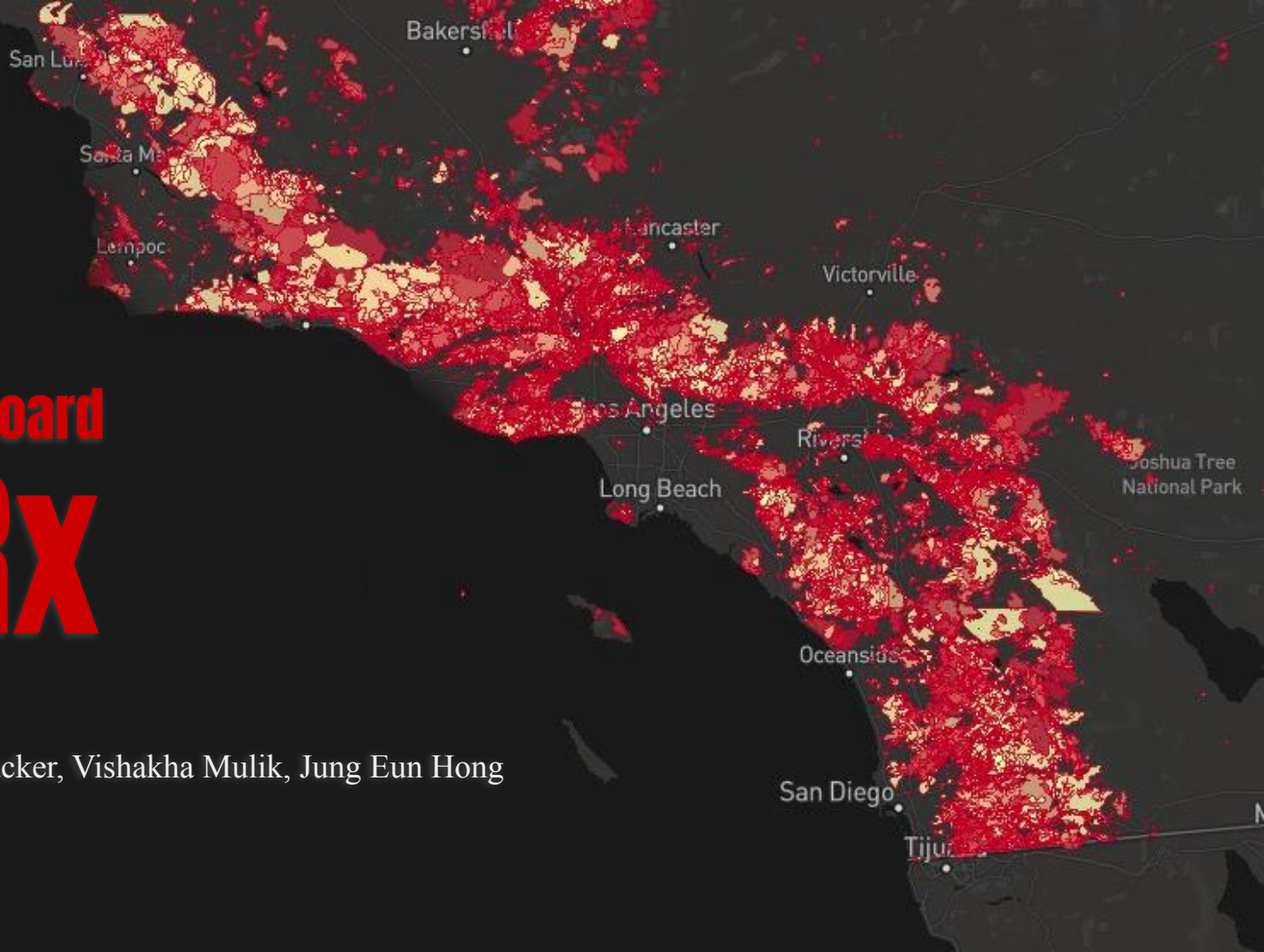


Wildfire Dashboard SPARX

By Cool Cats

Tiffany Mejia, Joshua Tucker, Vishakha Mulik, Jung Eun Hong



WHAT IS SPARX?

