
California Wildfire Data

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About this Template

- This deck provides a **basic template** for how to structure your presentation
 - This is a very simple template. Make sure to highlight your visualization choices and user previous guidance from the design reviews to guide the content you include in this presentation
 - It does **not provide a visual/aesthetic** representation. Please find or create a slide template that best fits your project.
 - Just like your notebooks, start with a captivating/compelling **hook!** 🎧
 - We **encourage significant** use of **images, animated gifs, and videos** (aim for one per slide)
 - Do **not include long blocks text** on the slides. Short bullets.
 - **All team members are required** to contribute to the presentation
 - You should **rehearse** with your partner
 - Make sure to include a **LINK** to your observable notebook in your presentation
 - You'll do great! 🙌
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Project Goal

California is an area prone to wildfires, and since at least 2000, over one hundred thousand acres of California is burned each year.



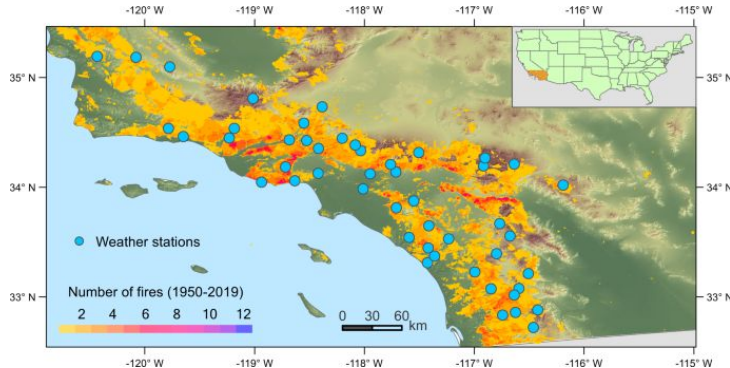
Our goal with this project is to better understand how California is affected by these wildfires, where they occur, and how much damage they do.

Project Motivation

With over 100,000 acres burned every year, wildfires are not going away.

People will continue to be displaced, and wildlife will continue to be affected.

The most recent Eatons and Palisades fires displaced over 150,000 residents (Lozano), destroyed over 16,000 structures and buildings, and many remain displaced still two months after. (Greene)



Knowing how California wildfires behave is crucial to predicting when and where they may occur, the damage to be expected, and what kind of response is necessary for each one.

Key Questions

- What areas are affected by the fires?
- What are the economic impacts of the wildfires?
- What is the top priority for rebuilding?



Approach

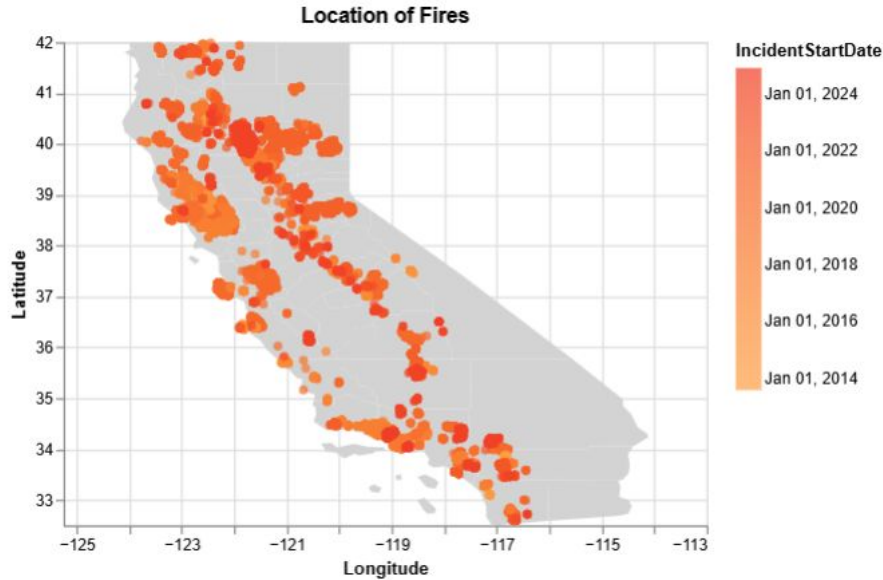
In addressing these questions, we used observable to create an interactive notebook.

This notebook is intended to be used by actuaries and insurance workers, as well as government officials, city planning, and construction workers.

Our dataset comes from kaggle, and while not endorsed, was compiled using data published by the CA Natural Resources agency, and collected by CAL FIRE, NFIC, and FIRIS.

