



WILDFIRE

Assessing Risk and Prioritizing Response

OVERVIEW OF DECISION SUPPORT TOOLS

Tool	Domain	Use	Users
 PYRECAST™	Wildfire Forecast	Predicting fire weather and fire spread	Public, incident response teams
 WATCH DUTY	Wildfire Alert	Notify public of incidents and evacuations	Public
QWRA	Wildfire Risk Assessment	Predicting impacts to community	Fire Safe Councils, RCDs, governments, land managers, other planners
 Planscape	Mitigation and Prioritization	Planning where to do fuel reduction work	Fire Safe Councils, RCDs, governments, land managers, other planners



PYRECAST

& APPLIED FIRE MODELING

WHAT IS PYRECAST?



Platform developed as part of the CEC funded Pyregence Project.

Web-based near-term wildfire forecasting platform (<https://pyrecast.org/>).

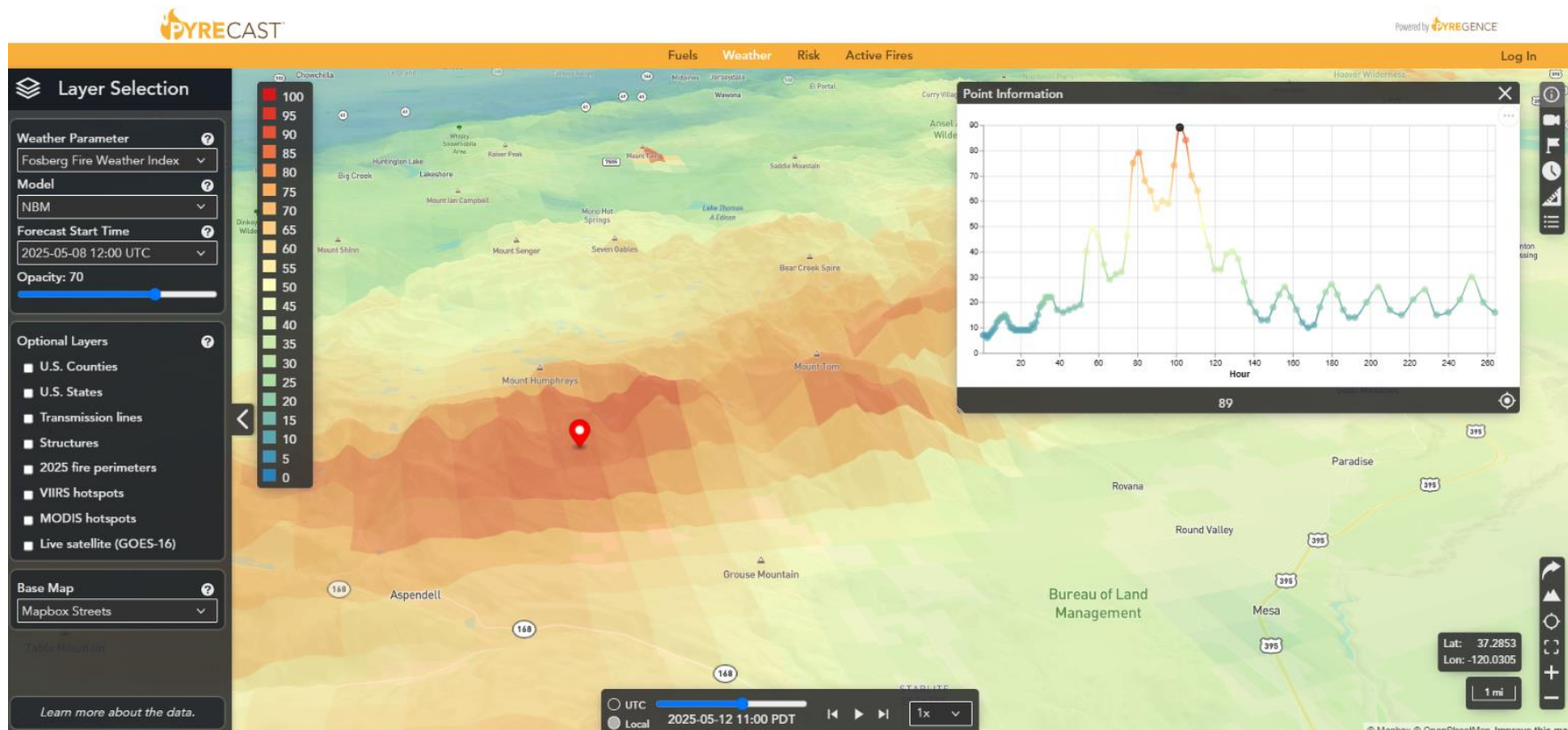
Based on open-source models and science.

Tools

- **Active Fire Forecasts:** Forecasts spread of current wildfires with animated perimeters (extended attack, 14-day forecast horizon, refreshed every 12 hours).
- **Risk/Consequence Forecasts:** Models millions of hypothetical fire ignitions to identify vulnerabilities (5-day forecast horizon).
- **Fire Weather Forecasts:** Up to 16-day outlook for key wildfire-driving weather indices (updated every 6 hours).
- **Fuels Viewer** –Allows viewing of current and historic Fire Behavior Fuel Models (FBFM40).

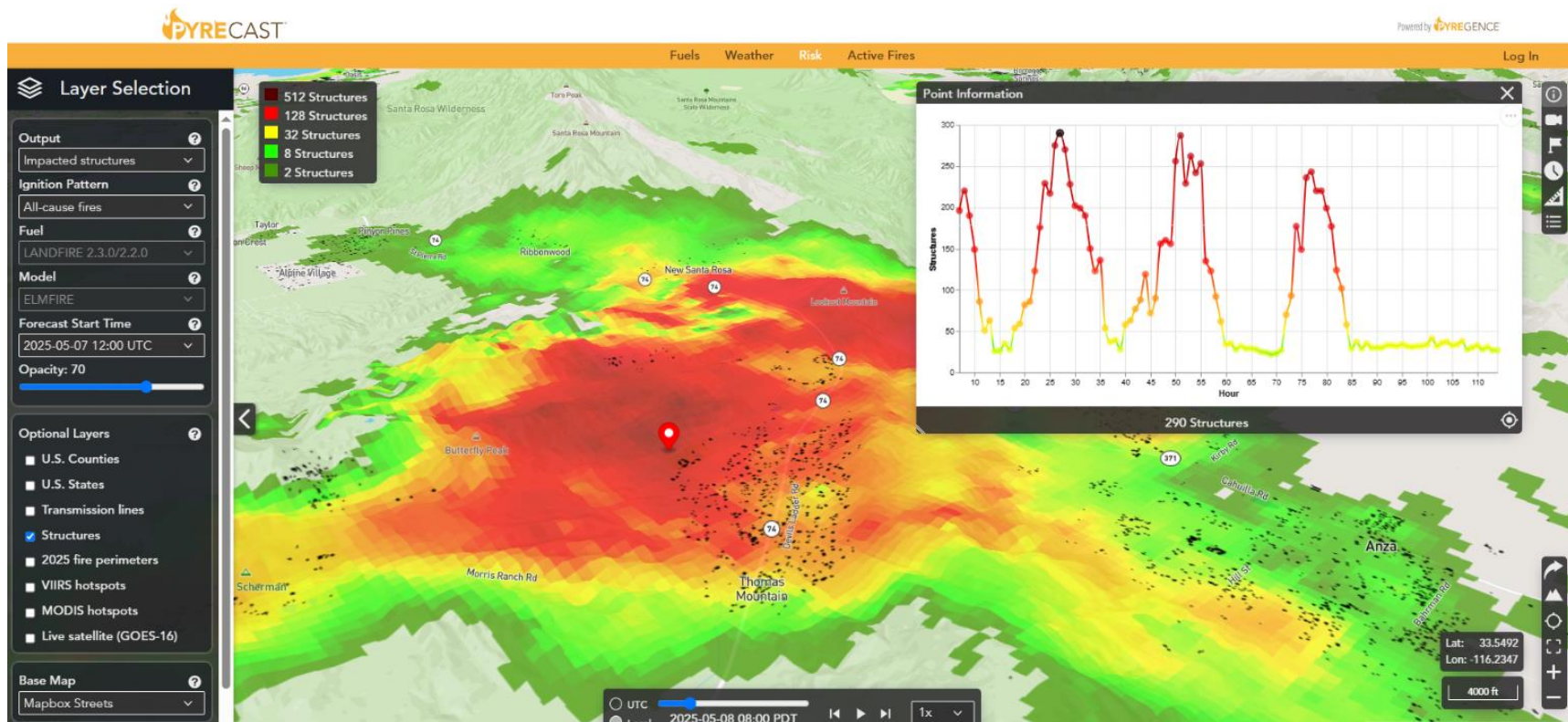
WEATHER FORECAST TOOL

Fosberg Fire Index



RISK/CONSEQUENCE FORECAST TOOL

Impacted Structures



ACTIVE FIRE FORECAST TOOL



Powered by PYREGENCE

Fuels Weather Risk Active Fires

Log In

Layer Selection

Fire Name

CA Garnet

Output

Forecasted fire location

Predicted Fire Size

Median (50th percentile)

