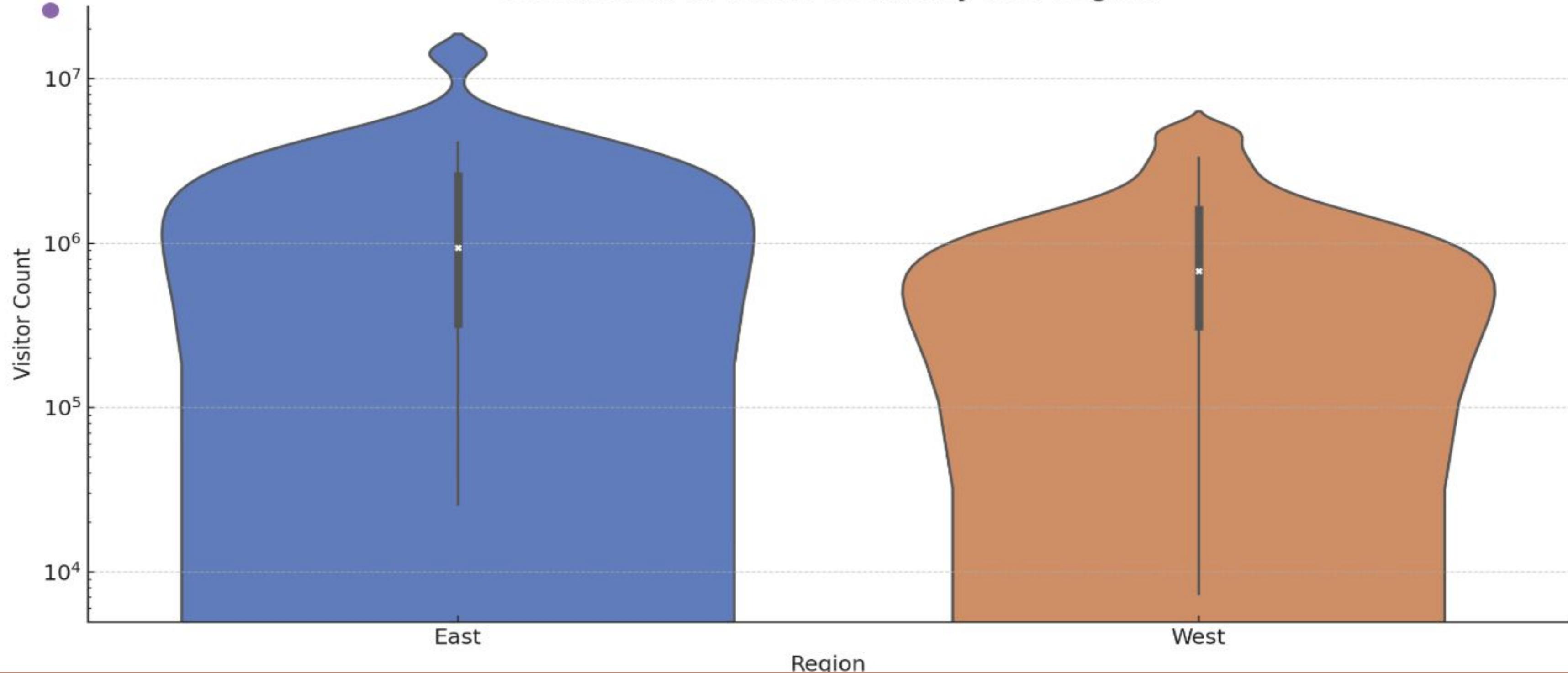
Continental United States



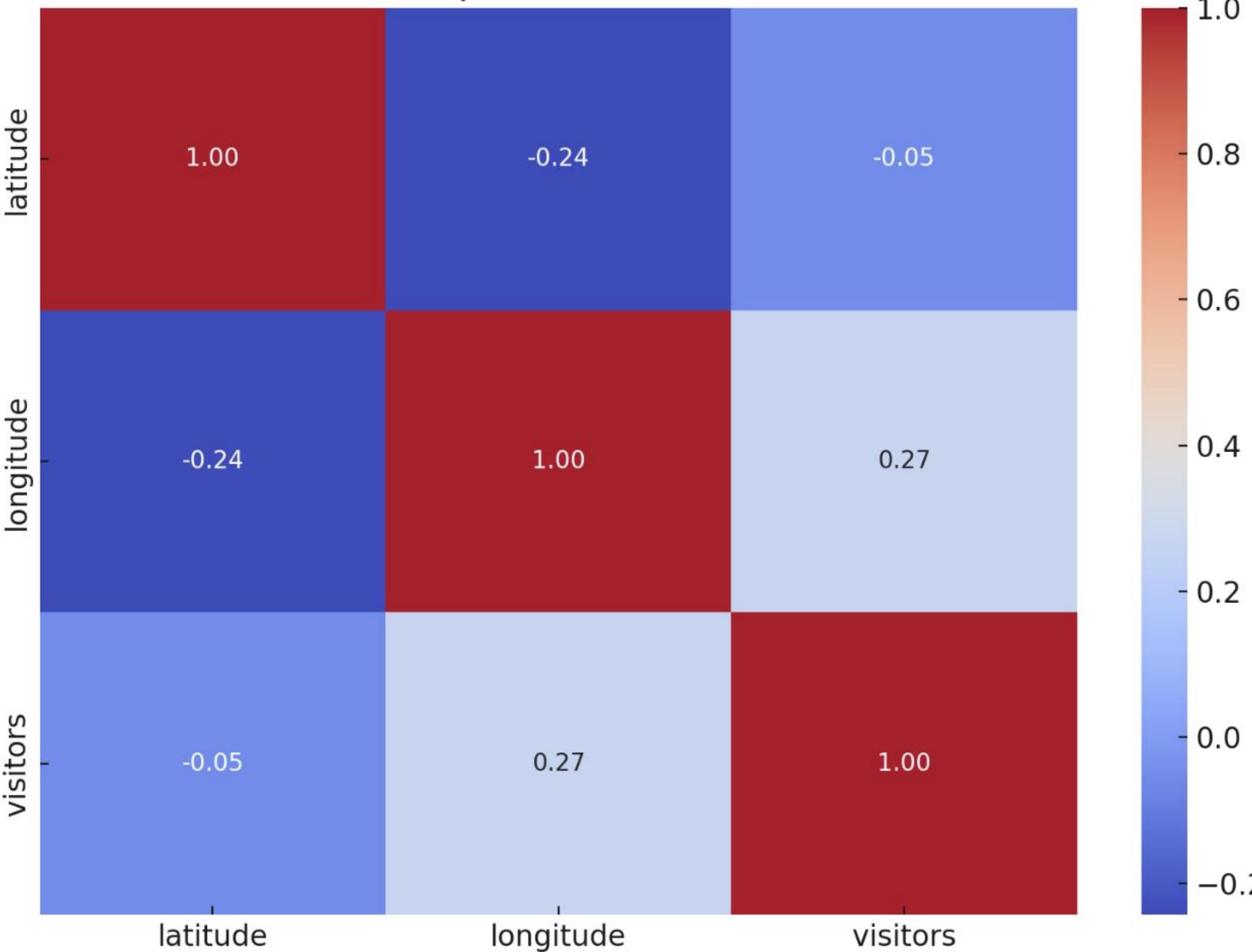
Number of National Parks by State



Distribution of Visitor Counts by U.S. Region



Correlation Heatmap: Visitor Counts and Location



T-Test

P-Value = 0.33

The average visitor count is not significantly different. This could be due to the variance of the data.



