Evaluating Treatment Longevity and Maintenance Needs for Fuel Reduction Projects Implemented in the Wildland Urban Interface of Plumas County, CA

California Board of Forestry and Fire Protection Effectiveness Monitoring Committee (Project EMC-2019-002)

Spatial Informatics Group

FireSafe Council Plumas County

Plumas County Fire Safe Council

Board of Forestry and Fire Protection

Feather River Resource Conservation District

Presentation Overview

- Project Background and Methods
- Key Findings
- Other initiatives

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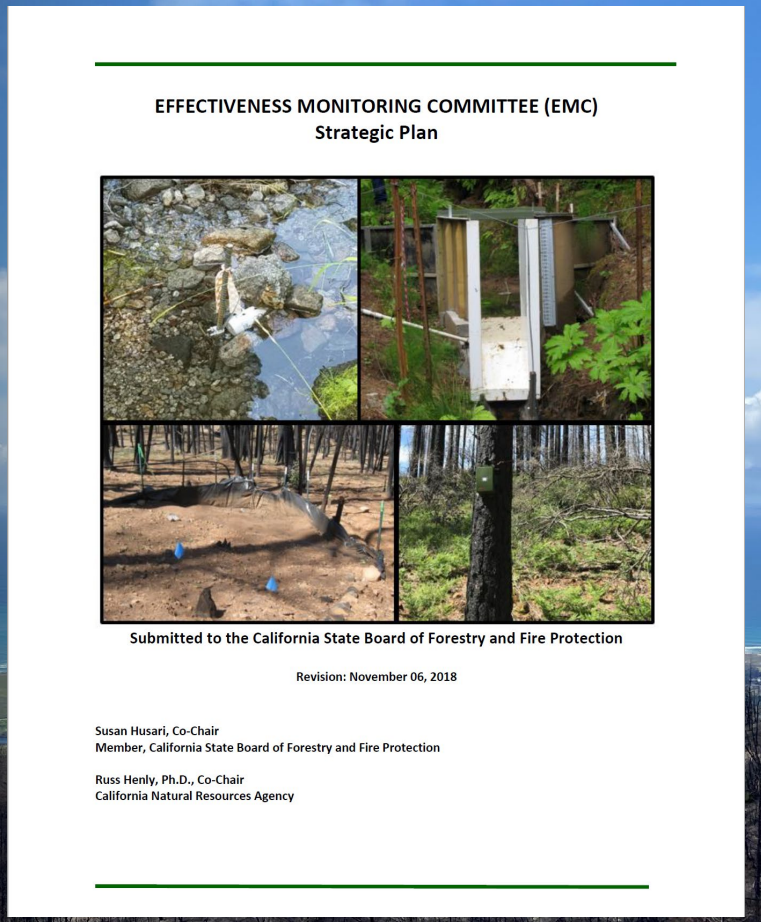
Project Background

The BOF Effectiveness Monitoring Committee……

- Conducts monitoring to assess whether management practices are achieving the various resource goals and objectives set forth in the California Forest Practice Rules, and other natural resource protection statutes and laws, codes and regulations.
- Monitoring is a key component of adaptive management.
- Focus of this project was initially on treatment of slash for projects conducted under the CA Forest Practice Rules
- North Complex and Dixie Fire-Post Fire Evaluations



EFFECTIVENESS MONITORING COMMITTEE (EMC)
Strategic Plan

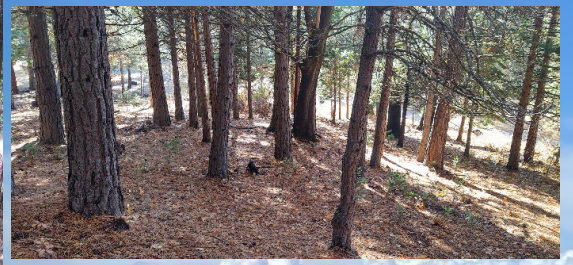
Submitted to the California State Board of Forestry and Fire Protection

