

Capstone Project - The Battle of the Neighborhoods

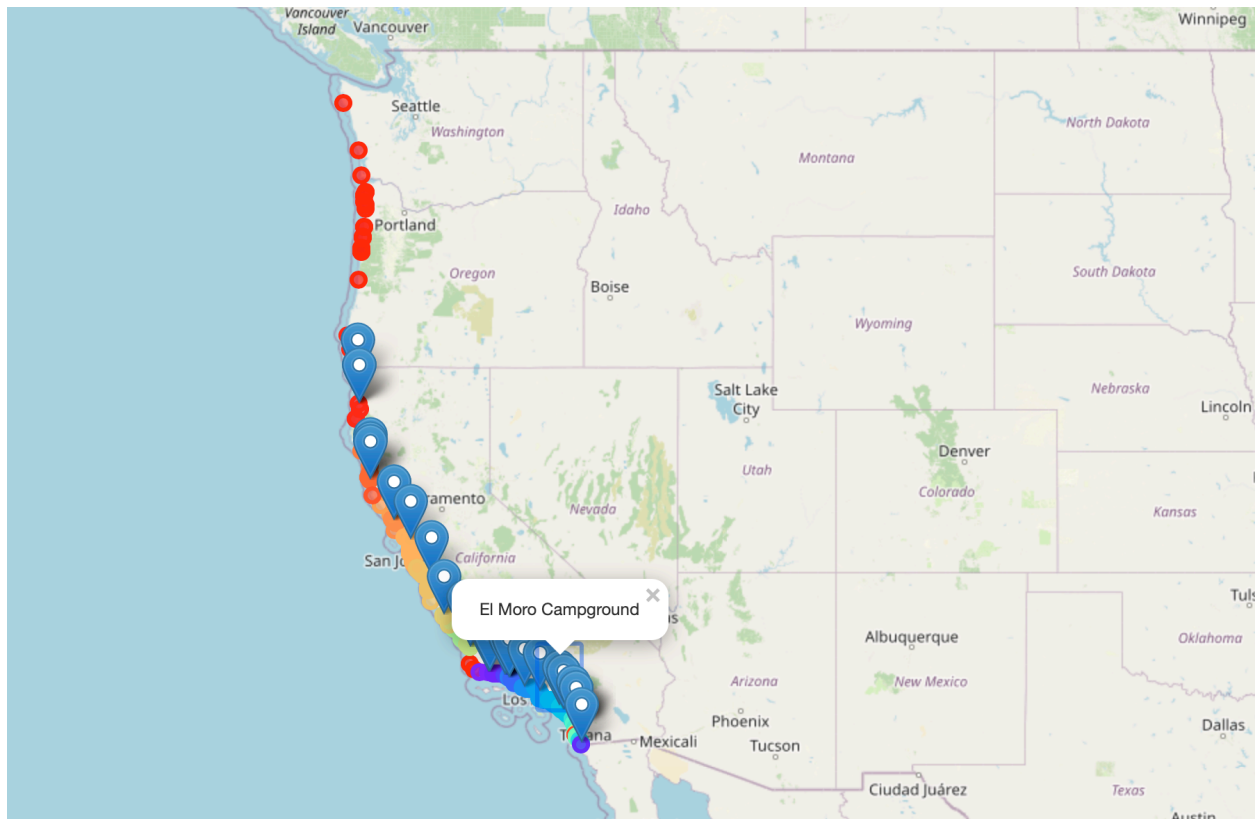
Introduction

In this project, surf spots across the west coast of the US will be analyzed.
A Surf Travel Company is looking for the best surf destination with:

- Nearby accommodation to good surf(for this case, it will be campgrounds).
- Campgrounds that is central to other nearby surf spots.

Objective

The main objective is to create a new Travel product/service that will give the best destination for a surf trip.



Data

The data that will be used are data coming from Surfline.com, a company that lists all the surf spots.

Foursquare will be used to find the nearest Campgrounds/Accommodation from the given surf spots.

Methodology

- Data is parsed from Surfline.com using request from a Map that is freely accessible

```
url = 'https://services.surfline.com/kbyg/mapview?south=-5.7908968128719565&west=-190.01953125000003&north=70.08056215839737&east=-50.09765625000001&accessTok'
results = requests.get(url).json()
print('Item Downloaded')
```

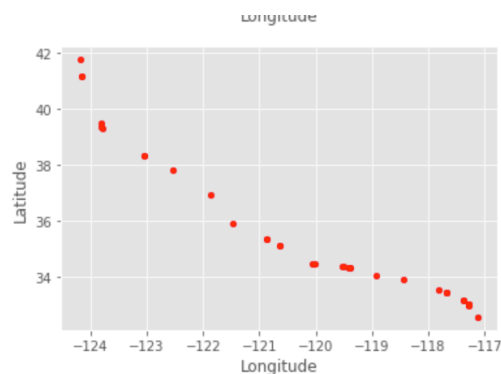
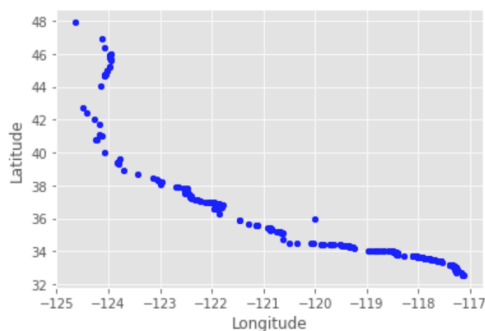
- A Data frame is created to include surf spots around the world
- Since we are mainly focused on the west coast of the US, a new data frame is created using the same timezone.
- Data extracted from the websites are, Time Zone, Surfspot name, Latitude and Longitude.

