



Community Wildfire Risk Reduction and Alignment

What has changed?

- Significant Increase in Fuel Loading
- More Development in Fire Dependent Landscapes
- Increasing Vapor Pressure Deficit
- Increasing Exposure to Extreme Fire Weather

Reduction in “Good Fire” Throughout the Watershed

WILDFIRE EXTENT

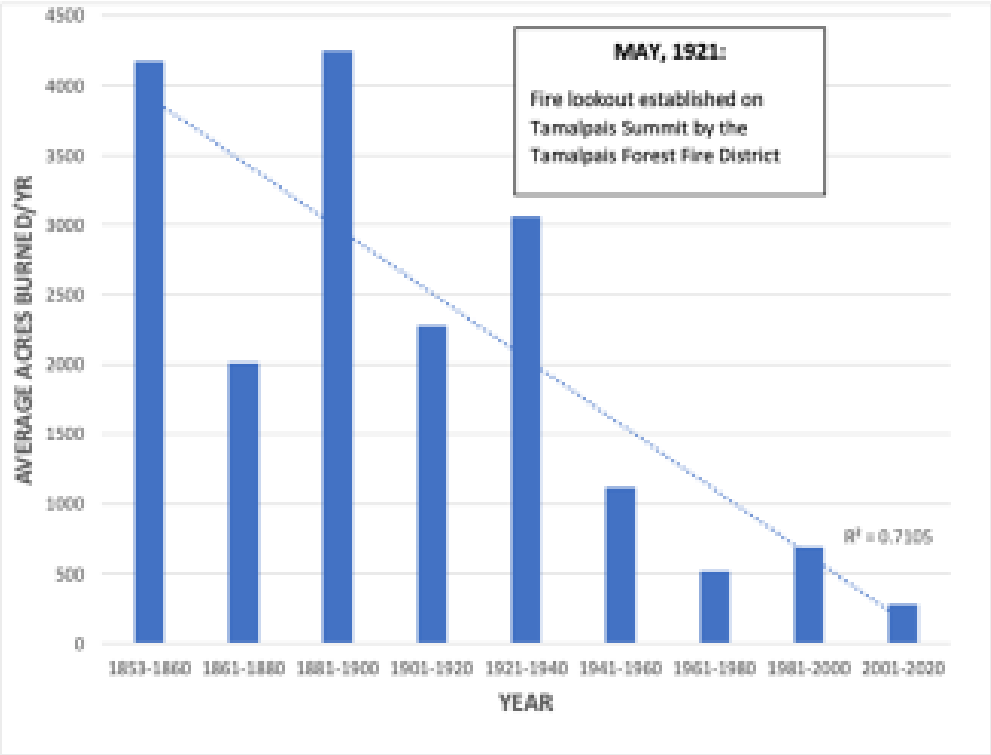


Figure 6. Average Acres Burned per Year in 20-year increments, 1852 - 2020

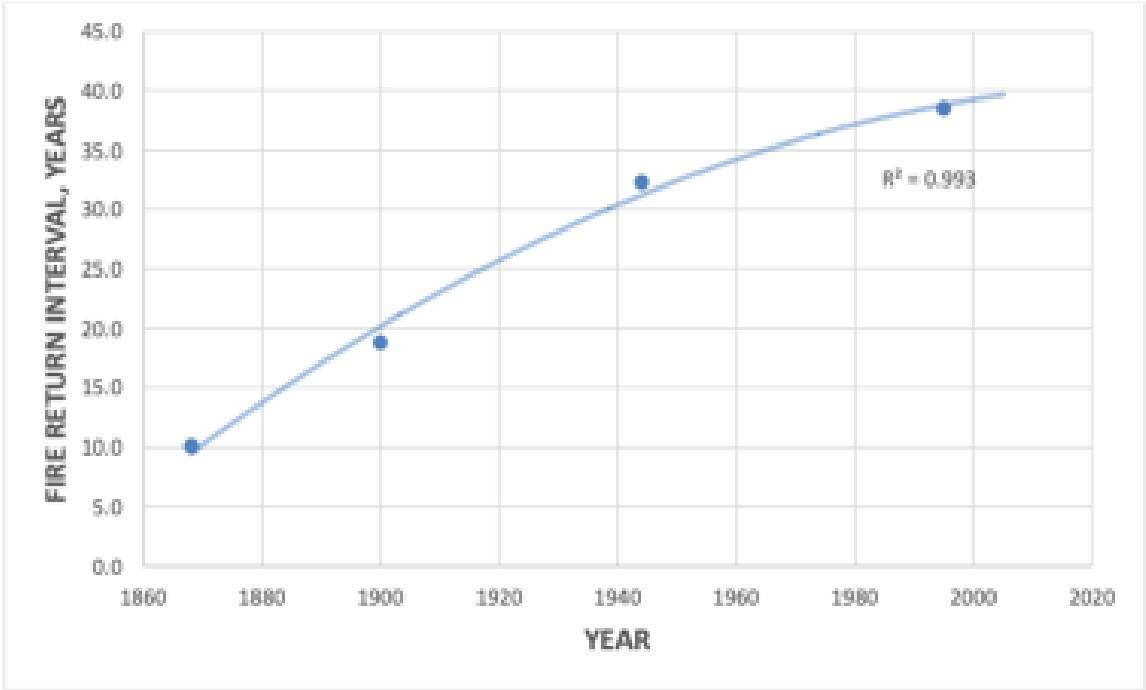


Figure 5. Average Fire Return Intervals using Mid-points of Early & Later Pre-CALFIRE, and Early & Recent CALFIRE Eras: 1868, 1900, 1944, 1995

California's Vapor-Pressure Deficit Is the Highest on Record

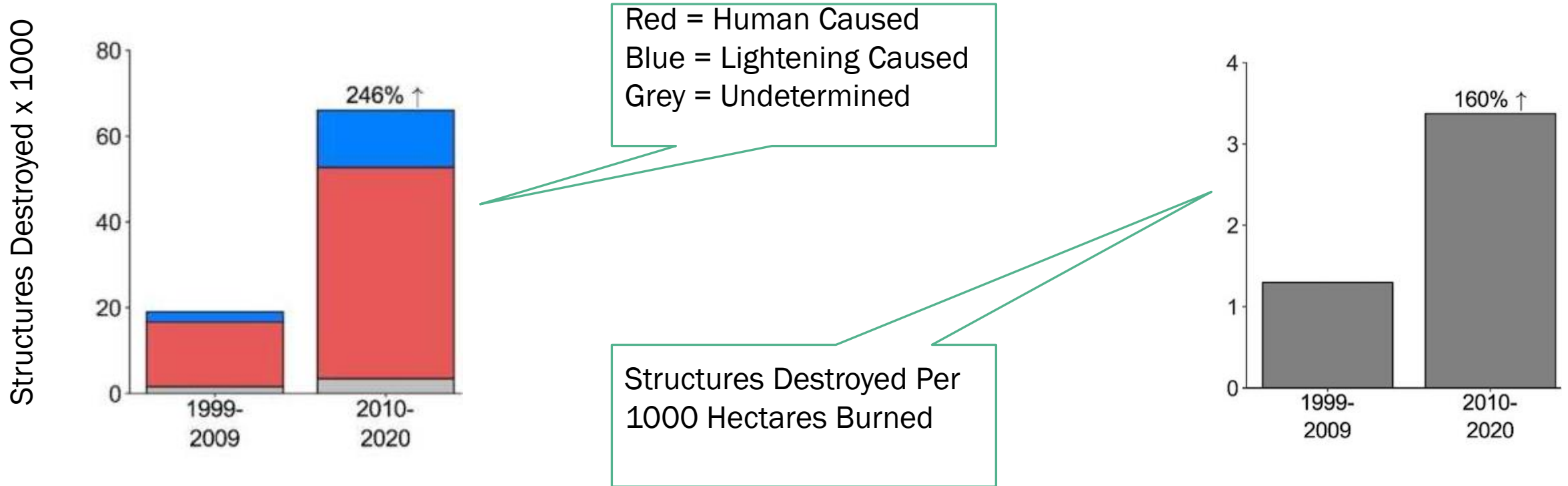


SOURCES: PARK WILLIAMS, TOPOWX, NOAA CLINGRID, PRISM DATASET

Source:
<https://www.theatlantic.com/science/archive/2020/09/most-important-number-for-the-wests-wildfires-california/616359/>