Revision: November 06, 2018

Susan Husari, Co-Chair
Member, California State Board of Forestry and Fire Protection

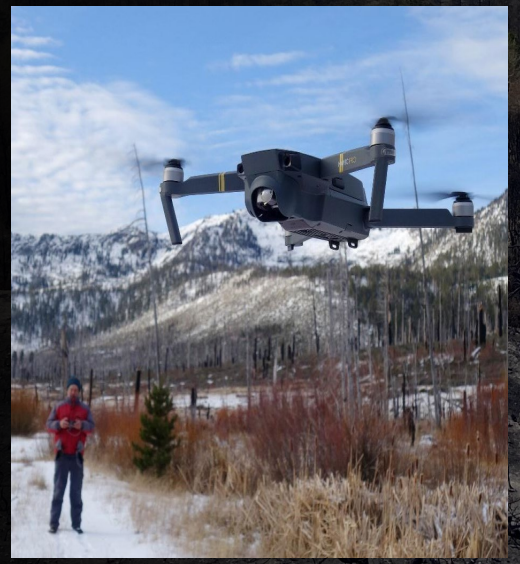
Russ Henly, Ph.D., Co-Chair
California Natural Resources Agency

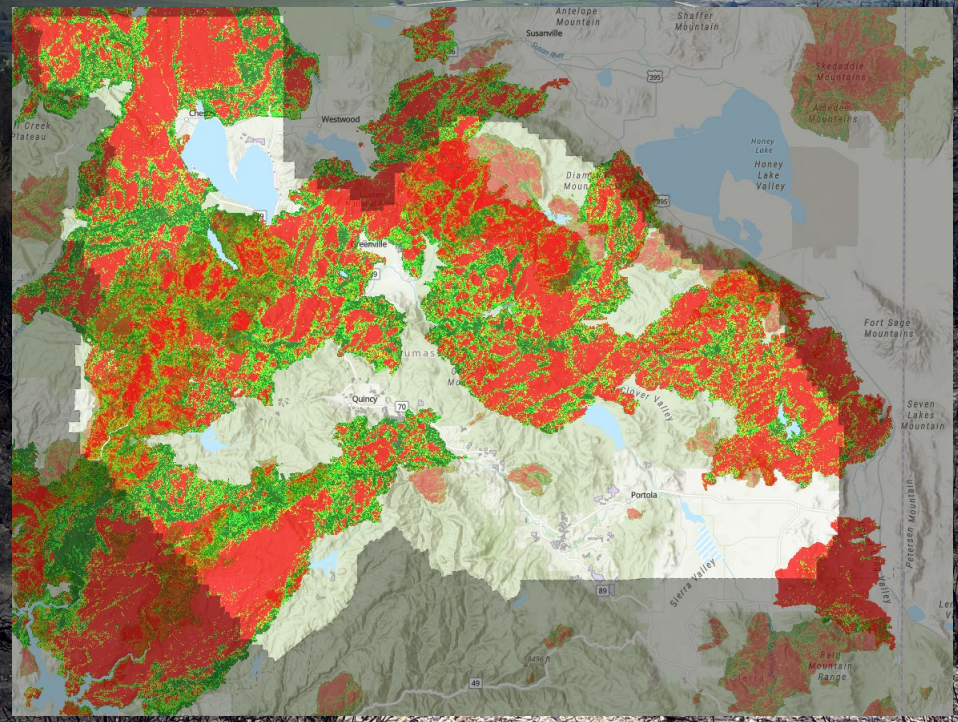
Methods



FPRs require slash <4" diameter to be lopped to less than 30" in depth

- Compile treatment locations (online map)
- Site Visits, past photo points, 360 ground photos, UAV imagery
- Landowner discussions
- North Complex and Dixie Fire Properties-Post Fire Severity Assessment





Key Findings: Forest Practice Rule Standards

- In terms of logging slash and hazard reduction, all projects met or exceeded standards described for (14 CCR § 917)
- This includes projects not completed under a THP (i.e. mastication, hand thinning)
- All projects met minimum stocking standards (14 CCR § 932.7) after completion
- Projects were completed using whole tree harvest, with post treatment slash generally minimized or removed compared with traditional lop and scatter.