Fuels

LANDFIRE 2.4.0/2.3.0

Weather Model

Hybrid

Model

ELMFIRE

Forecast Start Time

2025-09-02 13:04 PDT

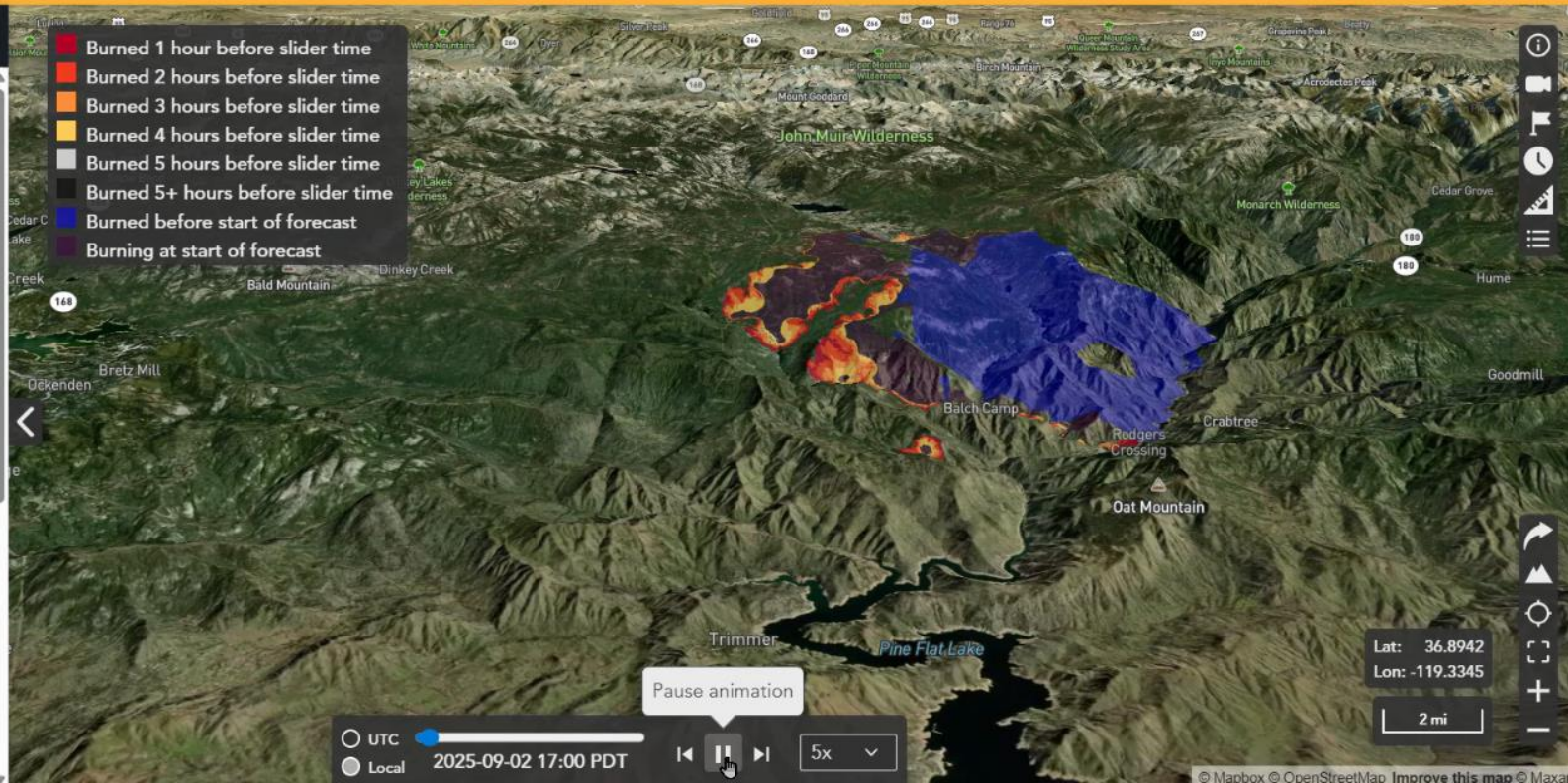
Opacity: 70

Optional Layers

☐ Modeled perimeter

☐ U.S. States

- Burned 1 hour before slider time
- Burned 2 hours before slider time
- Burned 3 hours before slider time
- Burned 4 hours before slider time
- Burned 5 hours before slider time
- Burned 5+ hours before slider time
- Burned before start of forecast
- Burning at start of forecast



Pause animation



2025-09-02 17:00 PDT



5x



FEATURES & FUNCTIONS

Conus-wide Active Fire and Weather Forecasts

Live camera feeds
(AlertWildfire/AlertCalifornia/AlertWest)

3d terrain - pan/zoom mapping

Contextual map layers

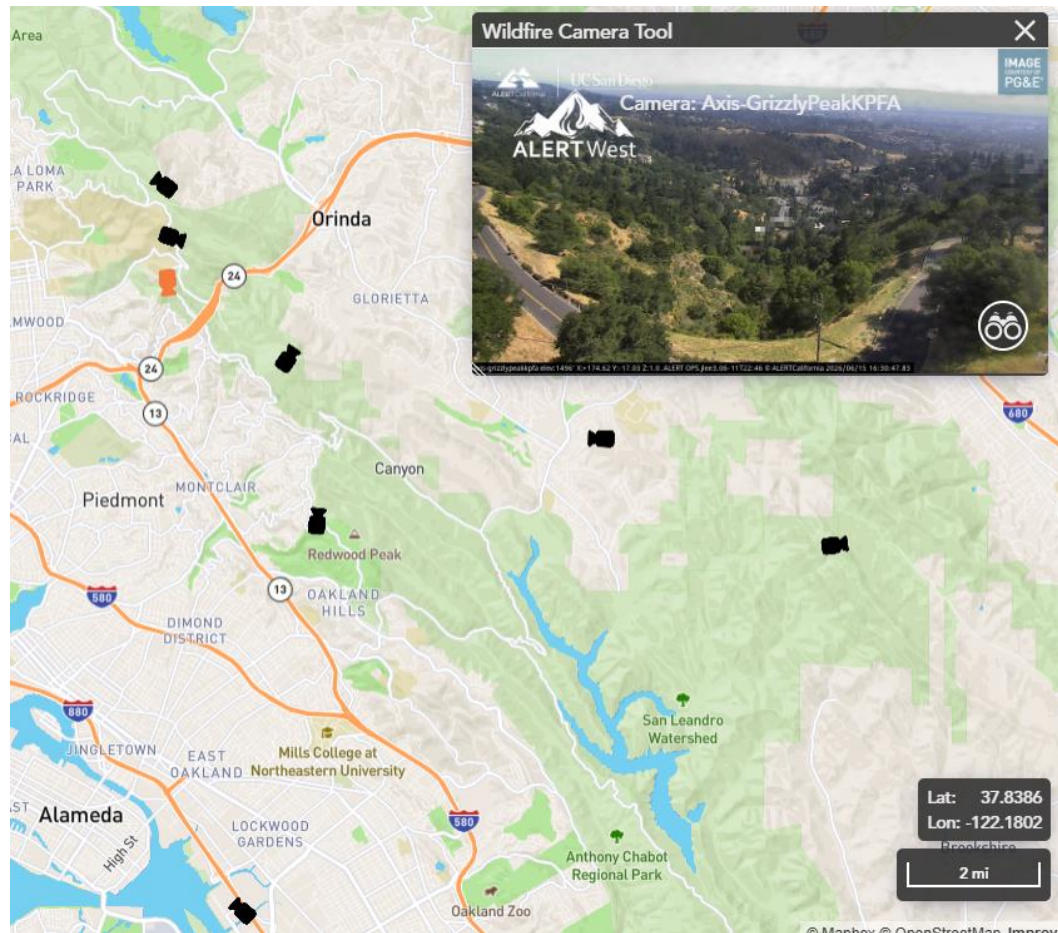
Red flag warnings

Fire history (perimeters)

Predicted active fire size (10th to 90th percentile)

Satellite Hotspots - VIIRS, MODIS

Live satellite (GOES-19)