The vapor-pressure deficit in August in California, as calculated by Park Williams

We are Responding to Unprecedented Environmental and Property Losses



Source: <https://phys.org/news/2023-02-western-wildfires-destroyed-homes-decade.html>

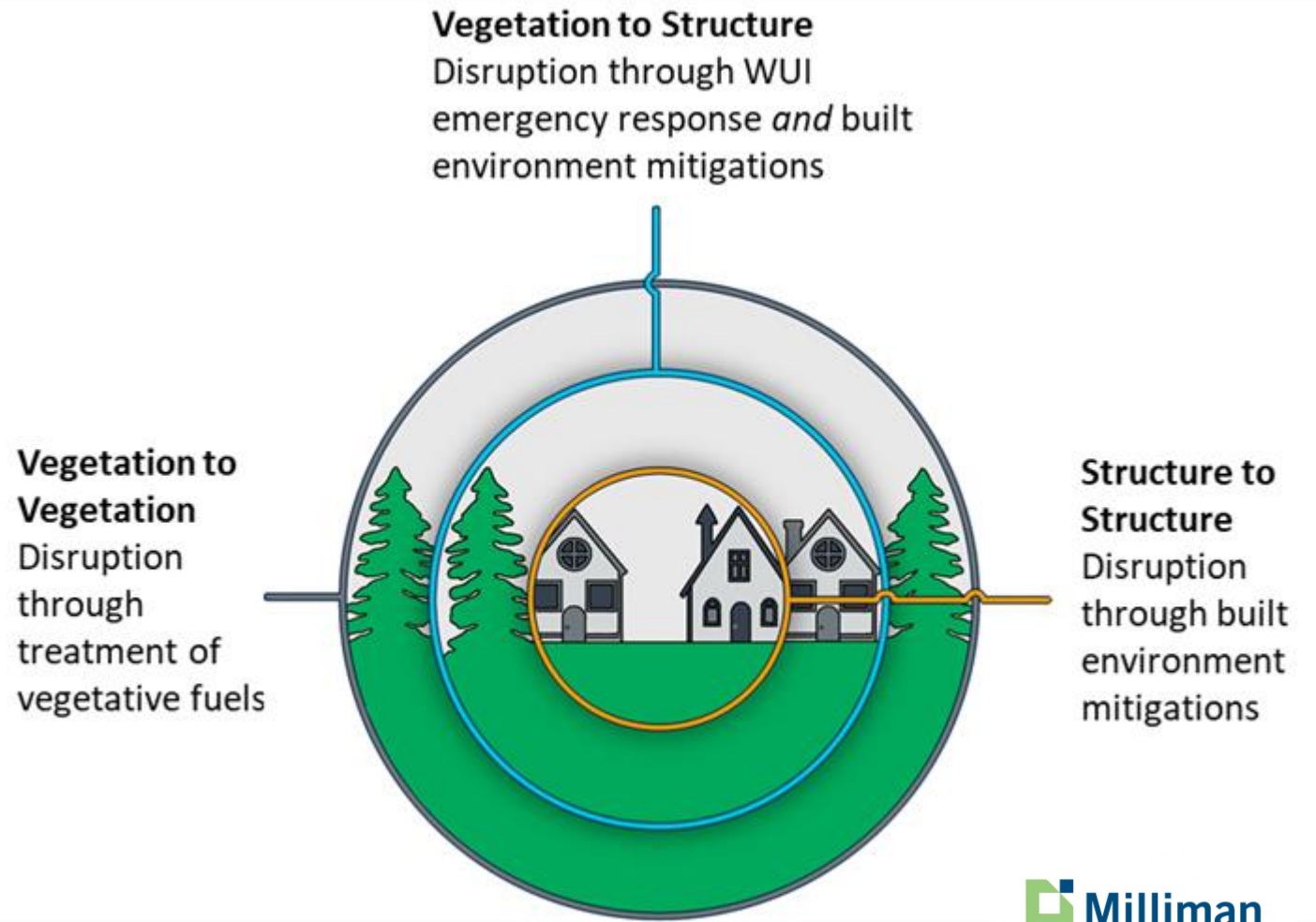
Pathways

Wildfire enters communities via (3) pathways

- Vegetation to vegetation
- Vegetation to structure
- Structure to structure

Our goal is to disrupt these pathways in verifiable ways

- Fuel Treatments
- Defensible Space
- Home Hardening
- WUI Suppression Response





CoreLogic

Milliman

[Report Here:](#)

A MILLIMAN AND CORELOGIC REPORT
Prepared with Funding from the California Resilience Challenge Grant

Town of Paradise California Resilience Challenge Task 1 to Task 4

Risk Reduction, Climate Change, and Insurance Premiums

April 2023

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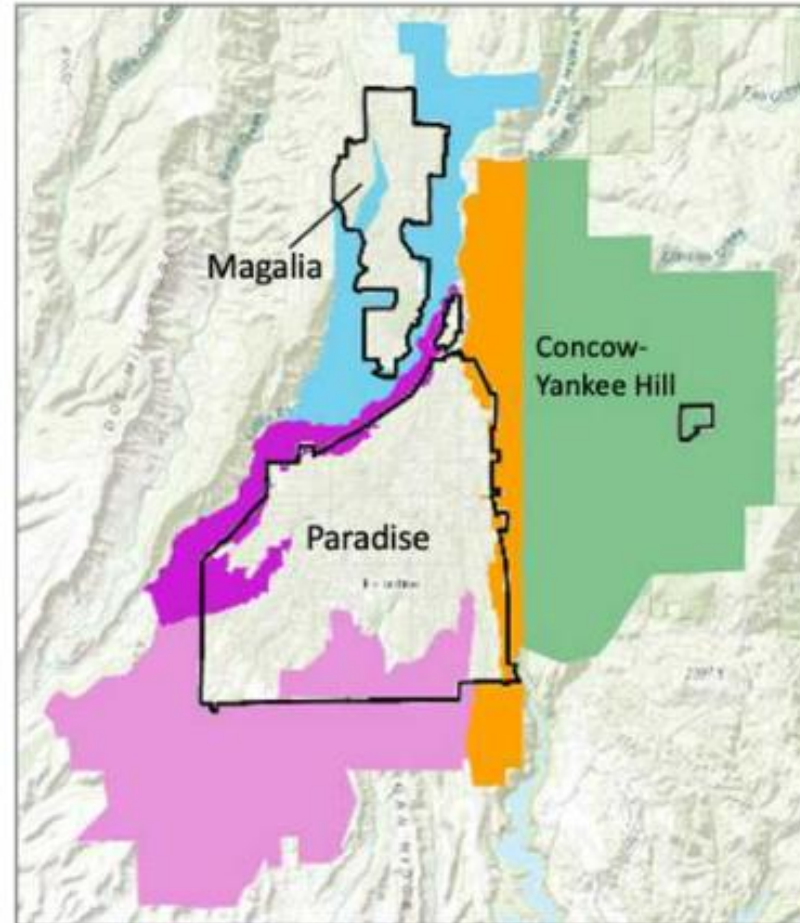
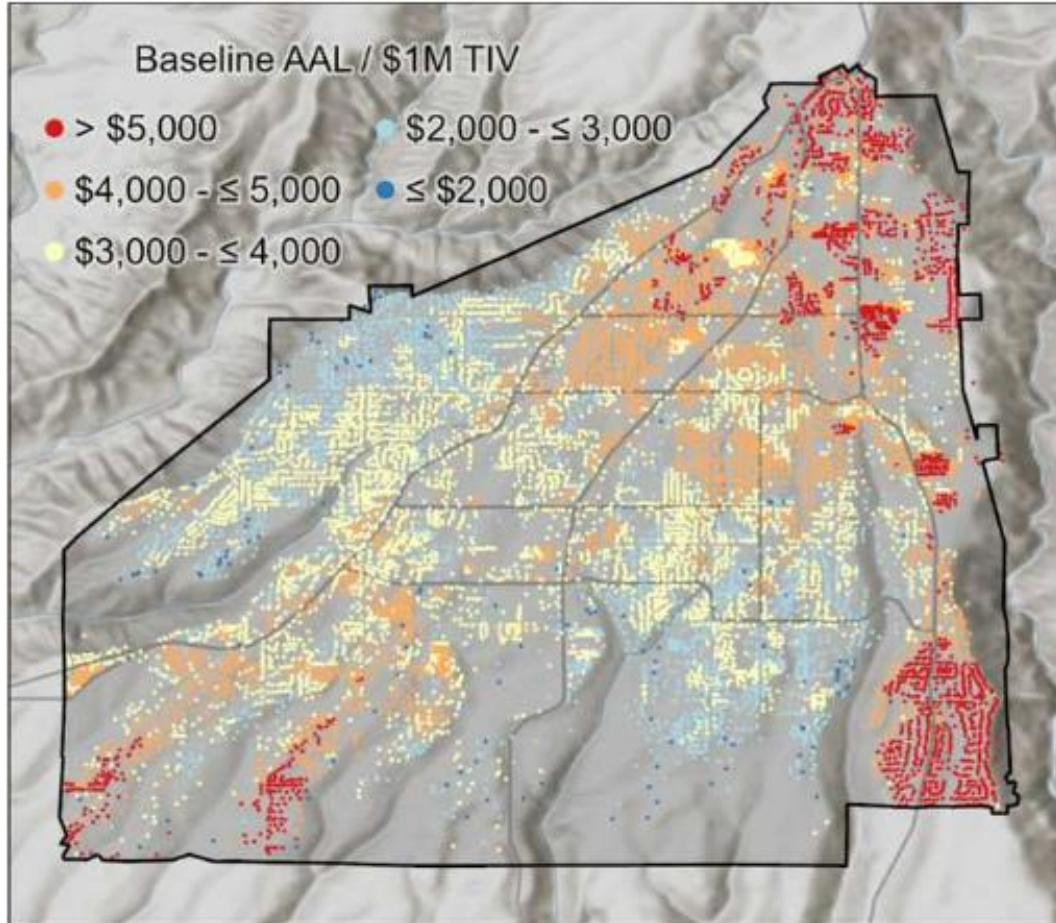
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[Report Here:](#)