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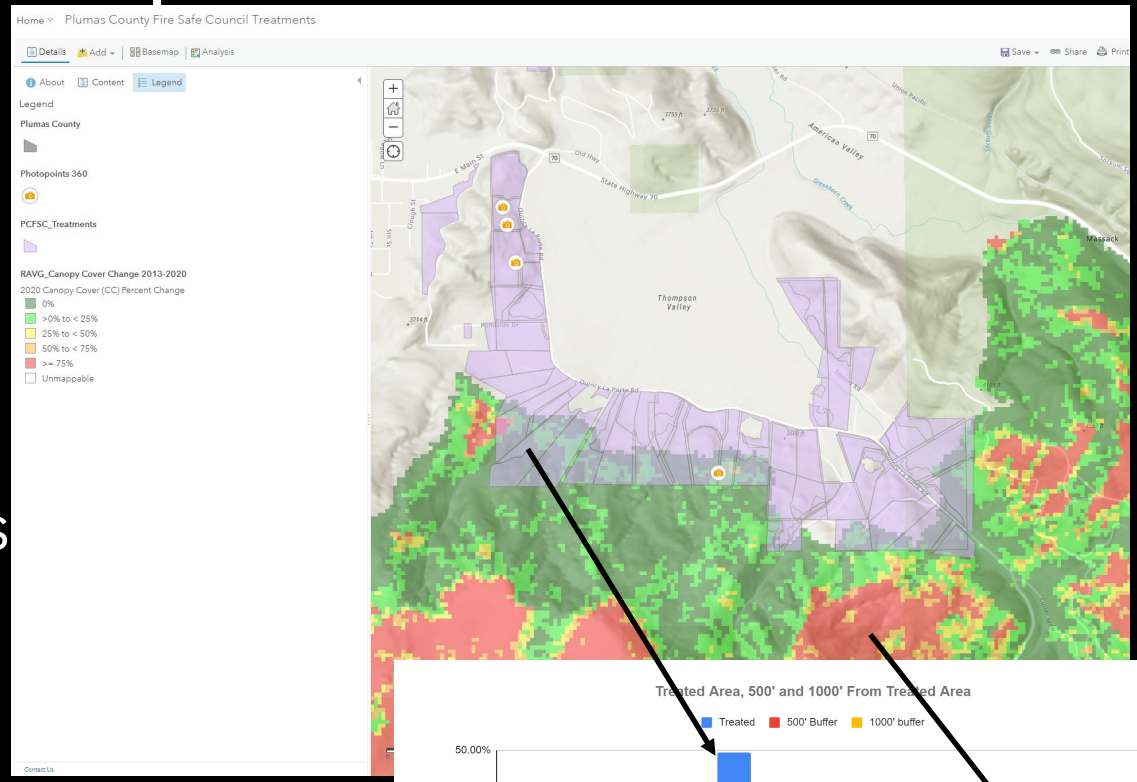
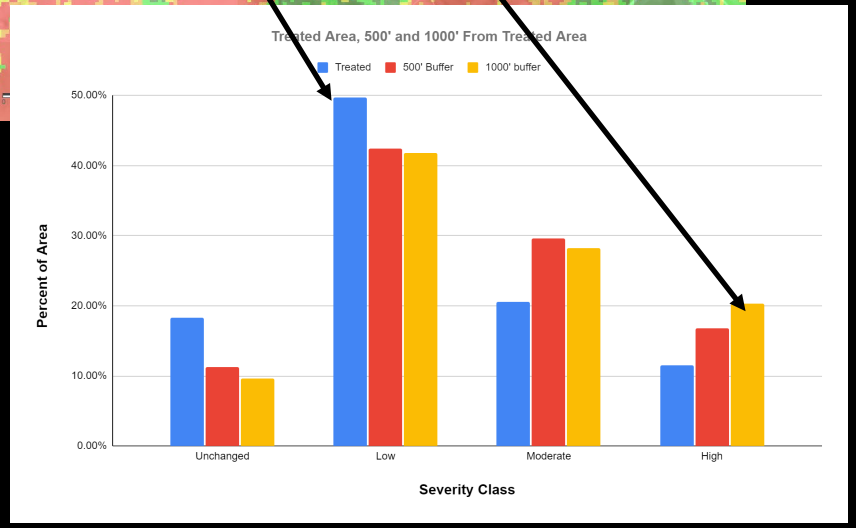
Key Findings: North Complex and Dixie Fire