Dashboard

Historical
wildfire trends

Burn window
for prescribed burns

OUR TEAM



Tiffany Mejia

Leader of the team
Creates and
optimizes **user
interaction** and
testing



Joshua Tucker

Reconstructs and
optimizes **burn
window calculations**
and **server requests**

Vishakha Mulik

Integrates **database**
information



Jung Eun Hong

Optimizes and
stabilizes the **server**
Build and deploy
the web on **AWS**



WILDFIRES CAUSE...



2 Million Acres
of total land
burned



3,000 Structures
damaged or lost



300 Deaths
from wildfire
related causes



85 Million Tons
Of CO₂ emitted

(Numbers are based on the 2021 wildfire season)

PREScribed FIRE PREVENTS WILDFIRE





PRESCRIBED FIRE BENEFIT

Removes Hazardous Debris

Prescribed fire can reduce dense vegetation that is fuel for wildfires.

Recycles Land Nutrients

Prescribed fire helps nutrients back to the soil and promotes the growth of plants like trees and wildflowers.

Involves Substantial Expenditure

It costs over \$500 per acre to put prescribed fire.

Needs to meet many conditions to execute

Meteorological factors like humidity, temperature, wind should be considered to make decision.

PRESCRIBED FIRE CHALLENGE

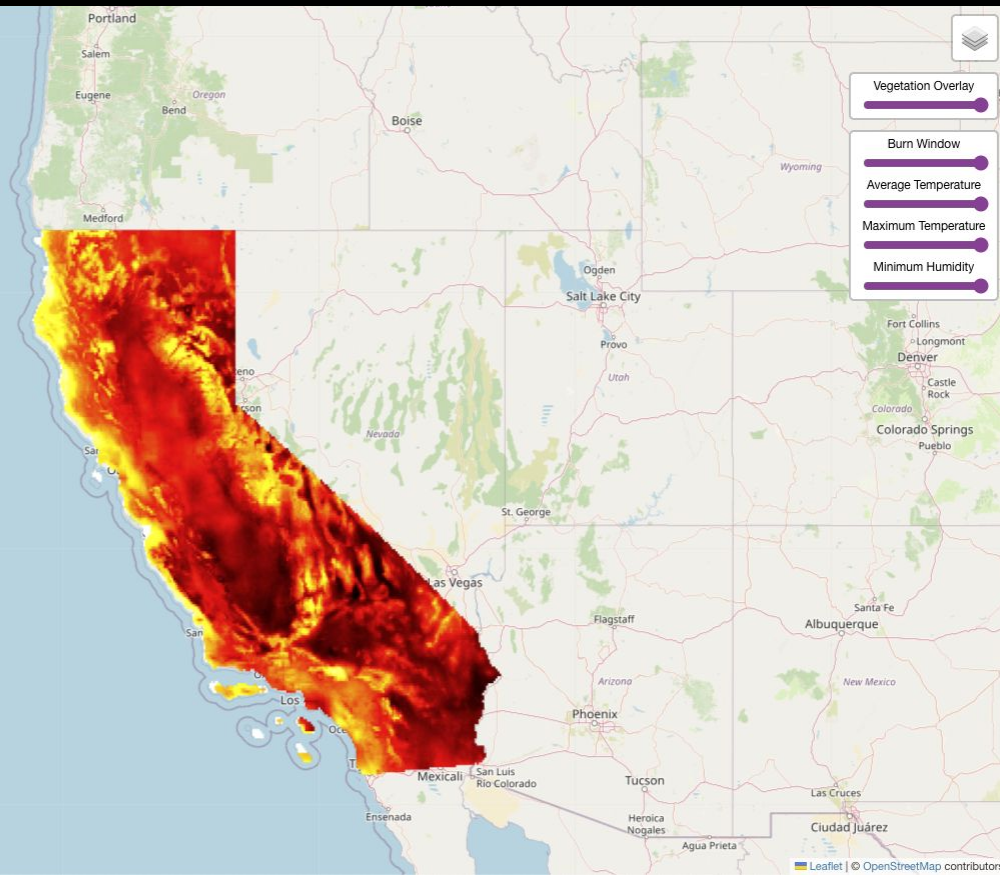
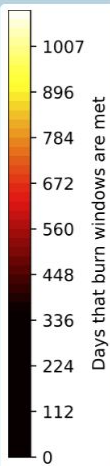
OUR PRODUCT SPARX