Foursquare API

- Used to find the campgrounds near the surfspots.
- We are only interested in Campgrounds
- A New Data frame is created with the campgrounds.

Analyzing

- By using kMeans Clustering, we'll be using the the data frame with the campgrounds as the main centroids, clustering nearby surf spots.

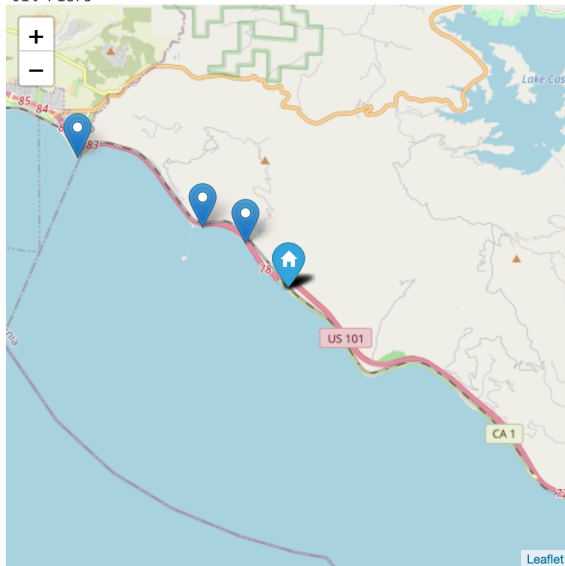


Results

- We found that there are 37 campgrounds along the west coast that have nearby surfspots.
- Mapping each centroid and nearby surf spots we can show in folium the location of the campground and surf spots.

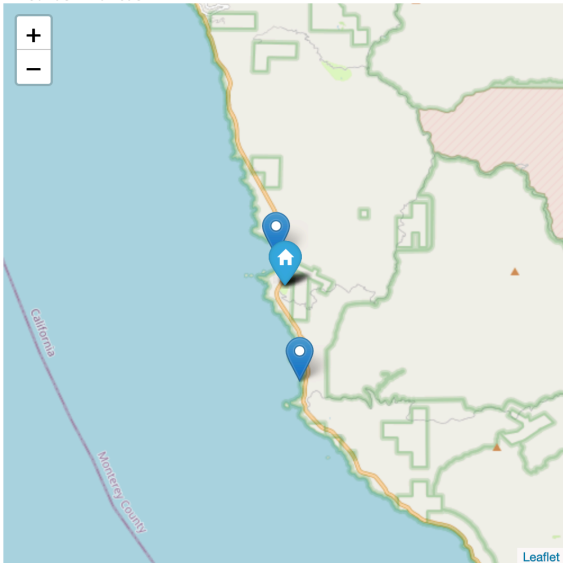
Surf Camp 4
Campground: Spot #118 Rincon Parkway

Nearby SurfSpots:
Carpinteria State Beach
Tarpits
Rincon
Mussel Shoals (aka Little Rincon)
Oil Piers



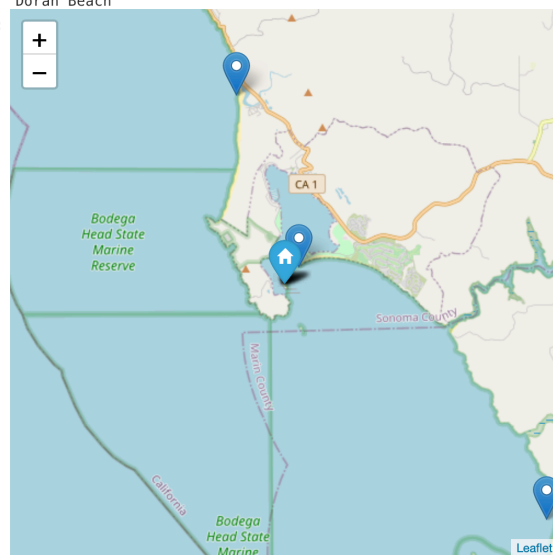
Surf Camp 26
Campground: Plaskett Creek Campground

Nearby SurfSpots:
Sand Dollar Beach
Willow Creek
Piedras Blancas



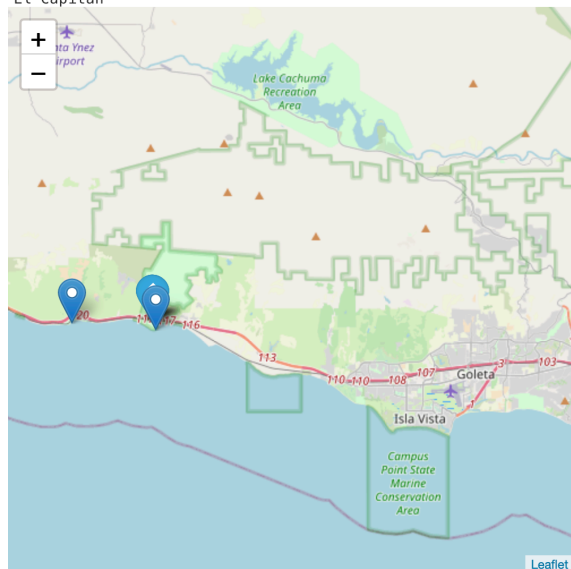
Surf Camp 30
Campground: Jetty Campground

Nearby SurfSpots:
Dillon Beach
Point Reyes (north)
Salmon Creek
Doran Beach



Surf Camp 1
Campground: El Capitan State Campground

Nearby SurfSpots:
Point Conception
Refugio
El Capitan



Conclusion

By parsing data from surflife.com we were able to get data of sunspots along the west coast. Utilizing Foursquare allowed us to find the campgrounds nearby the surf spots and by using kMeans Cluster, we were able to cluster the surf spots using the campgrounds as centroids.

The Surf Travel Company can now create individual surf destination for a new product/service.