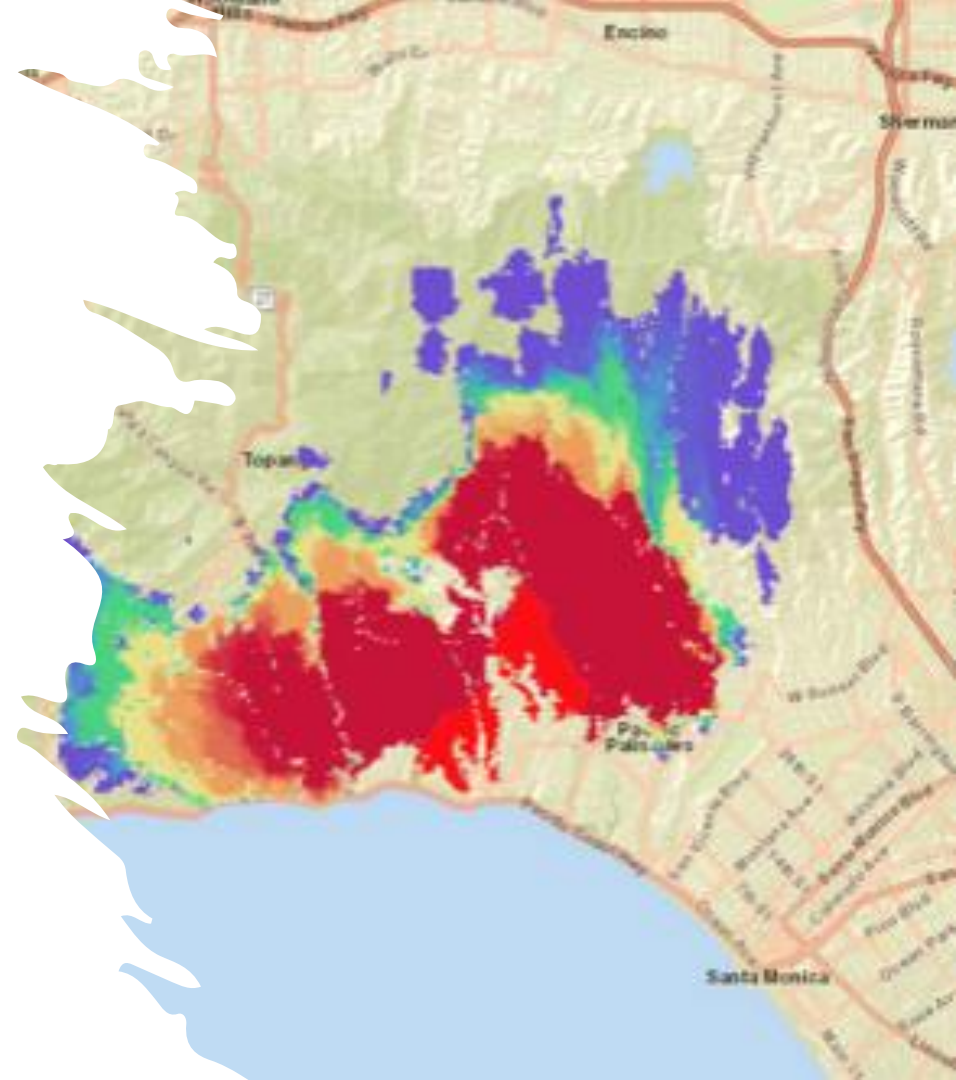
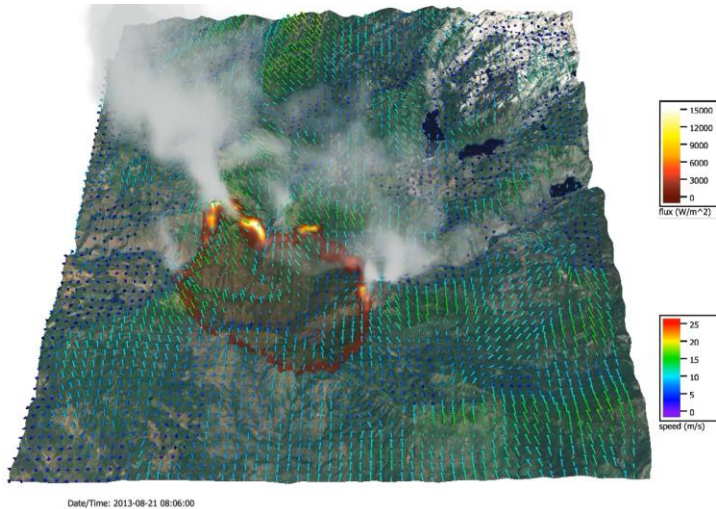
COMING SOON

Integration of probabilistic active fire
spread surface animations

Atmospheric feedback models

Suppression algorithm

Urban spread algorithm



WATCH DUTY

1 MONITOR

Live Map & Verified Alerts

Track wildfires, flooding, prescribed burns, and river gauges in real time — know what's happening and where.

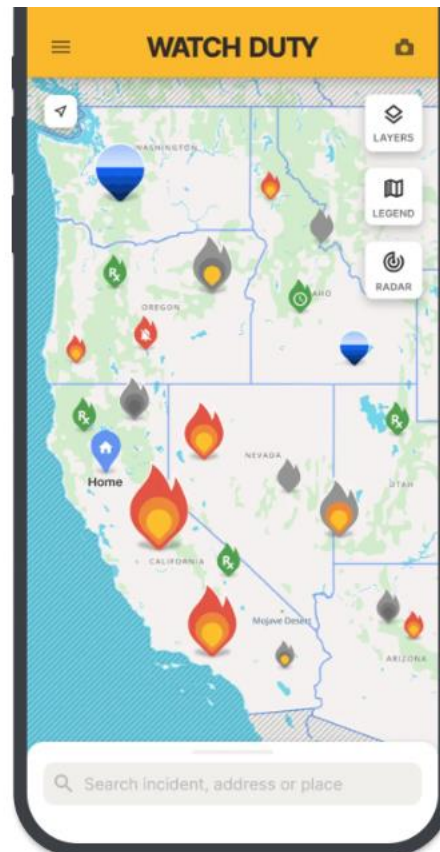
Firefighting Aircraft Tracker

See live flight paths as crews work from the sky.

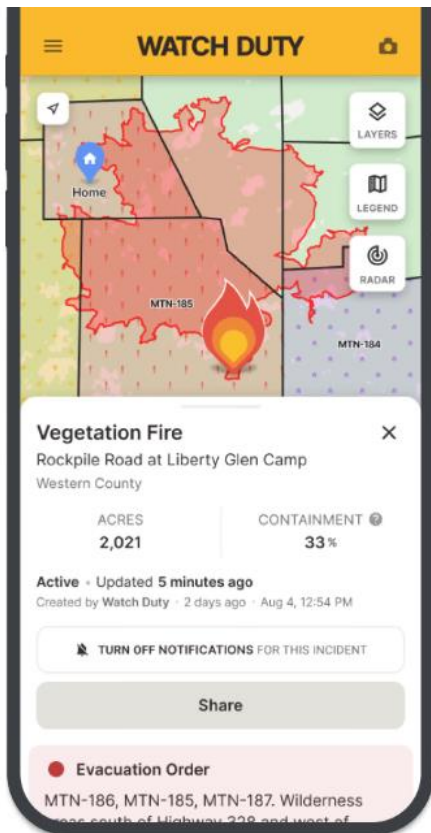
Member Feature

Air, Wind, & Precipitation Insights

Understand the conditions driving fire and flooding with live data.



WATCH DUTY



2 PREPARE

All Alerts, One Feed

Stay ahead with power outages, red flag warnings, and anticipated water level changes in one place.

Track Perimeters

Follow fire growth and flood warnings through live satellite imagery and official data.

WATCH DUTY

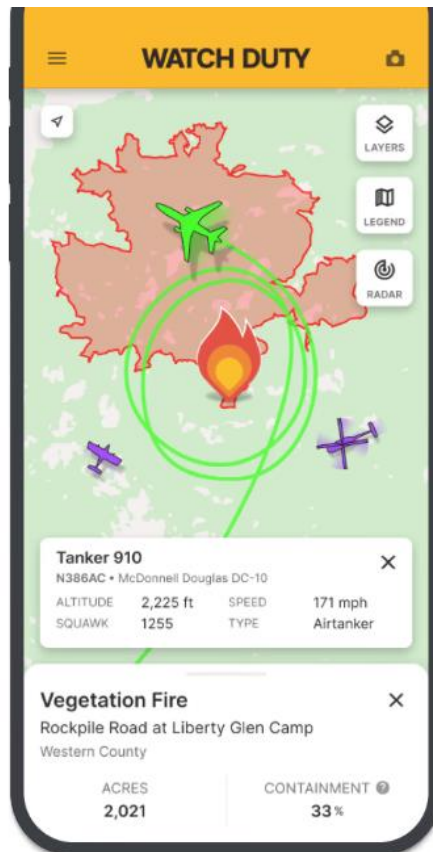
3 RESPOND

Evacuation & Shelter Info

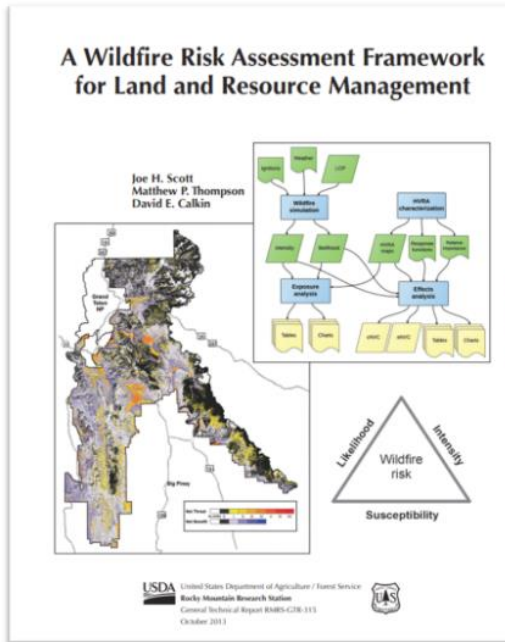
Access clear, verified evacuation orders and find safe shelters and resources.

Share Ground Truth

Upload photos and firsthand updates to support responders and equip our reporters.