Market Forces Risk Valuation



Market Forces Mitigation Valuation

FIGURE 9A (LEFT): CHANGE IN AAL DUE TO BASE MITIGATION, IN PERCENTAGE OF BASELINE AAL
FIGURE 9B (RIGHT): CHANGE IN AAL DUE TO BASE MITIGATION, IN DOLLARS

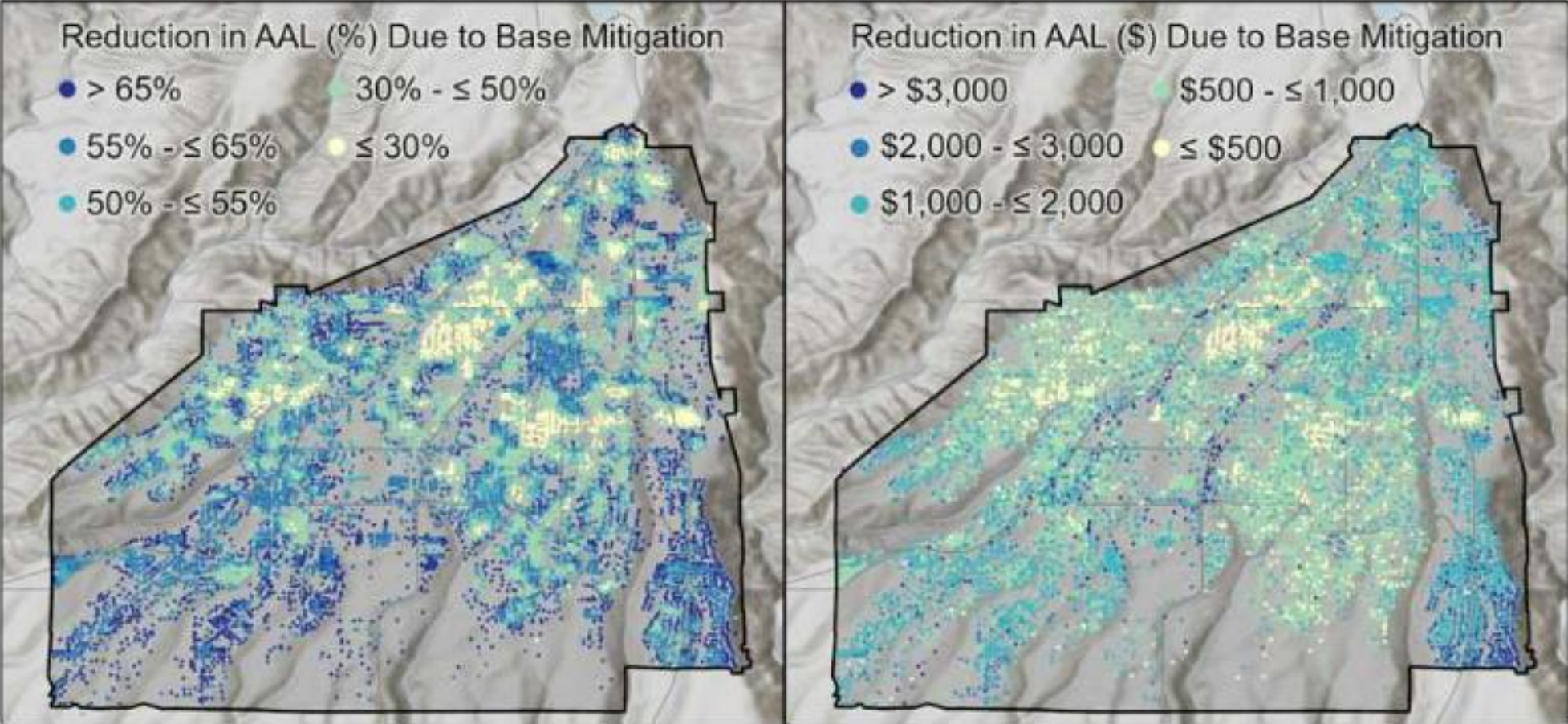
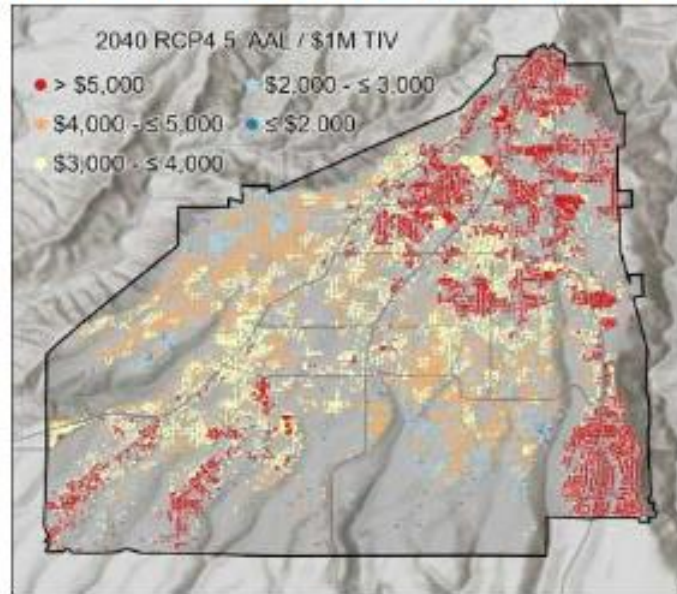
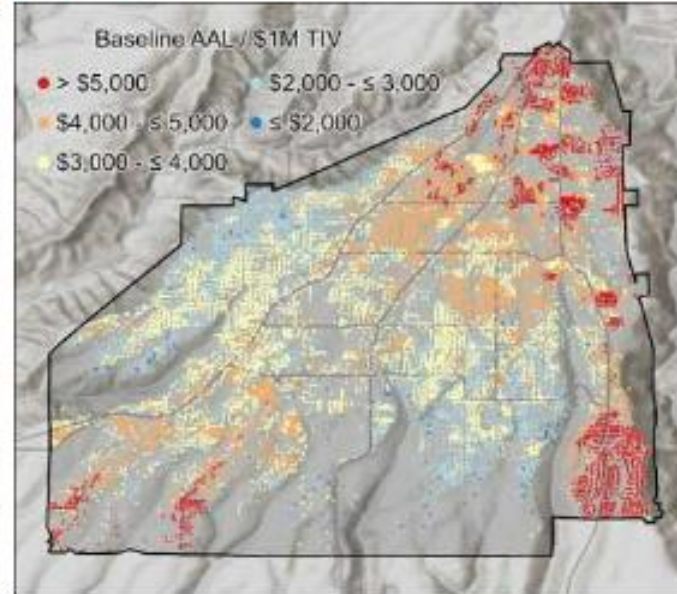


