1. Northern California:

- **Sierra Nevada Foothills:** This area features dense forests and steep terrains, making it prone to wildfires.
- **Shasta County:** The combination of dry conditions and abundant vegetation contributes to elevated fire risks.

2. Central California:

- **San Joaquin Valley:** Surrounding foothills with grasslands and chaparral are susceptible to fires, especially during dry seasons.

3. Southern California:

- **Los Angeles County:** Urban development adjacent to wildlands increases the potential for wildfires.
- **San Bernardino and Riverside Counties:** These areas have experienced significant fires in the past, with ongoing risks due to dry conditions and Santa Ana winds.

https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones

- Satellite Data
- Historical Weather Data
- Drought warning maps

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1. **Who/what our company/business entity/research area is**

We are a meteorology company who is looking to use available weather, vegetation, and historical data to help evaluate wildfire risk in California.

2. **3 Questions/Problems that we want to solve with data, along with the value doing so would provide**

Which areas in California are at the highest risk for wildfires based on current weather, vegetation, and historical data?

- Value: Helps firefighters and emergency services prioritize resources and preparedness efforts.

How effective are existing mitigation strategies (e.g., controlled burns, vegetation management)?

- Value: Improves resource allocation and ensures that mitigation efforts yield maximum impact.

How can real-time data be used to predict wildfire spread and guide evacuation plans?

- Value: Ensures timely evacuation and minimizes loss of life and property.

3. **The specific dataset itself that we will use with a description**
   - Heat Maps
   - Satellite Data: A satellite map of California
   - Historical Weather Data: A historical record of weather
   - Drought warning maps: A map of California that displays the different levels of drought warnings

4. **The tool that you will use to visualize and use the data**

Heat maps: https://openweathermap.org/api

Satellite data: https://developers.google.com/maps/documentation/tile/satellite

Historical weather data: https://openweathermap.org/history

Drought warning maps: https://droughtmonitor.unl.edu, API access: https://droughtmonitor.unl.edu/DmData/DataDownload/WebServiceInfo.aspx

Historical fire maps: https://data-nifc.opendata.arcgis.com/datasets/ef25d7e8c9f3499ba9e3d8e09606e488_0/explore?location=37.801823%2C-119.726801%2C10.20

5. A summary of what your end goal is

Our mission is to revolutionize wildfire management by harnessing real-time data, historical insights, and modern technology. Using tools like satellite imagery, heat maps, and drought warning systems, we pinpoint high-risk areas, predict fire behavior, and

optimize evacuation plans. With our project, we hope to enhance the abilities of California to respond to its increasing wildfire epidemic.