- For both fires, areas that were treated by FSC generally had a higher percentage of “unchanged” or “low severity” fire then the adjacent areas 500 and 1,000 foot from the treatment
- Treatments were used by fire fighters to establish hoselays, defend structures, and conduct burnouts (La Porte Road, Genesee Valley).
- Treated areas required less patrol after burning
- Treatments used by landowners to defend property in Indian Valley





Recommendations

- Talk with fire fighters who used FSC treatments during recent fires-what worked, what didn't, what can be improved.
- Integrate treatment maintenance into annual funding efforts-a lot of can be done with hand tools, raking, or under burning
- Work to expand existing "clusters" of treatment or treatment continuity between ownerships
- Use follow up treatments to keep masticated fuels to <3" depth; masticated fuels can result in high mortality, even with lower flame lengths
- Manage residual tree density for resilience to potential mortality caused future periods of prolonged drought
- Explore more expansive green waste programs, especially for forested lots in town where burning is not allowed

About Content Legend

Legend

Plumas County

Photopoints 360

PCFSC_Treatments

All Treatments California 1995-2021

CPAD_AgencyLevel - Holdings by agency level

- Federal
- Non Profit
- State
- Special District
- County
- City
- Private
- Joint

VegBurnSeverityCC1985_2012

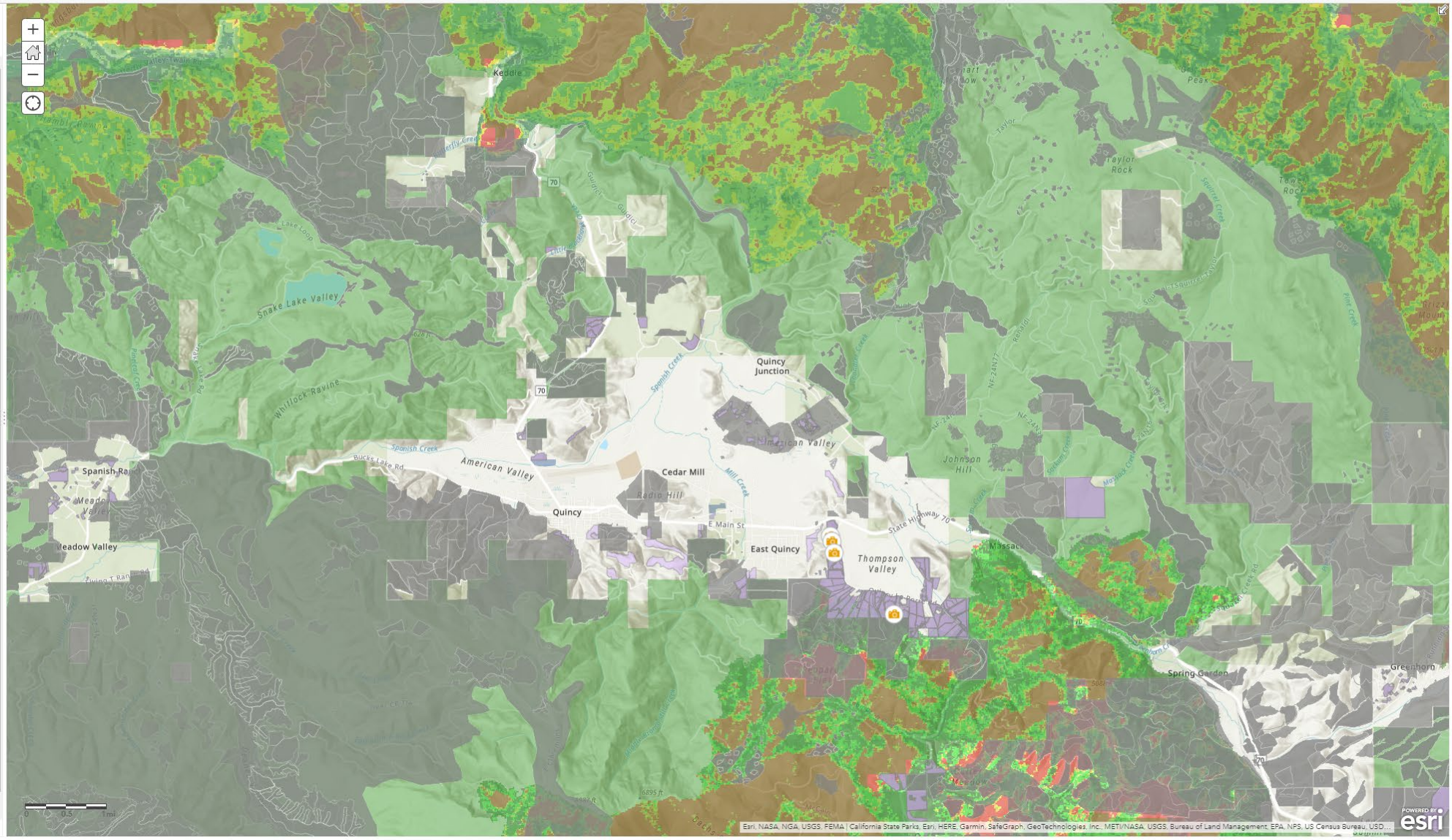
- Not Mapped, Clouds, etc.
- 0% Change
- 0% < Change < 25%
- 25% <= Change < 50%
- 50% <= Change < 75%
- 75% <= Change <= 100%

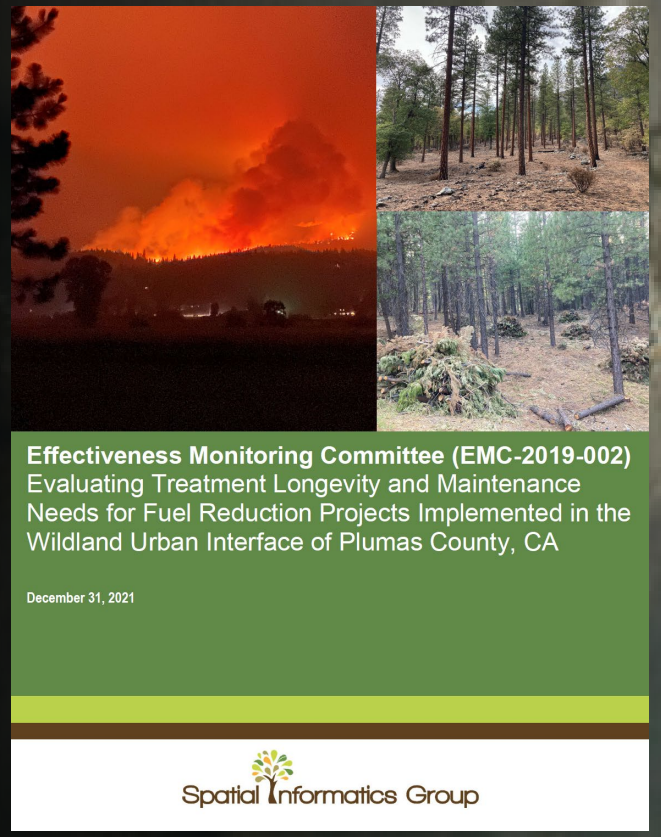
RAVG_Canopy Cover Change 2013-2020

2020 Canopy Cover (CC) Percent Change

- 0%
- >0% to < 25%
- 25% to < 50%
- 50% to < 75%
- >= 75%
- Unmappable

Contact Us





Thank You!