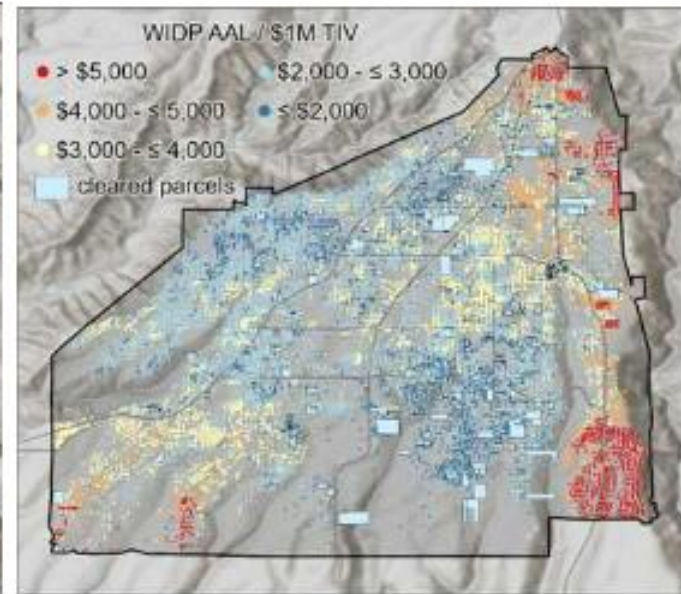
FIGURE 12: CORELOGIC V22.1 AAL / \$1M TIV FOR SELECTED SCENARIOS



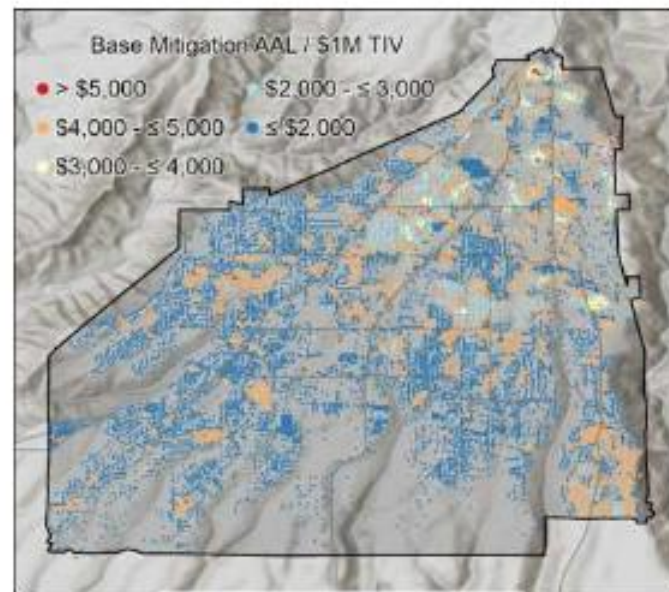
2040 RCP4.5 Scenario



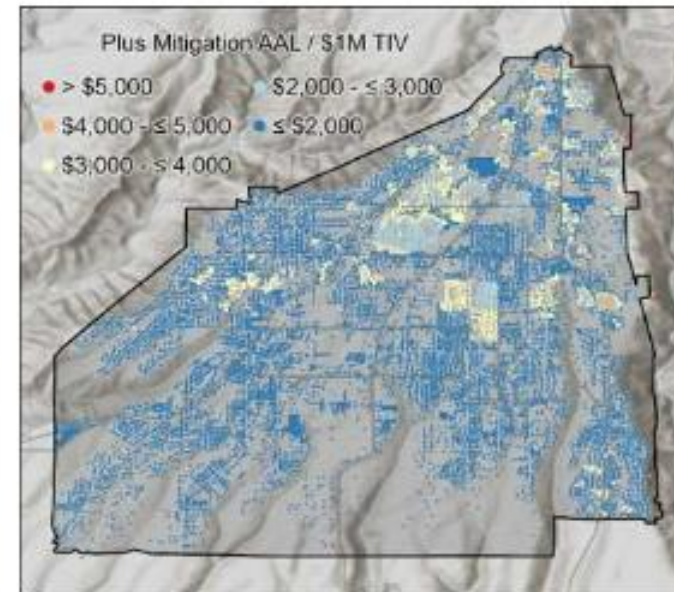
Baseline Scenario



WIDP Scenario



Base Mitigation Scenario



Plus Mitigation Scenario

A small, two-story house with a black roof and white trim is on fire. The fire is concentrated on the left side of the house, with bright orange and yellow flames and thick white smoke rising from the ground. The house is situated in a large, open indoor arena with a concrete floor. In the background, two firefighters in full gear are visible near a fire truck. The scene is lit with dramatic, low-key lighting, emphasizing the fire.

10 minutes of ember exposure.





WILDFIRE
PREPARED
A PROGRAM OF IBHS

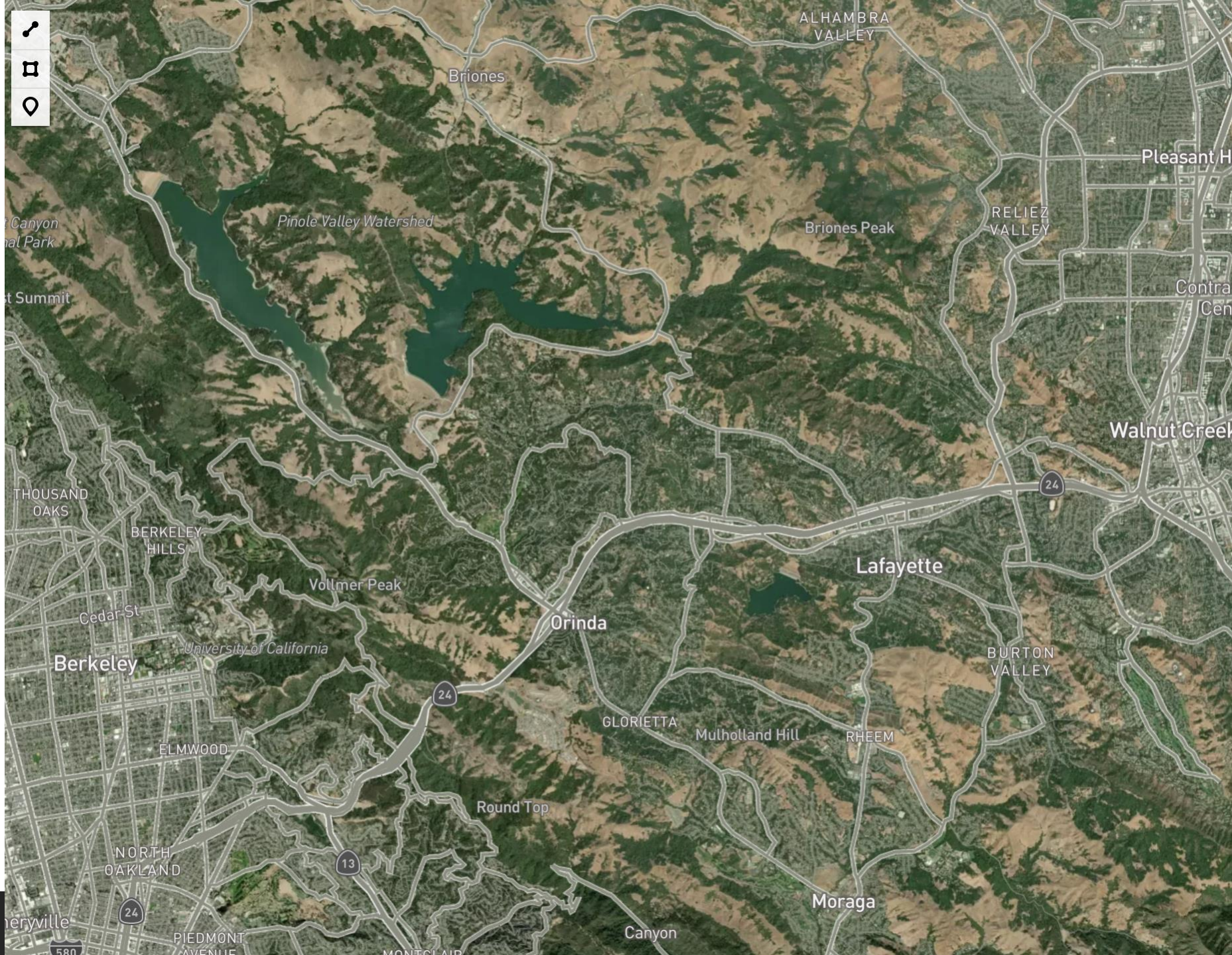
"We could no longer
be spectators."