[Dataset](#)

What areas are affected by the wildfires?



This visualization is used to showcase where the fires are occurring, and the date each fire began starting in 2014.

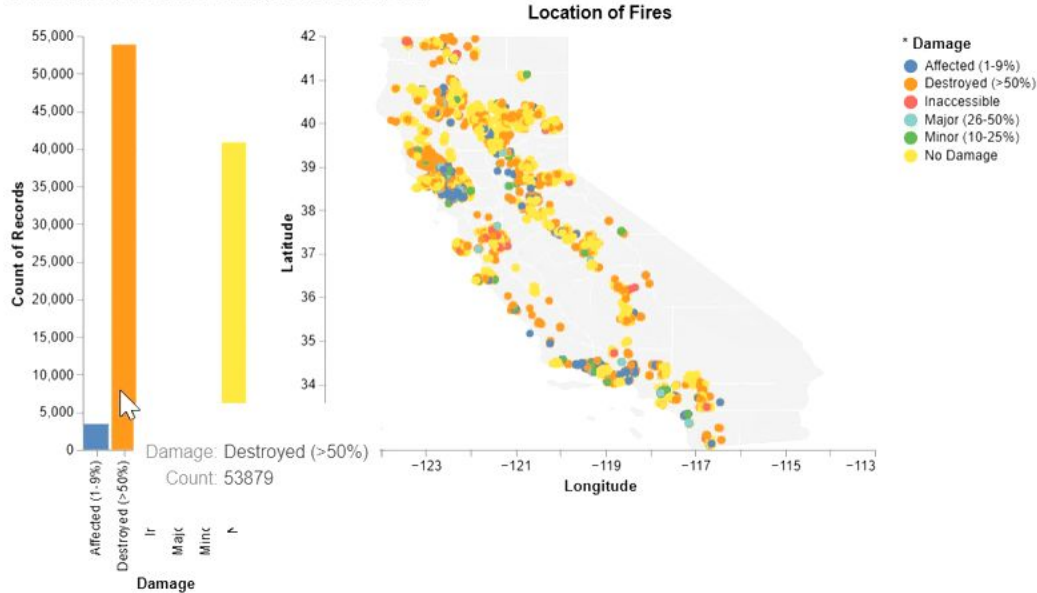
From here, it's easy to see that Northern California and areas along the coast are the most prone to suffering from wildfires

Link to the notebook: <https://observablehq.com/d/2a7bda9ef8d4d671>

What areas are affected by the wildfires?

Map of Fire Damage

Click to Specify the Level of Damage, Doubleclick to clear

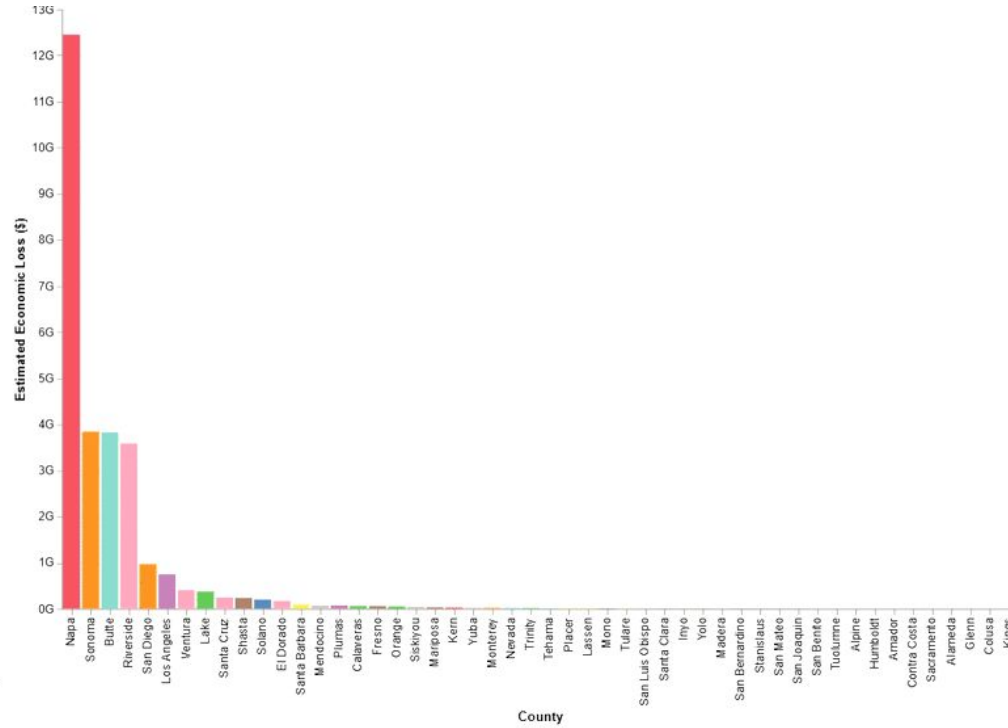


This visualization is used to showcase the intensity of the fire damage on different buildings and areas.