STATISTICS

For Applied Filter:
Fire(s) Count: 12394
Start Year: 1900
End Year: 2020
Start Month: undefined
End Month: undefined
Avg Size: 177.77 acres
Min Size: 0.004 acres
Max Size: 46139.00 acres

COUNTIES

County	Percentage
Sierra	64.52%
Sacramento	56.53%
Santa Barbara	68.86%
Calaveras	62.94%
Ventura	68.98%
Los Angeles	63.78%
Sonoma	75.34%
Kings	45.20%
San Diego	65.74%
Placer	65.00%
San Francisco	87.41%
Marin	80.79%
Mariposa	59.05%
Lassen	54.77%
Napa	59.82%
Shasta	56.67%
Monterey	63.10%
Trinity	64.84%
Mendocino	73.58%
Inyo	53.51%
Mono	64.50%
Tuolumne	65.60%
Solano	62.67%
San Bernardino	52.24%
Contra Costa	62.94%
Alpine	70.10%
El Dorado	60.10%
Yolo	56.68%
Yuba	55.31%



Vegetation Overlay

Burn Window

Average Temperature

Maximum Temperature

Minimum Humidity

FILTERS

Filters Applied

fireType: *PRESCRIBED*

BURN WINDOW

Start Date

01/01/2020

End Date

01/01/2023

SEARCH

☒ Show Burn Window Raster

BEFORE SEARCHING

Users should apply filters and period of time they want to know.

Set Filters

All Filters

Select from the Filter Options below
Click on Apply Filter(s) when finished

Type of Fire ▼

Sort By Escaped ▼

Sort by Burn Type ▼

Sort by Dataset ▼

Sort by Location ▼

Sort by Size ▼

Sort by Year ▼

Sort by Month ▼


Sort by Owner ▼

Set Period

Start Date

01/01/2020 

End Date

01/25/2023 

AFTER SEARCHING

The web will show how many days burn windows are met.

Statistics for applied filter

STATISTICS

For Applied Filter:
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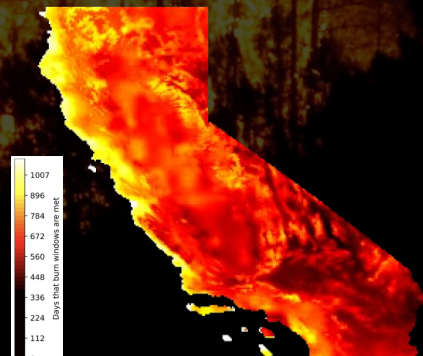
Counties in burn window

COUNTIES

County	Percentage
Sierra	64.90%
Sacramento	57.00%
Santa Barbara	69.16%
Calaveras	62.99%
Ventura	69.26%
Los Angeles	64.06%
Sonoma	75.39%
Kings	45.41%
San Diego	65.91%

Average percentage of area that is in burn window during selected days

Geographical image



SPARX BENEFITS

Easily accessible
burn window data



Easy to plan fires



More
prescribed fires

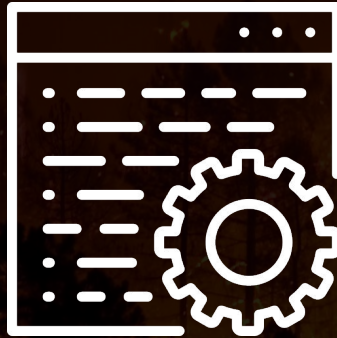
A white bracket spanning the width of the three text blocks above it, pointing downwards towards the final text.

**LESS WILDFIRES,
BETTER ENVIRONMENT**

SPARX FUTURE PLANS



Be capable of
multiple users



Optimize calculation
and load time



Add more data
for meteorological layer
using PRISM Climate
Data

SPARX BUSINESS CASE

Revenue

Product = Free

Online ad = \$ 100,000
per 1 million users

Cost

Human Resource = \$ 40,000

Maintenance = \$ 5000

Server = \$ 500

+ \$ 54,500 / month



Improve the environment
with **our dashboard SPARx**,
prevent a **wildfire** near you