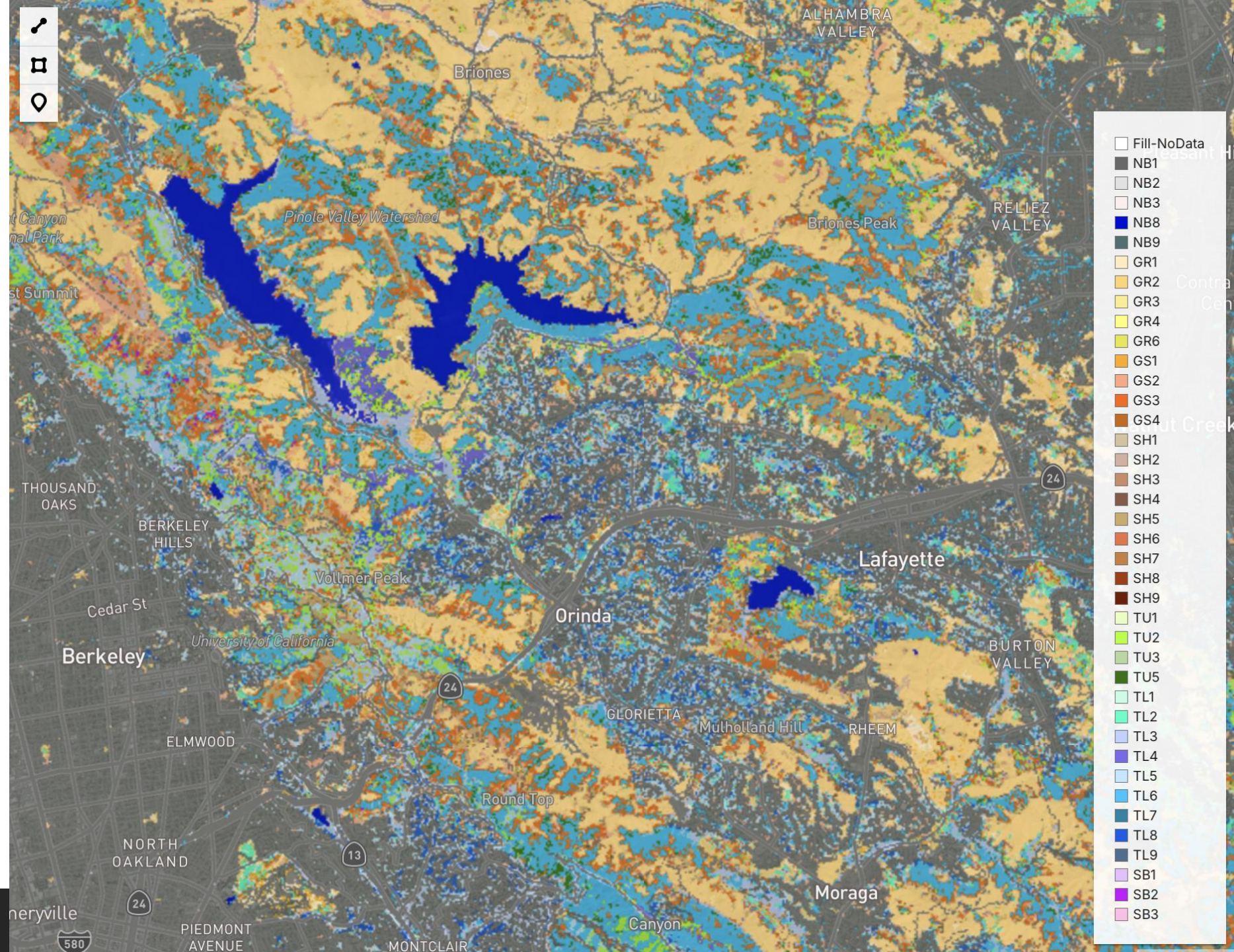
- *Community Member
Botania, Chile*

Comprehensive Wildfire Risk Mapping

Wildfire Pathway Modeling



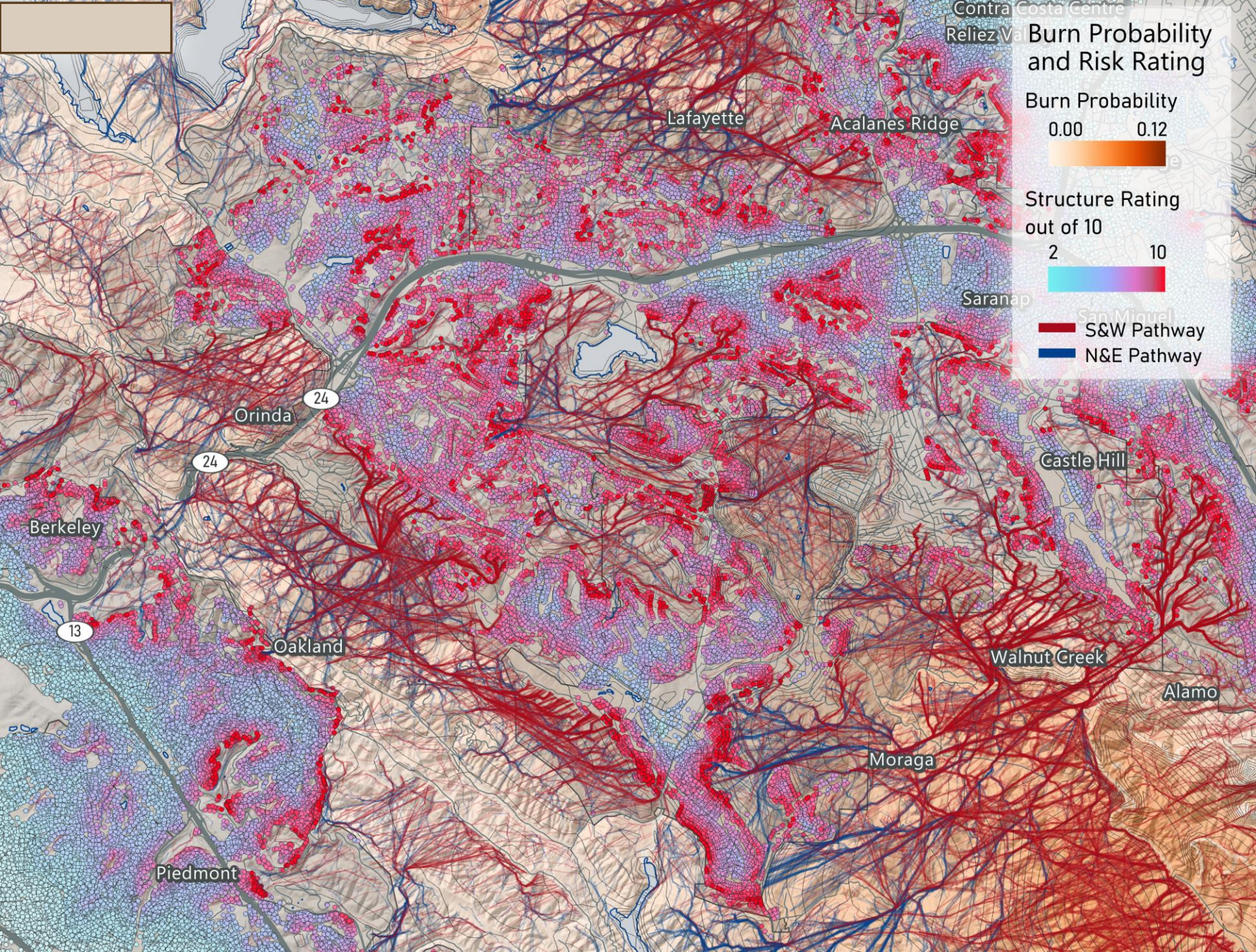
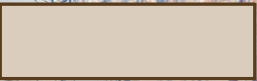
Wildfire Pathway Modeling