It also provides insight into the behavior of the fire. The two leading categories are “No Damage” and “Destroyed”

Link to the notebook: <https://observablehq.com/d/2a7bda9ef8d4d671>

What are the economic effects of the wildfires?

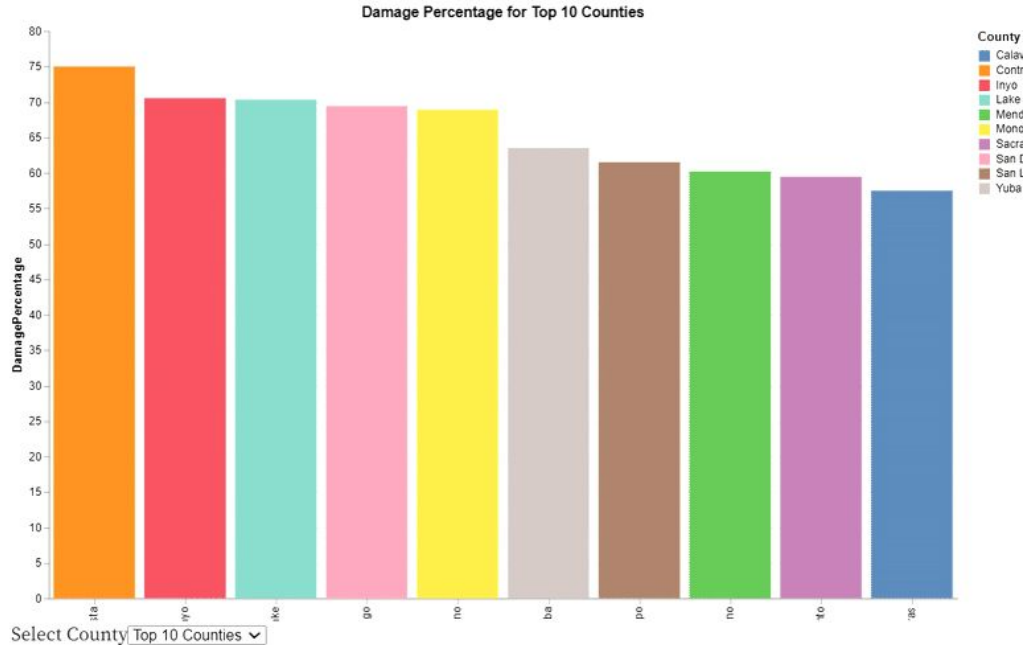


The estimated economic loss for each counties here are computed using a combination of the amount of damage, and assessed improved value of each structure. We can see that Napa suffered the highest economic losses, followed by Sonoma and Butte.

Link to the notebook:

<https://observablehq.com/d/2a7bda9ef8d4d671>

What are the economic effects of the wildfires?



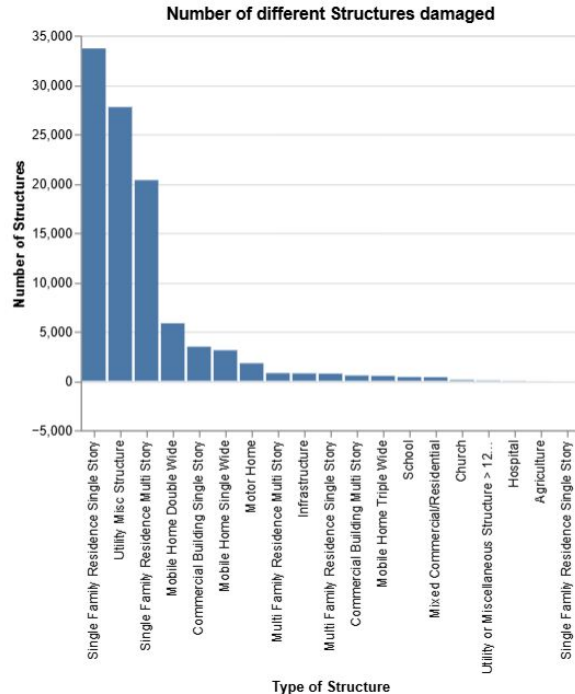
The economic effects here are computed using estimated monetary value and total assessed value, to show the average damage percentage of all reported structures in each county. Contra Costa had the highest damage rate of 75%, while Glenn had the lowest rate of only 0.51%.