East of the Mississippi

Visitor Mean: 2,313,120.23

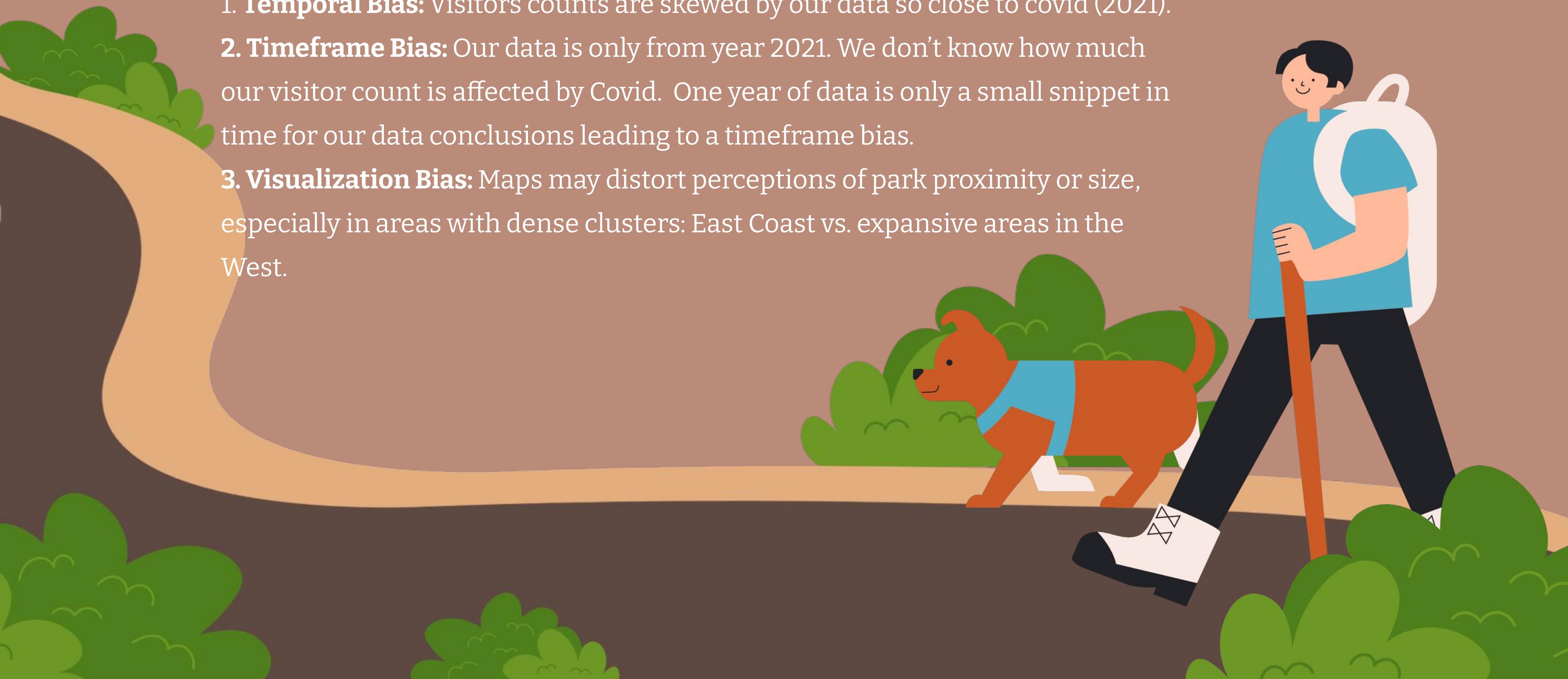


West of the Mississippi

Visitor Mean: 1,243,625.88

Bias and Limitations

1. **Temporal Bias:** Visitors counts are skewed by our data so close to covid (2021).
2. **Timeframe Bias:** Our data is only from year 2021. We don't know how much our visitor count is affected by Covid. One year of data is only a small snippet in time for our data conclusions leading to a timeframe bias.
3. **Visualization Bias:** Maps may distort perceptions of park proximity or size, especially in areas with dense clusters: East Coast vs. expansive areas in the West.



Conclusion

1. The Great Smoky Mountain national park is the most visited in the country. This could be due to the higher concentration of population. There is no correlation between size and visitor count.
2. The oldest park is Yellowstone, but not the most visited. Age of the park does not affect visitation.
3. There are more parks in the west and they are more spread out than in the east.

Future Work

1. Enhancing the data scope to include more years.
2. How does the economy affect visitor count?
3. How do international travelers (Post Covid) change our dataset?
4. Build more dashboards that are more data dynamic (once we learn more tools/functions)

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Q & A

What questions do you
have?



Credits

Slides Carnival

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