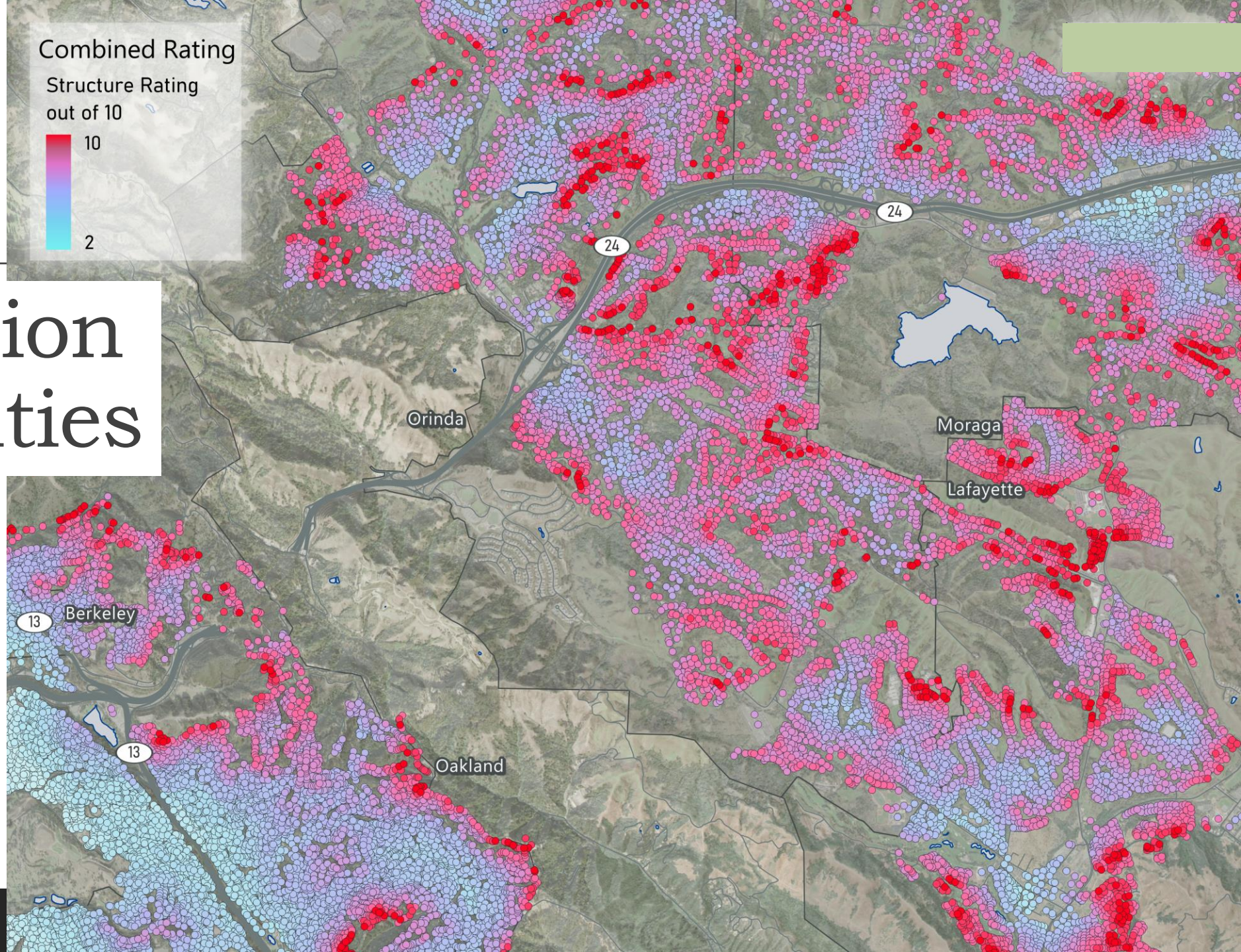
Fuel Break Placement and LANDFIRE Visibility