Overview of Wildfire Risk Assessment Process



Highly Valued
Resources &
Assets
Characterization

Wildfire
Simulations

Exposure
Analysis

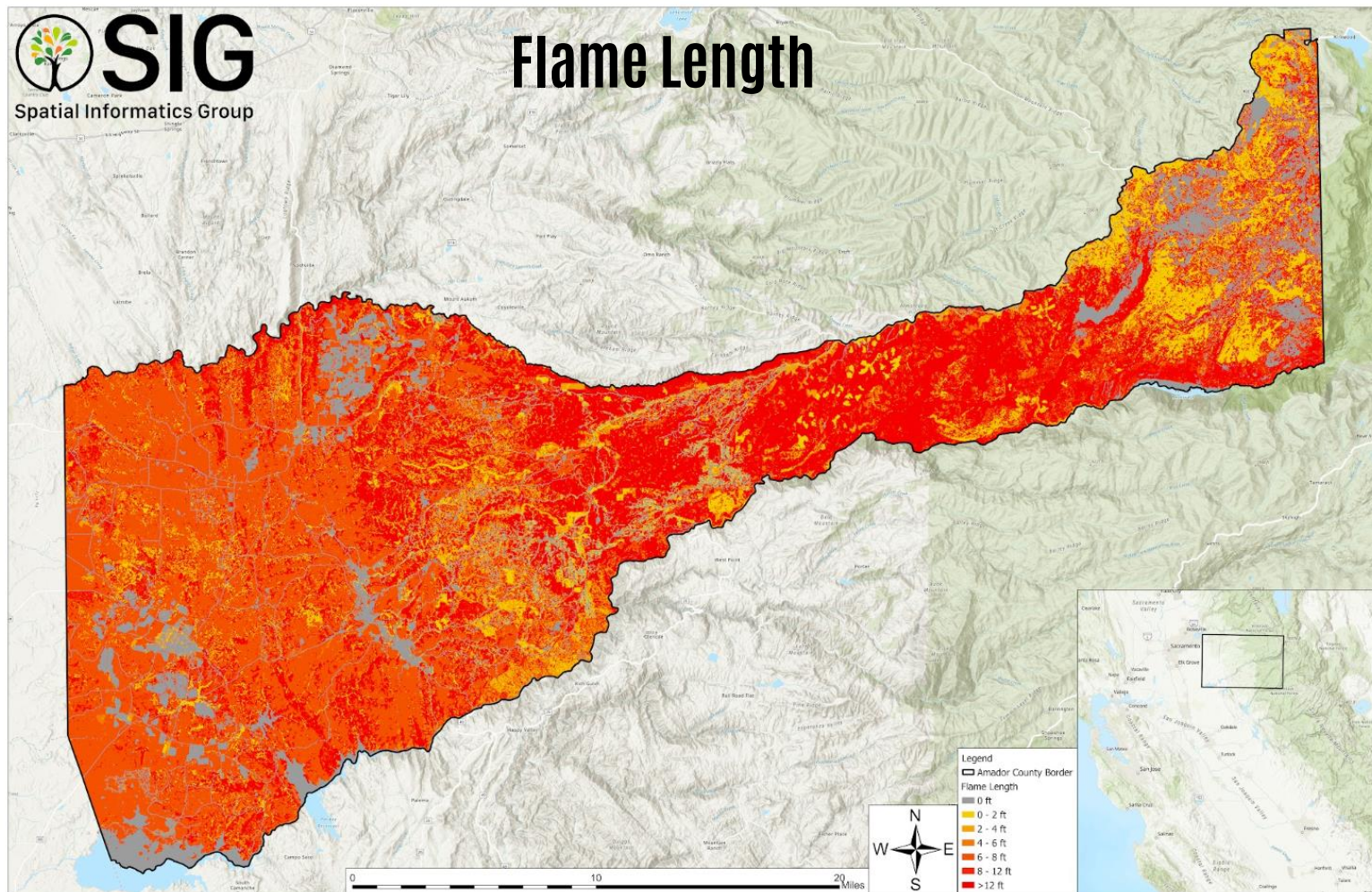
Effects Analysis

Scott et al. (2013), Gen. Tech.
Rep. RMRS-GTR-315

HVRAs and Response Functions

HVRA	Sub-HVRA	0 to 2	2 to 4	4 to 6	6 to 8	8 to 12	>12
Critical Infrastructure	Communications Facilities	-1	-2	-3	-3	-3	-3
Critical Infrastructure	Electrical Utilities/Facilities	-1	-2	-3	-3	-3	-3
Critical Infrastructure	Maintenance Building	0	-1	-2	-3	-3	-3
Critical Infrastructure	Warehouse/Vehicle Storage	0	0	-1	-2	-3	-3
Cultural Sites	Archeological Sites	-1	-2	-3	-3	-3	-3
Evacuation Routes and Features	Landing Zone	0	0	0	0	0	0
Evacuation Routes and Features	Primary and Secondary Roads	-1	-2	-3	-3	-3	-3
Evacuation Routes and Features	Primary electronic Entry/Exit Gate	-1	-2	-3	-3	-3	-3
Evacuation Routes and Features	Secondary access gates (two in total) used when primary entry gate is inoperable or inaccessible.	0	0	-1	-1	-1	-1
Historical	Homestead	-2	-3	-3	-3	-3	-3
Historical	Orchard	0	-1	-1	-1	-3	-3
Natural Resources	Forests	3	0	-2	-3	-3	-3
Natural Resources	General Open Spaces	3	3	2	2	0	0
Natural Resources	Threatened/Endangered/Special Status Plant Habitat (Kincaids's Lupine)	3	3	1	1	0	0
Natural Resources	Wetlands	2	2	-2	-3	-3	-3
Populated Areas	Range Control/Office Space	-2	-2	-3	-3	-3	-3
Populated Areas	Range Tower (populated when range is in use)	0	0	-1	-1	-3	-3