Link to the notebook:

<https://observablehq.com/d/2a7bda9ef8d4d671>

What is the top priority for rebuilding?

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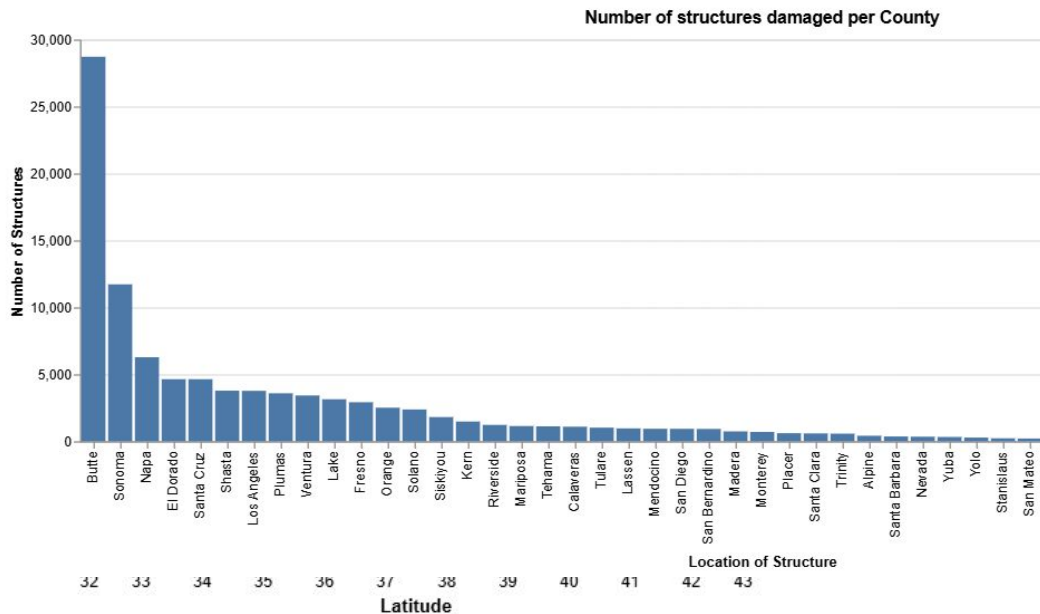
The largest type of building destroyed has been single family residences and miscellaneous utility structures

This means lots of people are being displaced by wildfires every year, and the structures necessary to support human activity get wiped out, making relief much harder.

Link to the notebook:

<https://observablehq.com/d/2a7bda9ef8d4d671>

What is the top priority for rebuilding?



The county that's suffered the most from fire damage is Butte, with over 28,000 structures damaged by fires over the past ten years.

Second and third are Sonoma and Napa County, with over 11,000 and 6,000 structures noted.

Link to the notebook: <https://observablehq.com/d/2a7bda9ef8d4d671>

Conclusion

This work is known to be out of date, especially with the most recent Eaton's and Palisades fires.

Additionally, while it provides a basic overview, it does not provide information about how to utilize it.



It also does not take into account the current state of California's Natural Disaster response situation, nor the budget or manpower available.

Ultimately, we built a notebook that provides basic information on California wildfires, and future work could look like a denser specified report.

Citations

Greene, Sean, et al. *Mapping the Damage from the Eaton and Palisades Fires*, Los Angeles Times, 16 Jan. 2025,
www.latimes.com/california/story/2025-01-16/mapping-los-angeles-damage-from-the-eaton-and-palisades-fires-altadena-pasadena

Lozano, Alicia. *Their Homes Remain Standing, but These L.A. Wildfire Victims Still Might Lose Them*, NBCUniversal News Group, 6 Mar. 2025,
www.nbcnews.com/news/us-news/california-fire-victims-are-limbo-wait-insurance-payouts-rcna193922

Kaggle Dataset URL:
<https://www.kaggle.com/datasets/vijayveersingh/the-california-wildfire-data>