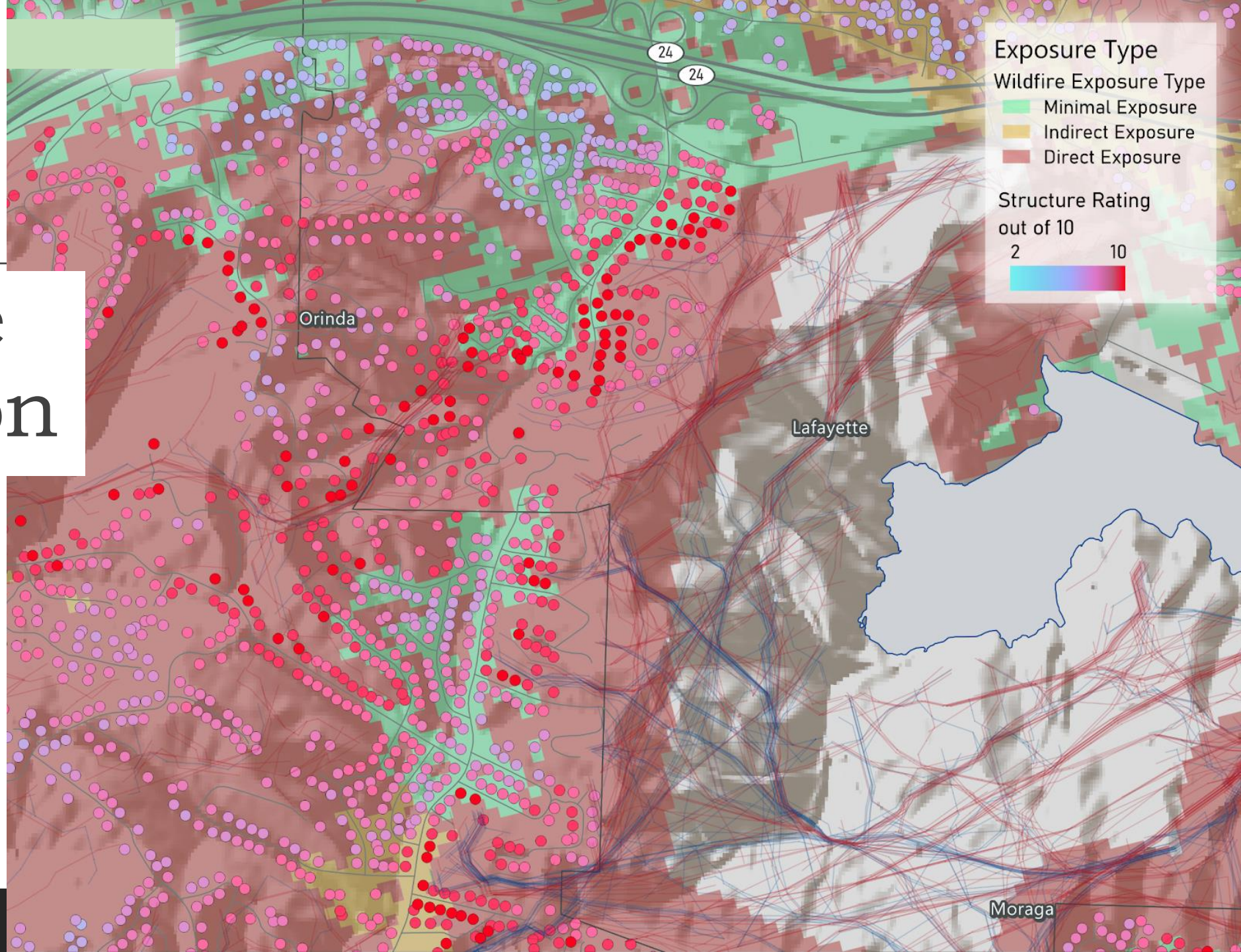
Wildfire Pathway Modeling



Conflagration Vulnerabilities



Exposure Comparison



Urban Fire Spread

Fire entrypoint set at: -122.15612, 37.88110

Wind Direction: Northeast

Wind Speed 25 mph



Timesteps 180 minutes



Advanced Controls

Ember Resistance Frequency 0



Firefighting Ratio 0



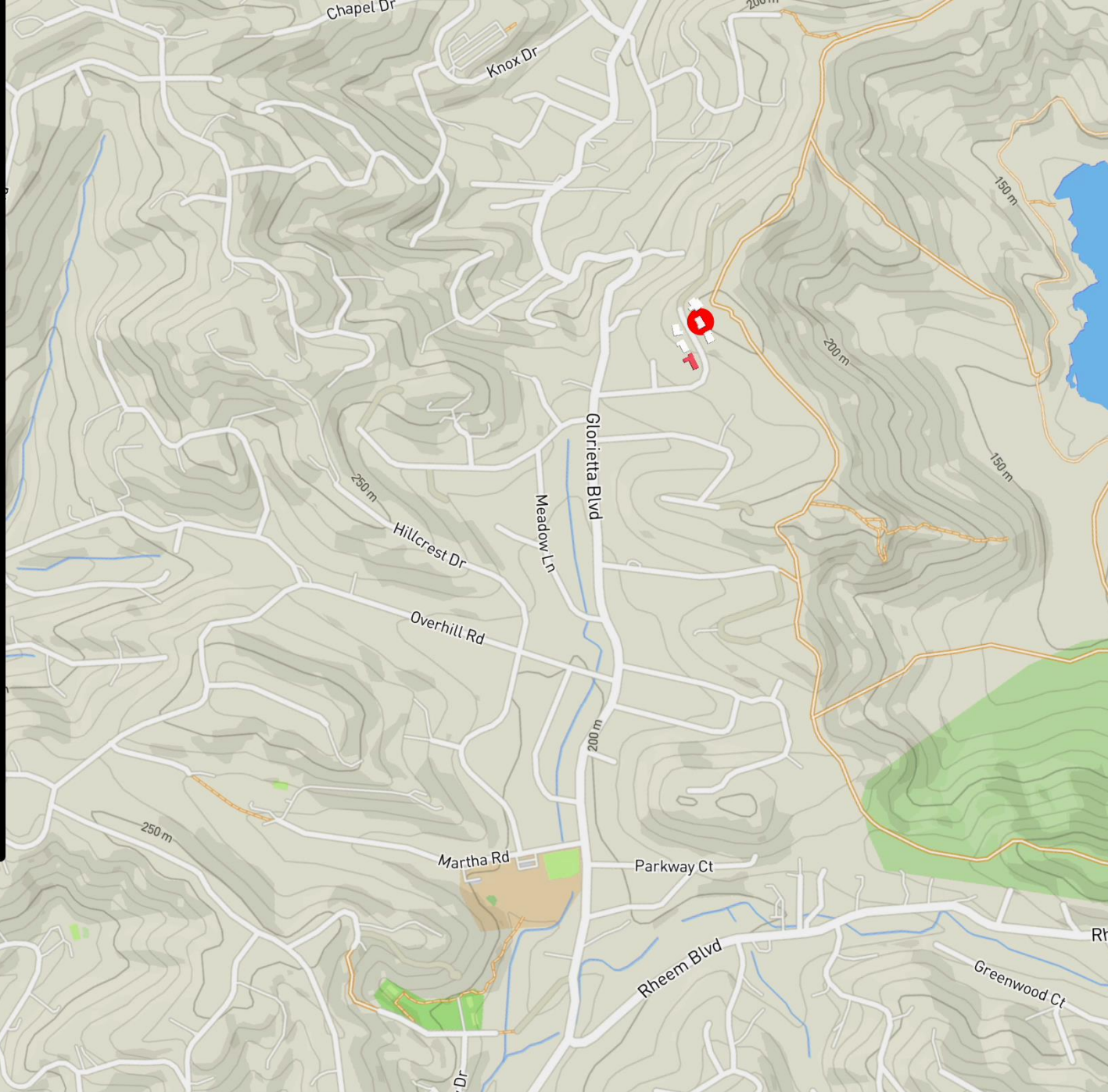
Entrypoint Width 50 meters



Entrypoint Ignition Resistance 0



Simulate Fire Spread



Simulation Results

Color by: Time

Animation Controls:

Play Stop

Animation Progress:



Show Nodes

Show Edges

Show Embers

Building Count: 525

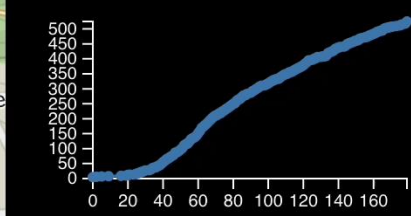
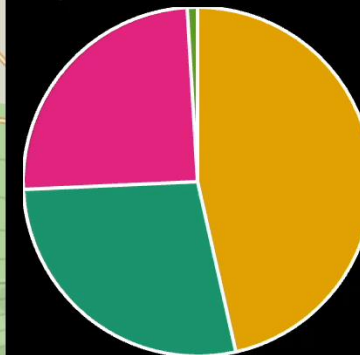
At Entrypoint: 5

Structure-to-Structure: 244

Continuous Fuels: 146

Structure-Sourced Ember: 130

Vegetation-Sourced Ember: 0



Urban Fire Spread

Fire entrypoint set at: -122.15587, 37.87340

Wind Direction: Northeast

Wind Speed 25 mph

Timesteps 180 minutes

Advanced Controls

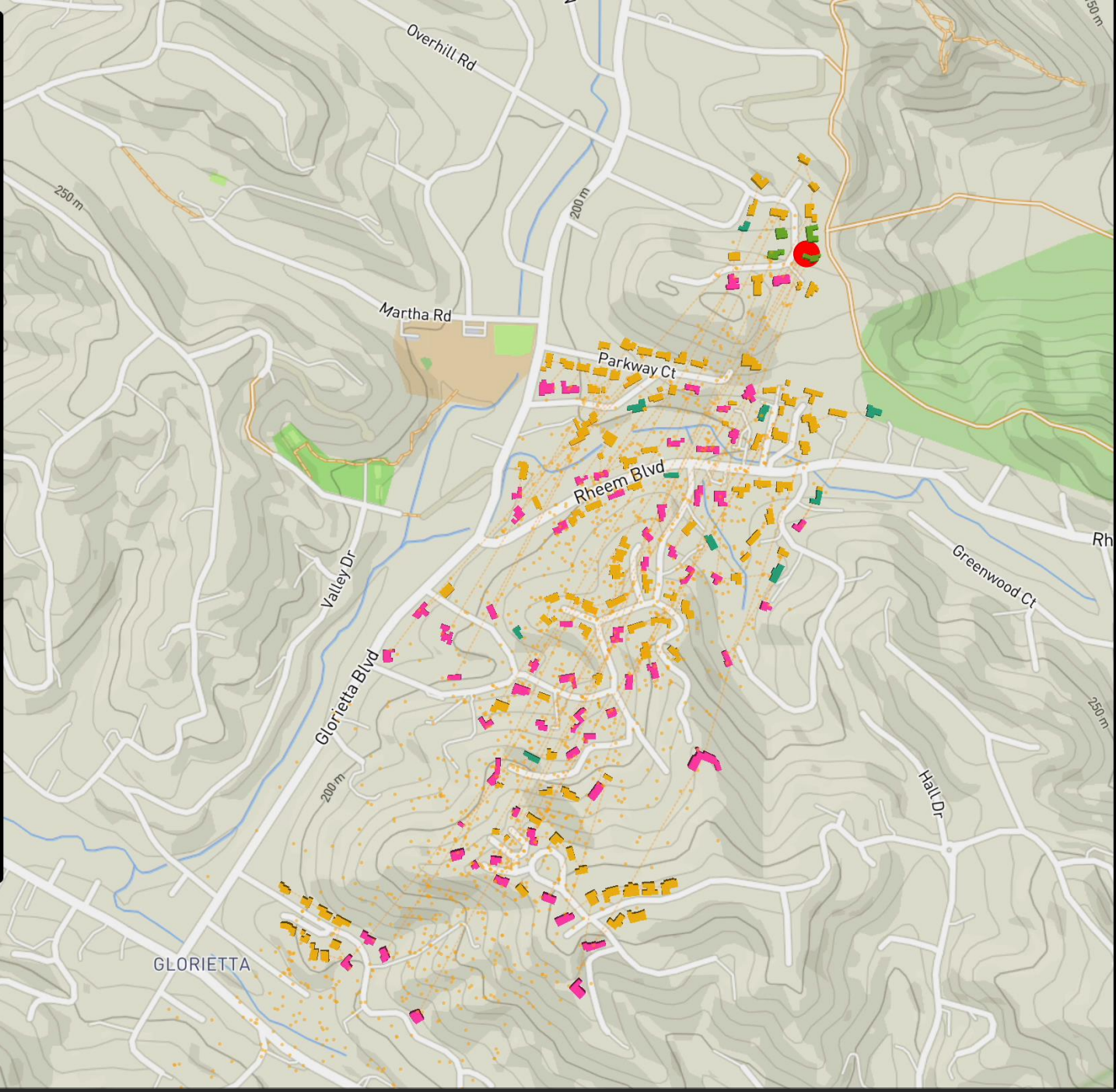
Ember Resistance Frequency 0

Firefighting Ratio 0

Entrypoint Width 50 meters

Entrypoint Ignition Resistance 0

Simulate Fire Spread



Simulation Results

Color by: Ignition Reason

Animation Controls:

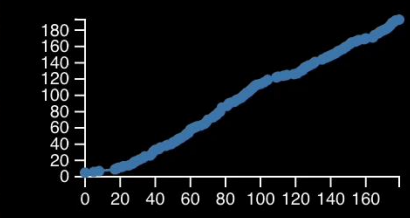
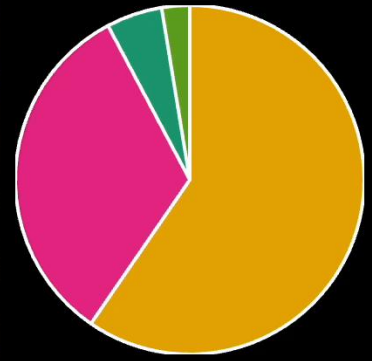
Play **Stop**

Animation Progress:



- Show Nodes
- Show Edges
- Show Embers

Building Count: 193
At Entrypoint: 5
Structure-to-Structure: 115
Continuous Fuels: 10
Structure-Sourced Ember: 63
Vegetation-Sourced Ember: 0



Search

CDI Safer From Wildfires Program

CDI Safer From Wildfires

Being Safer from Wildfires Can Help With Your Insurance



Safer from Wildfires is a ground-up approach to wildfire resilience with three layers of protection — for the structure, the immediate surroundings, and the community. Following these achievable steps can help you save money on your insurance.



Safer from Wildfires was created by an interagency partnership between Insurance Commissioner Ricardo Lara and the emergency response and readiness agencies in Governor Gavin Newsom's administration. Learn more at insurance.ca.gov

3 Ways to Get Started with Safer from Wildfires

Don't know where to start? Here are 3 low-cost steps you can take today.



Keep embers out

Installing 1/16 to 1/8 inch noncombustible, corrosion-resistant metal mesh screens over attic vents can keep wind-blown embers out of your house.



Clear the first 5 feet

Removing greenery and replacing wood chips with stone or decomposed granite 5 feet around your home prevents fire from getting a foot in the door.



Be safer together

With Firewise USA, communities as small as 8 dwelling units or as big as 2,500 can create an action plan and start being safer together. Firewise USA is a nationally recognized program with proven results, sponsored by the National Fire Prevention Association.

Do more, save more

Every action under **Safer from Wildfires** will qualify you for an insurance discount. By doing more, you can save more.

- Class A fire-rated roof
- 5-foot ember-resistant zone around the structure
- Noncombustible 6 inches at the bottom of walls
- Ember- and fire-resistant vents
- Double pane windows or added shutters
- Enclosed eaves
- Cleared vegetation and debris from under decks
- Move sheds and outbuildings at least 30 feet away
- Trim trees and remove brush in compliance with state and local defensible space laws
- Neighborhoods can form a Firewise USA community
- Cities, counties, and local districts can become certified as a Fire Risk Reduction Community

Scan to find more resources



CDI Safer From Wildfires

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Fire District Inspection and Fuel Reduction Priorities

- [Fuel Breaks](#)
- [Piles and Rx Fire](#)
- [Inspection Priorities](#)

Legend

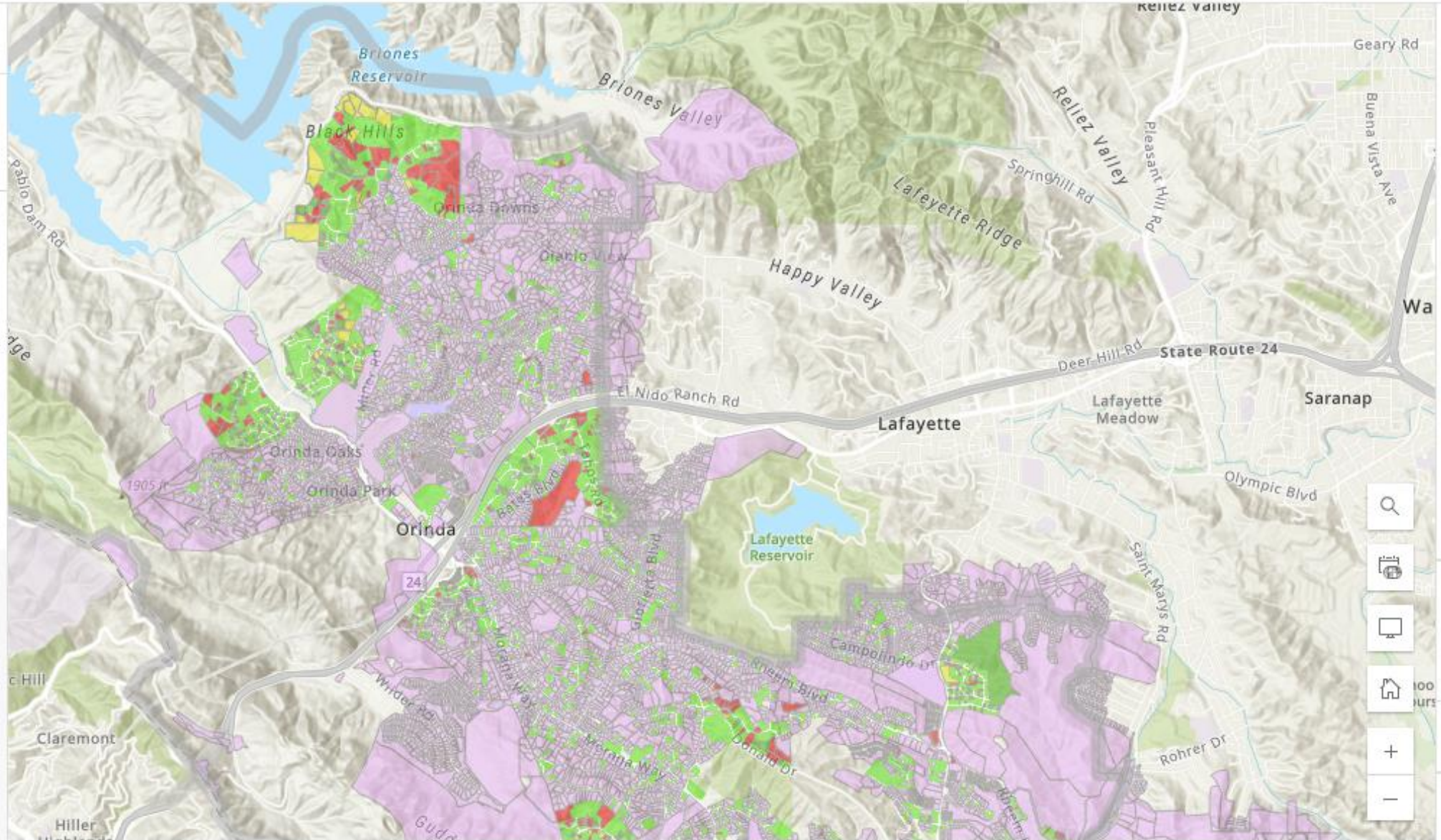


MOFD Boundary



Residential_Inspections

- Inspected, Passed
- Inspected, Passed - 2nd Inspection
- Inspection Pending
- Inspected, Not Passed
- Complaint, Inspection Pending
- default null



In Closing....

- We're at the end of the beginning; we have the ability to take meaningful action, however the time to do so is limited.
- Environmental and associated economic calamities have arrived without our permission and will continue until risk is reduced.
- We are not hapless victims, communities have agency and can survive inevitable future wildfires if they undertake mitigations that significantly reduce the probability of conflagration level losses.