Flame Length

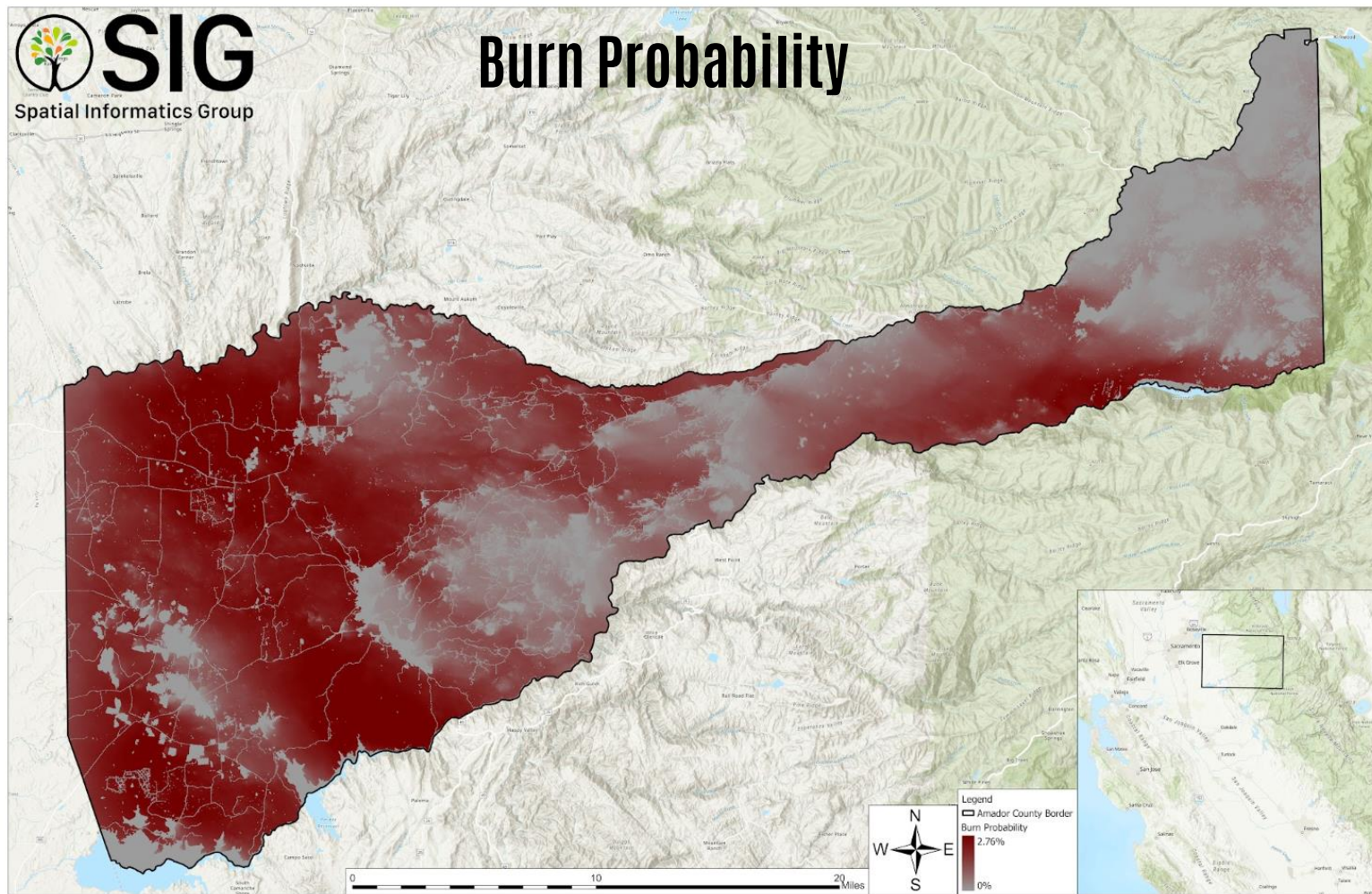


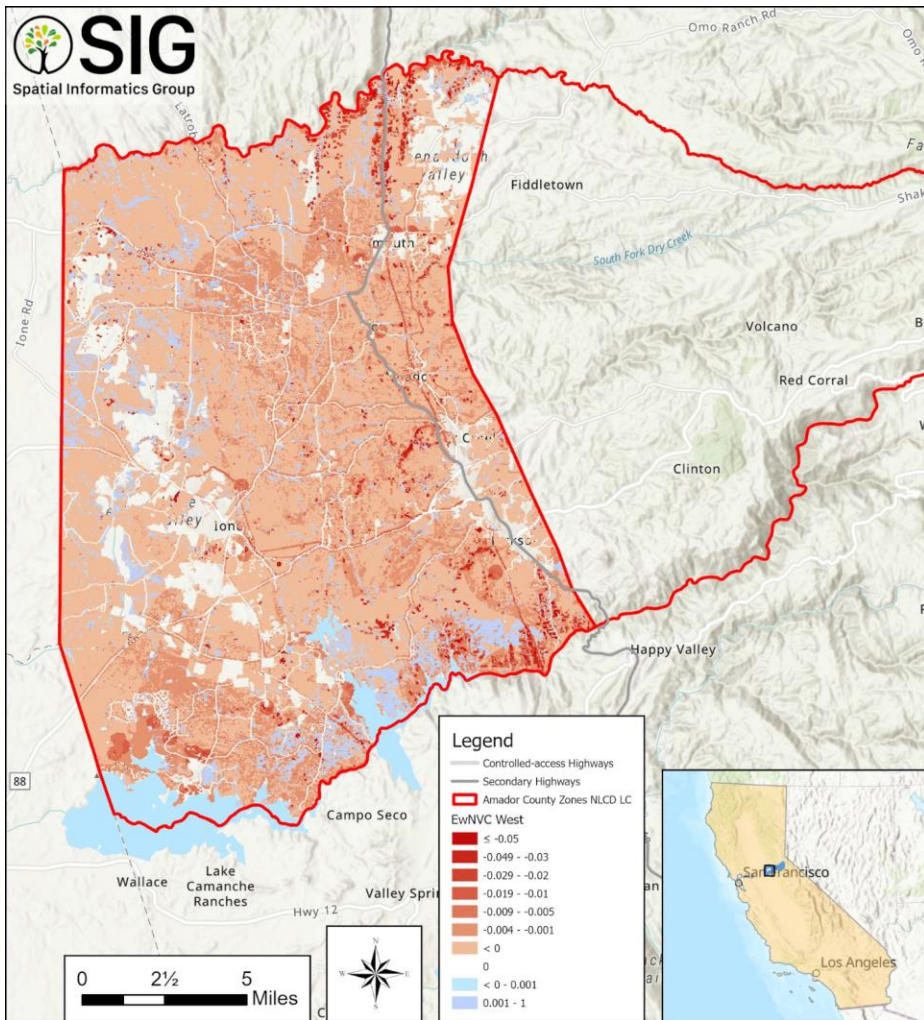


SIG

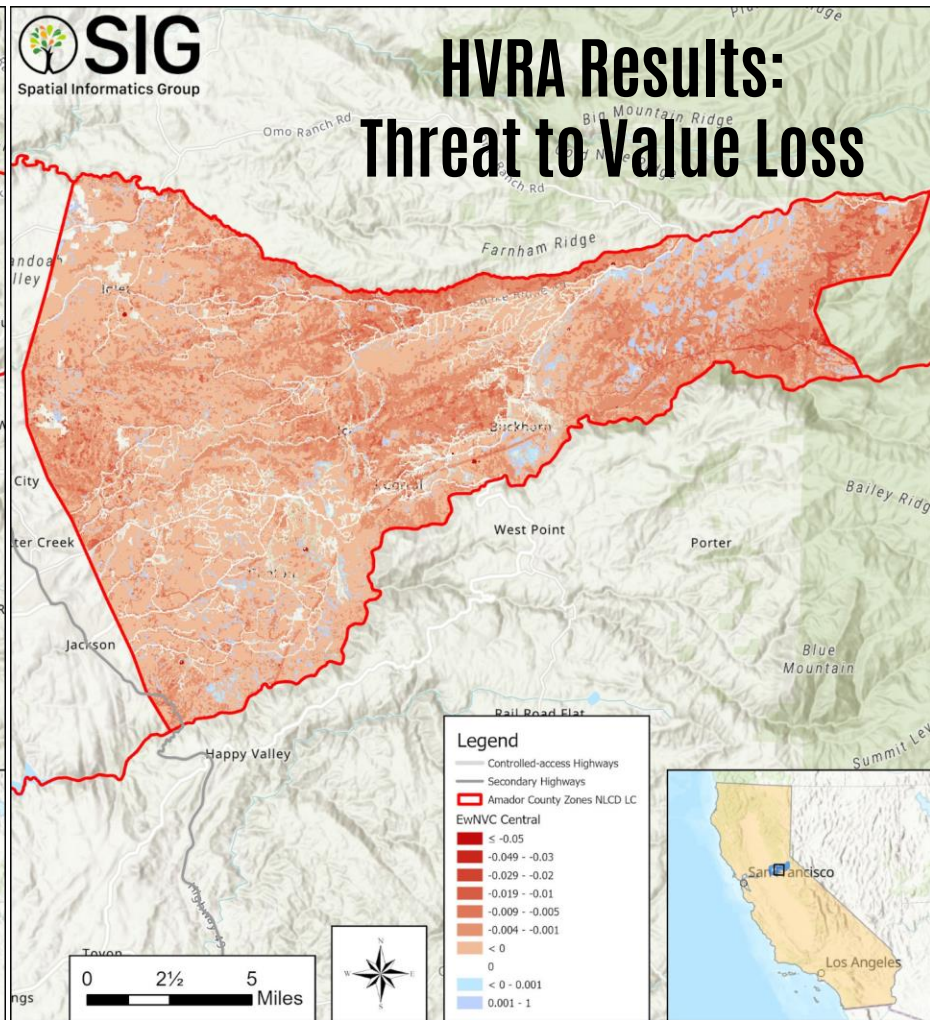
Spatial Informatics Group

Burn Probability





HVRA Results: Threat to Value Loss



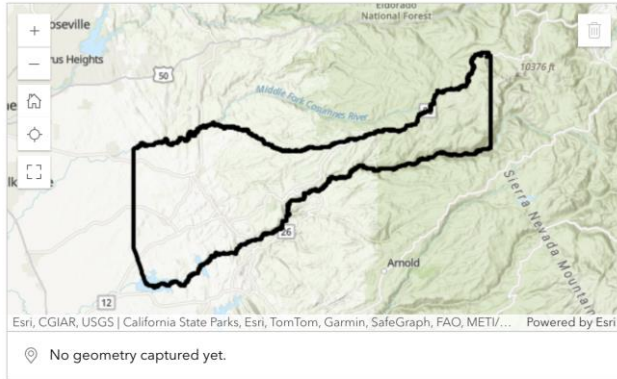
Community Participation Survey

Amador County Community Wildfire Protection Plan

Welcome to the Community Participation Survey for Amador County Community Wildfire Protection Plan. This interactive map based survey enables members of the Amador County community to pinpoint areas of concern within the Project Study Area. By contributing your local knowledge, you play a vital role in helping planners develop effective wildfire protection strategies. [Please watch the short instructional video on how to use the survey before you begin.](#) Thank you for your participation!

Where is the issue?*

Right click to mark a location.



What is the issue?*

Amador County Community Wildfire Protection Plan

Overview Analyze Data

11/1/25 - 4/22/26 Filter Report Export Open in Map Viewer Form view 69/69

Amador County Community ...

last_edited_date	What is the issue?	Fuel Type?	Pile Type?	Ingress/Egress Issue?	Opportunity for Co...
1/8/26, 12:24 PM	Fuel Mitigation Project				
1/8/26, 12:02 PM	Opportunity for a Commu...				River Pines is a small r

What is the issue?
Accumulation of Fuels

Fuel Type?
Ladder Fuels

Photo



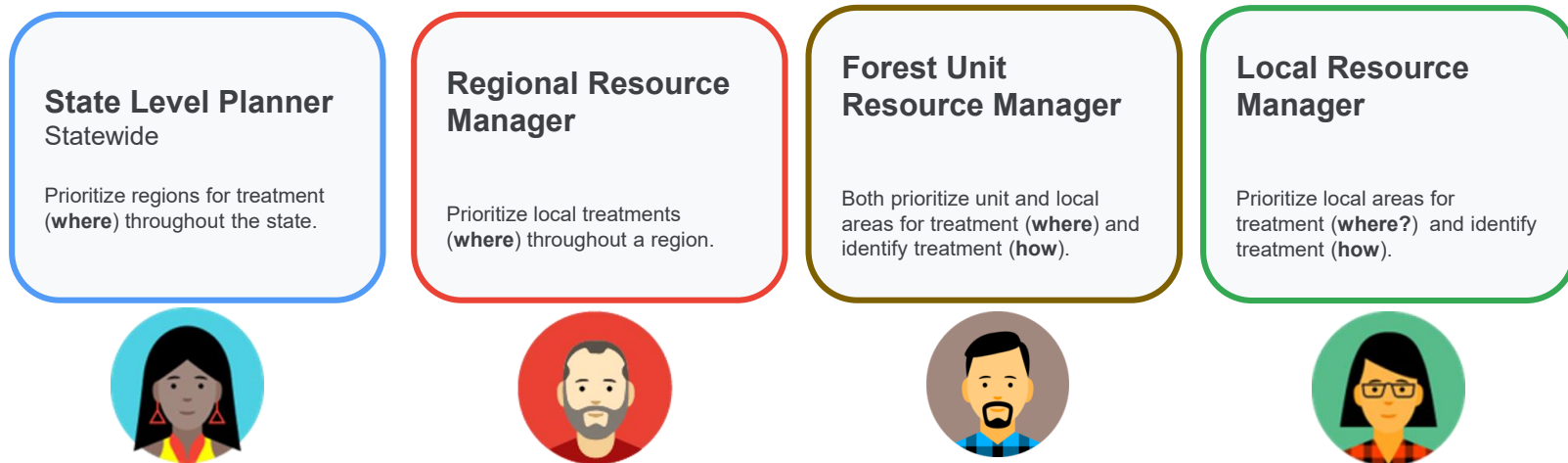
Planscape

The open-source decision support tool for wildfire
resilience

Vision

The vision of Planscape is to create a decision support tool that assists communities in landscape-scale planning to reduce wildfire hazard and improve long-term resilience of forested and shrub landscapes.

- Planscape supports the needs of state and federal agencies by providing a tool that can be applied statewide and across the contiguous United States (CONUS) to help address the challenge of increasing the pace and scale of vegetation treatments while maximizing their positive impacts on ecological health and community safety.
- The tool aims to incorporate a comprehensive ecosystem services approach, quantifying co-benefits of treatments that reduce fuels and wildfire hazard and restore or improve forest and shrubland health and resilience.



The Cooperative

Planscape is an open-science collaboration of the California Natural Resources Agency, the USDA Forest Service, The California Wildfire & Forest Resilience Taskforce, University of California, Google.org, USDA Climate Hub and Spatial Informatics Group. **No commercial entity owns or profits from Planscape.**





OPEN SCIENCE



OPEN (**TRANSPARENT**) SCIENCE

scientific process and results should be visible, accessible, and understandable

OPEN (**ACCESSIBLE**) SCIENCE

data, tools, software, documentation, and publications should be accessible to all (FAIR)



OPEN (**INCLUSIVE**) SCIENCE

process and participants should welcome participation by and collaboration with diverse people and organizations

OPEN (**REPRODUCIBLE**) SCIENCE

scientific process and results should be open such that they are reproducible by members of the community



Transform to Open Science

OPEN SCIENCE



OPEN SOURCE

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Planscape User Guide

Michele Turner edited this page 2 days ago · 50 revisions

Revision	1.7
Issue Date	May 13, 2024

Planscape User Guide

Overview

Planscape is a wildfire resilience planning support and collaboration tool to help you plan and prioritize landscape fire resilience treatments by leveraging the latest data and climate models.

Understanding the ecosystems of very large wilderness landscapes is challenging. Planning where to place treatments on those large landscapes takes a tremendous amount of time, staff and money. Even just finding accurate data to understand the state of the land - where have there been fires in the last 10 years, what's the mean FRID, how many acres comprise endangered species territory - can be very complex. The goal of Planscape is to provide landscape-scale planners:

- Access to the best available data from the Regional Resource Kits
- Ability to determine, based on the project goals, the best areas on the land to place treatments.

For landscape analysis backend, Planscape uses the [ForSys](#) planning tool, developed by the USDA Forest Service.

Using Planscape, a landscape planner can determine the most effective areas to plan treatments on a given landscape, based

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[Home](#)[About](#)[Authentication](#)[Backend API](#)[Boundary Layers](#)[Branching and Merging](#)[Condition Layers](#)[Database](#)[Deployment](#)[Development getting started](#)[Frontend](#)[Glossary](#)

Planscape **USERS**

Planscape is widely used by fire safe councils, RCDs, watershed groups, federal and state agencies, tribes, NGOs, utilities and others.

International



State



County + RCD



Tribal



Academic



Watershed

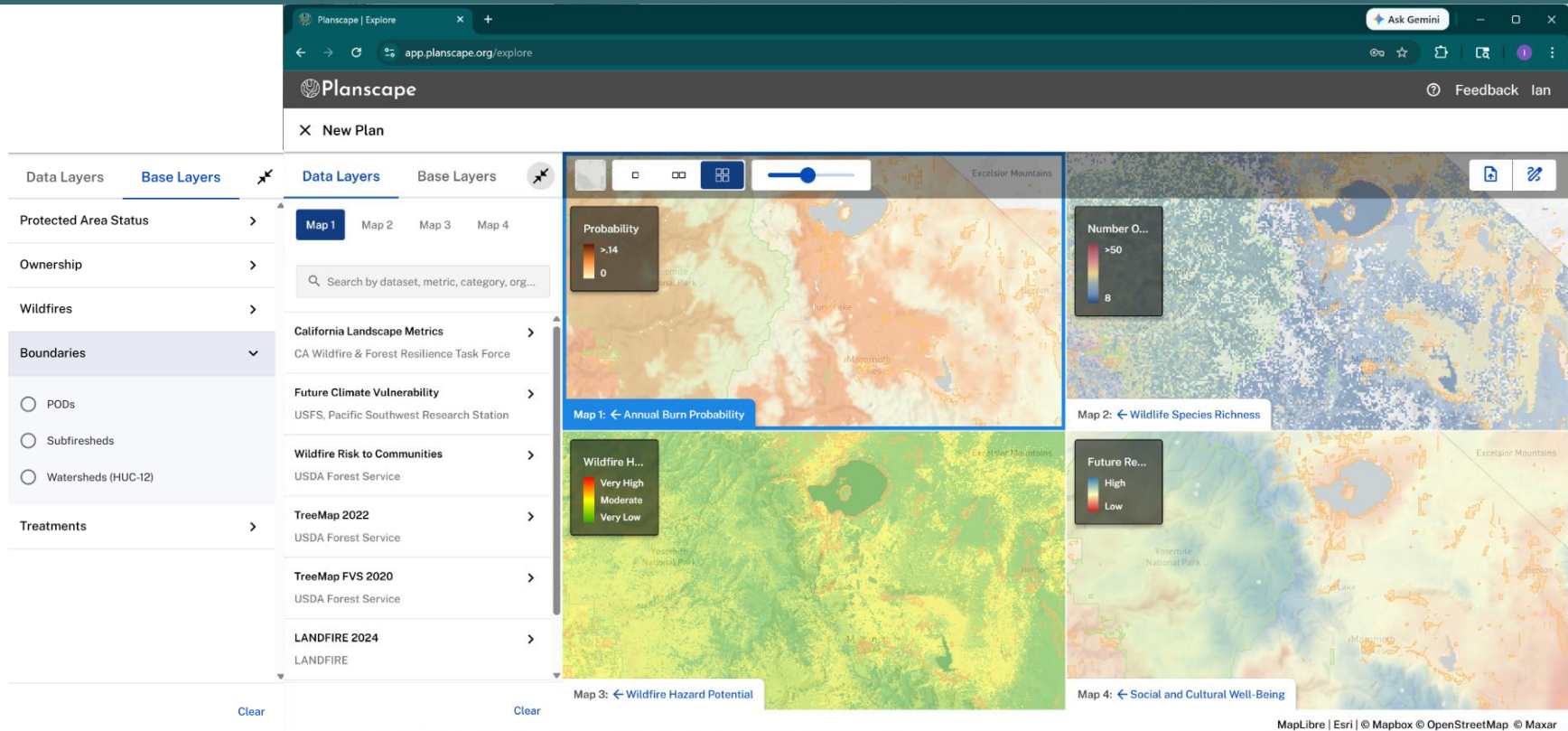


Private



Data

Working with robust, recent data is critical for accurate treatment planning. The Planscape Platform uses open data from California Regional Resource Kits, and is expanding to integrate USDA Forest Service data from a number of states. Planscape also utilizes open operational layers (roads, utilities, CWHR, WUI). In the future, planners will be able to integrate their own private data layers as required to meet their planning needs.



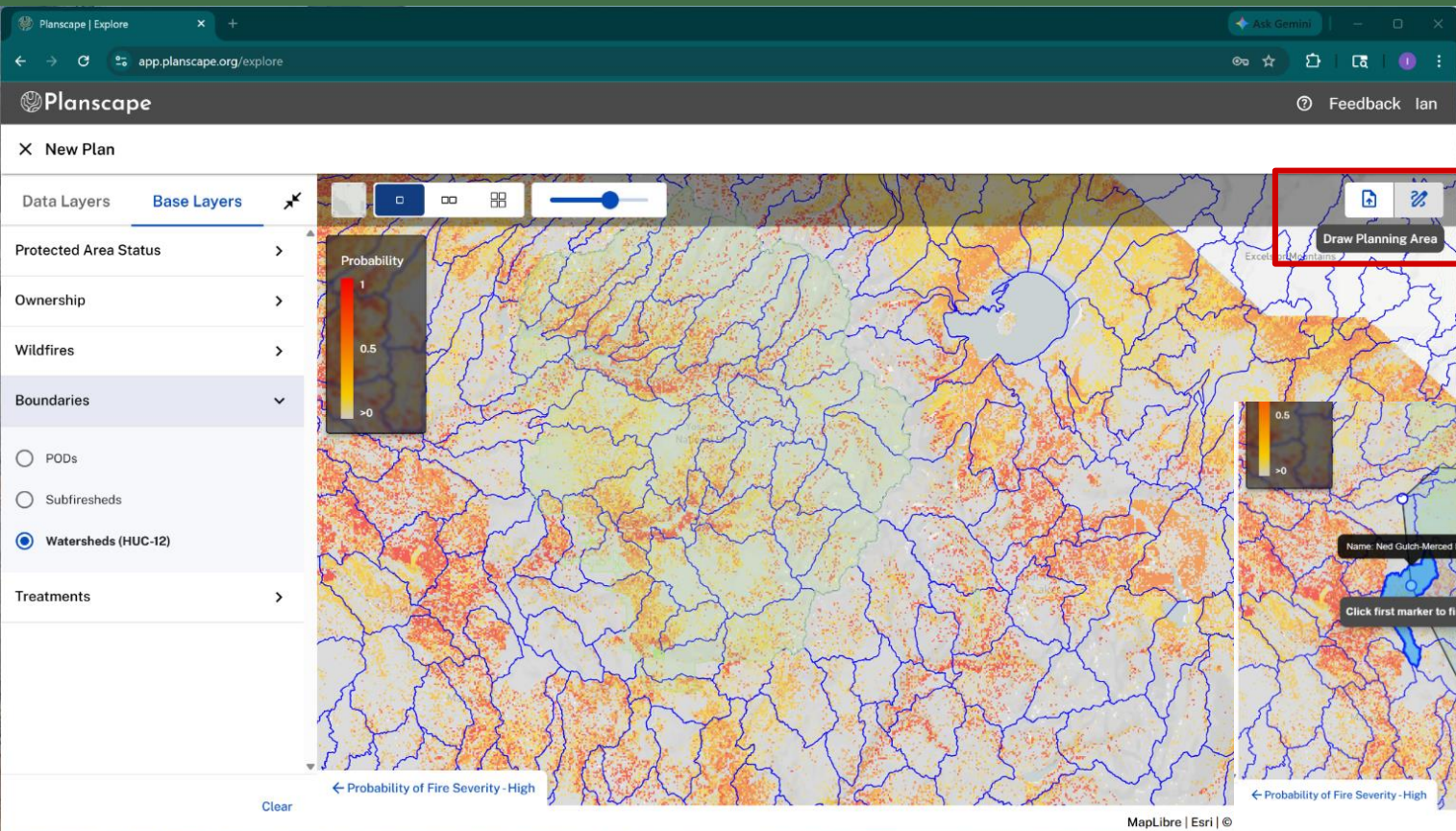
The screenshot displays the Planscape Explore web application interface. The browser address bar shows the URL `app.planscape.org/explore`. The interface includes a sidebar menu on the left with categories like Protected Area Status, Ownership, Wildfires, Boundaries, and Treatments. The main map area is divided into four panels, each showing a different data layer:

- Map 1: Annual Burn Probability** (Top Left): A map showing burn probability with a legend ranging from 0 to >14.
- Map 2: Wildlife Species Richness** (Top Right): A map showing wildlife species richness with a legend ranging from 8 to >50.
- Map 3: Wildfire Hazard Potential** (Bottom Left): A map showing wildfire hazard potential with a legend ranging from Very Low to Very High.
- Map 4: Social and Cultural Well-Being** (Bottom Right): A map showing social and cultural well-being with a legend ranging from Low to High.

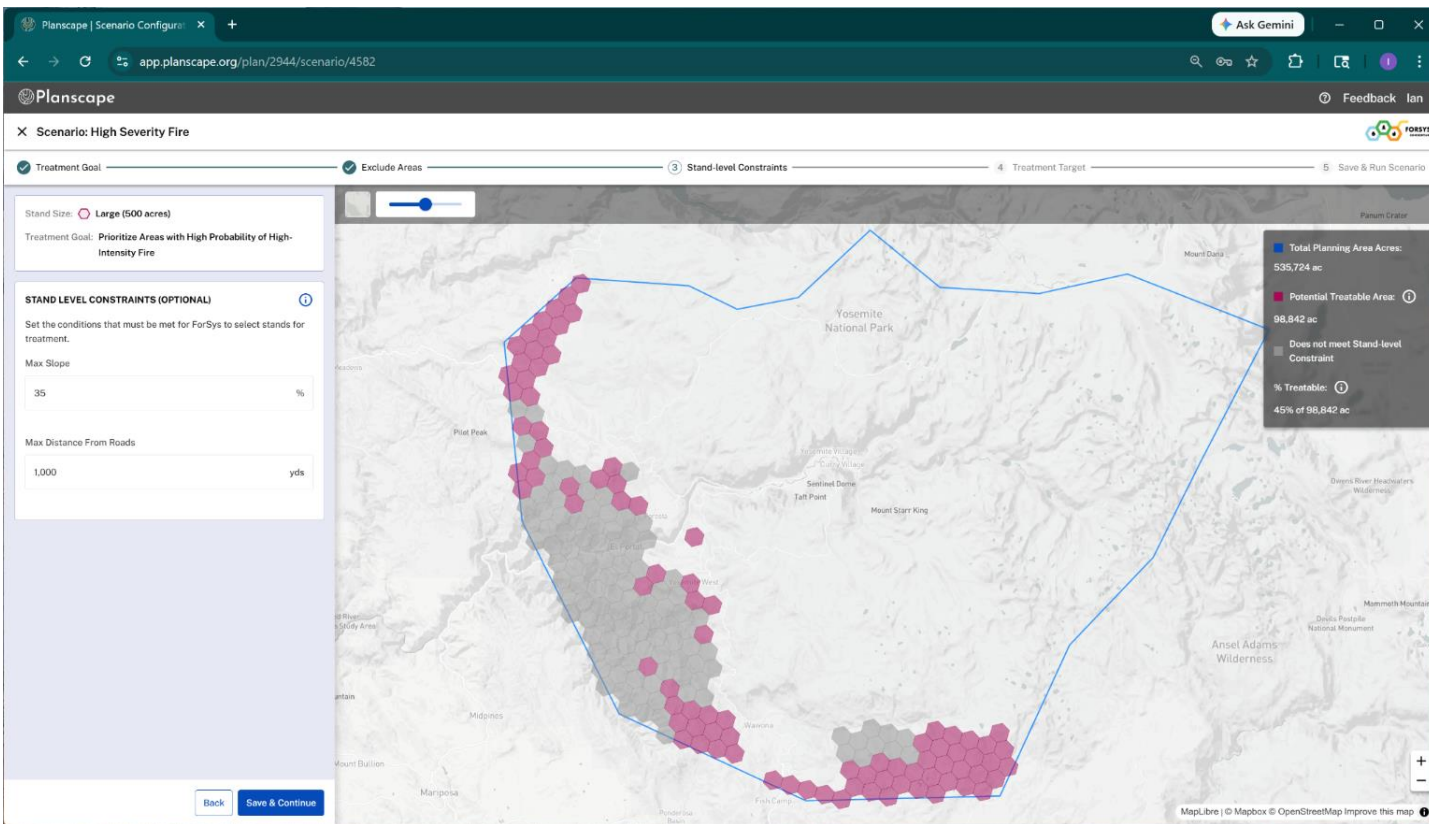
The interface also features a top navigation bar with the Planscape logo, a "New Plan" button, and a "Feedback" link. The bottom of the interface includes a "Clear" button and a footer with map data sources: MapLibre | Esri | Mapbox | OpenStreetMap | Maxar.

Treatment Modeling

Built on ForSys



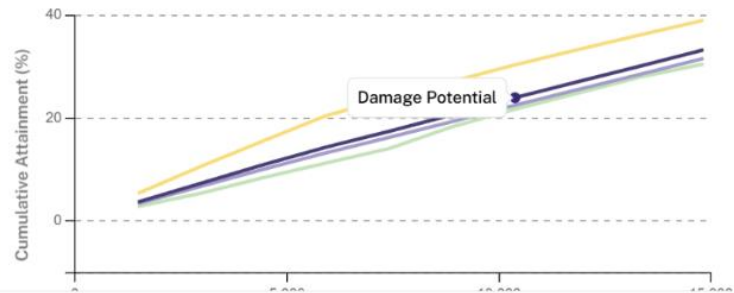
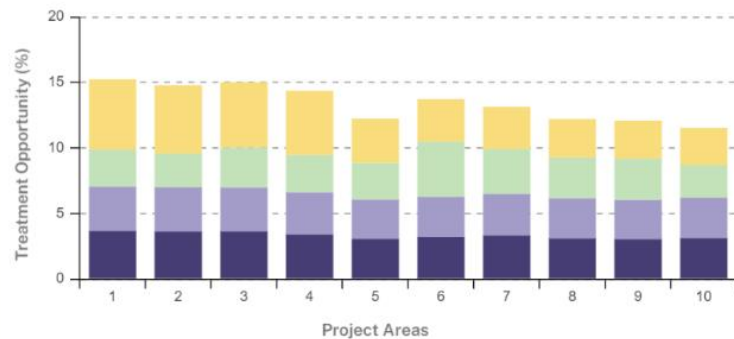
Built on ForSys



← Scenario: Test 6

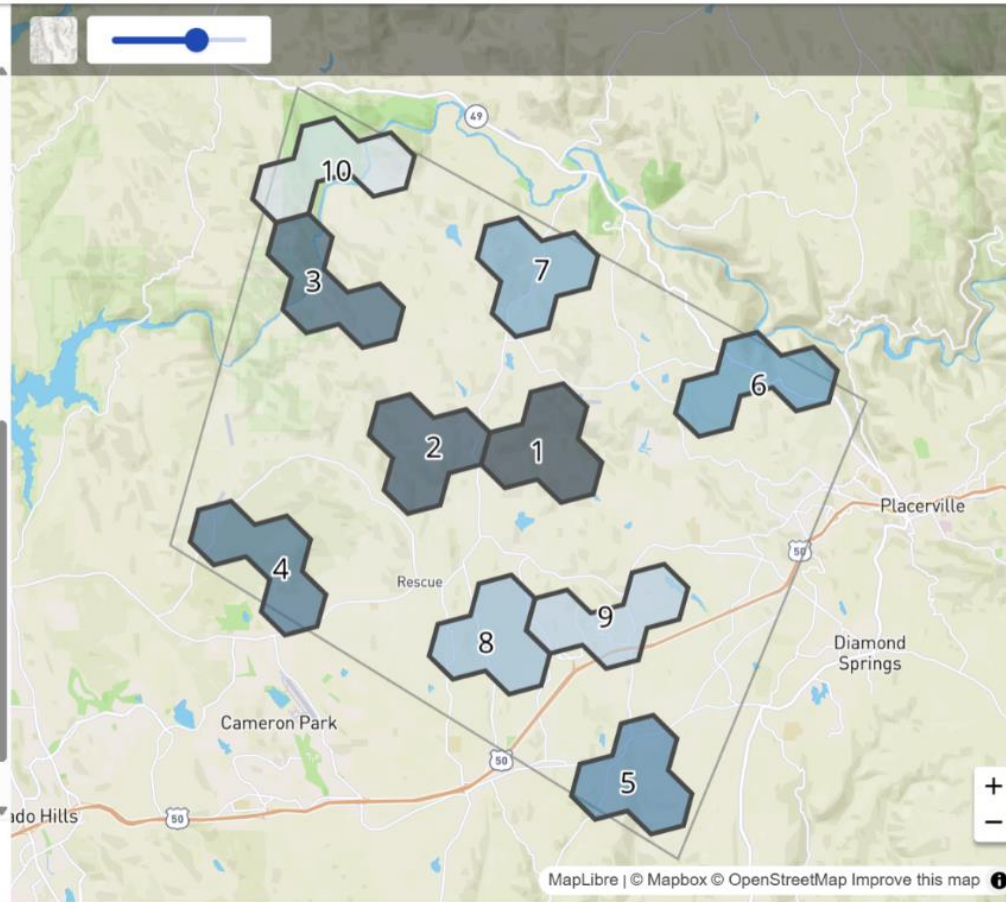
i Print

Results Data Layers Base Layers Treatment Plans

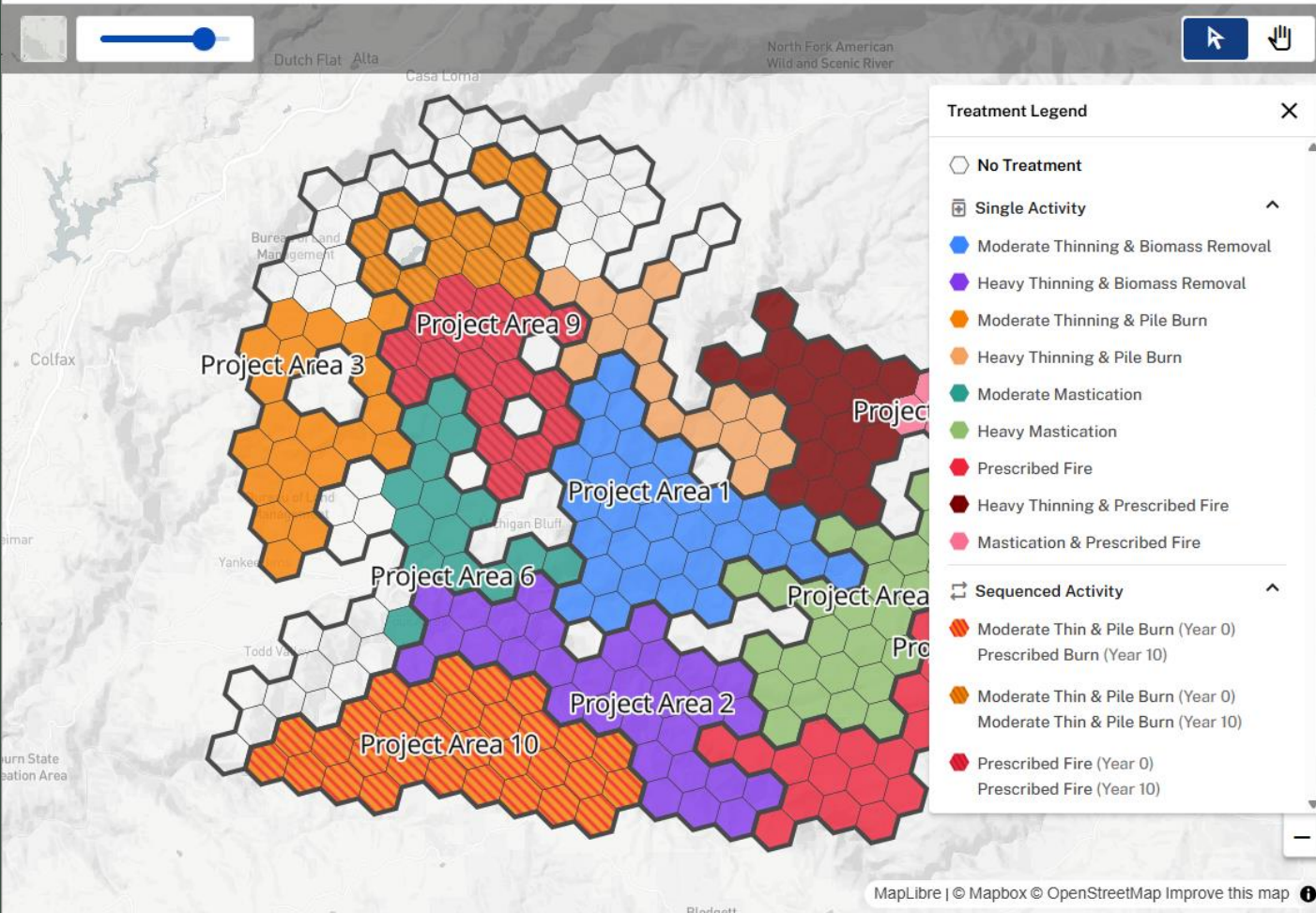
☒ Total Aboveground Carbon

View Configurations

Download GeoPackage



Treatment Prescriptions



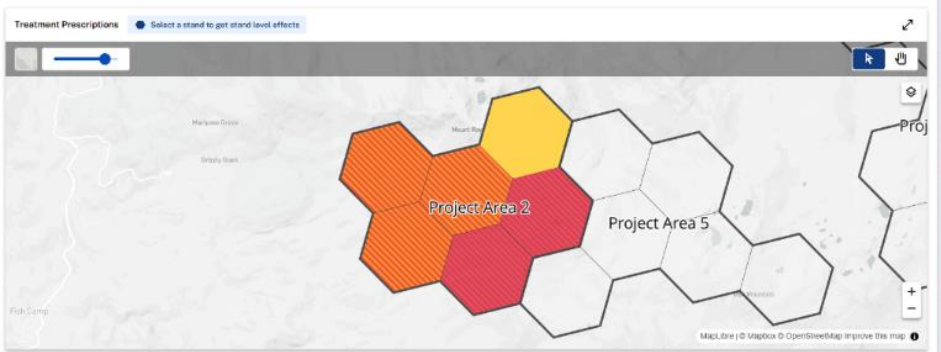
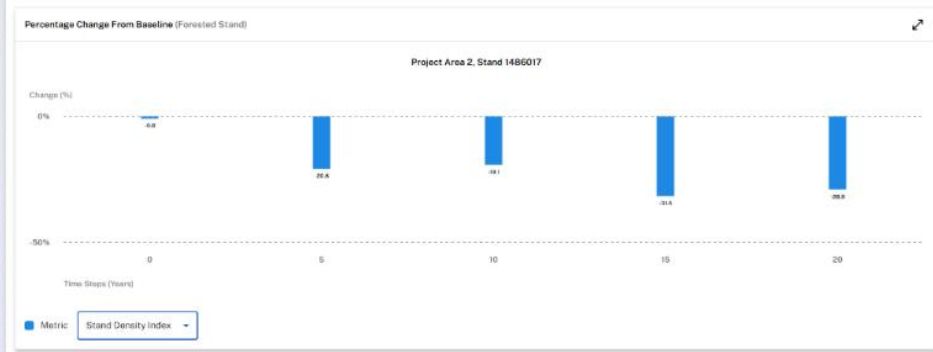
Direct Treatment Effects Analysis

Run By: Ian Moore Run Date: Mar 6, 2026 Total Planning Area Acres: 14,826 Stand Size: Large (500 acres) View treatment summary

Percentage Change From Baseline (Forested Stands) Learn About Metrics



Explore Direct Effects at the Stand Level



Thank you.

Questions?