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Ryan Tompkins, UCANR

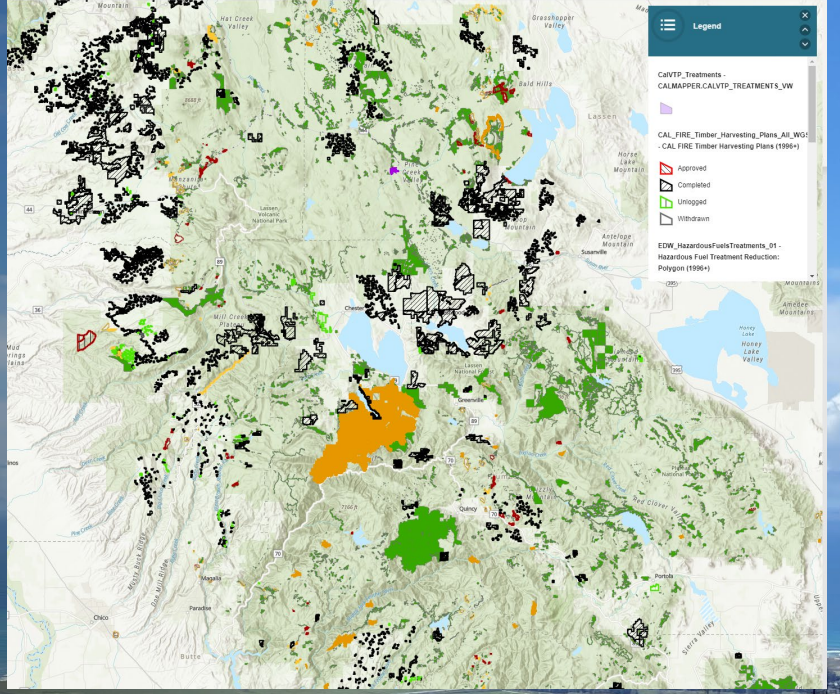
Jonathan Pangburn, CALFIRE

Tommy Brenzovich, USFS

Kyle Felker, MapIt GIS

Local Landowners and Fire Fighters

Other SIG Initiatives



- ***Million Acre Project:*** Mapping all known planned fuel treatments
- ***Burn Pile Mapping****:* Mapping all burn piles statewide
- **Post Wildfire Vegetation Recovery Maps:** Google Earth Engine maps 1985-2022
- ***Climate and Wildfire Institute***: a non-profit boundary organization to support research needs.
- ***True Cost of Wildfire***: Western Forestry Leadership Coalition
- ***Fire Factor***: CONUS-wide parcel-level wildfire risk index system
- ***Avoided Wildfire Emissions Methodology***: Fuels treatment carbon emissions forecast methodology for Climate Reserve's Climate Forward.
- ***Fire Modeling Software Suite*****:** Developing user interface and architecture for USFS fire modeling software. (Behave, FSIM, FlamMap, etc)

Free and open access to the next generation of wildfire risk models for grid resiliency

Project Website: https://pyregence.org/

HIGHLIGHT OF PROJECT TASKS

PYREGENCE

California Energy Commission
Commission Agreement Manager
Alex Horangic

Spatial Informatics Group

Principal Investigator
David Saah, PhD
Project Management
Shane Romsos

Technical Advisory Committee

Extreme Weather & Wildfire

Lead - Janice Coen, PhD

Tasks

- Historical fire weather analysis
- Weather station optimization model & tool
- Pilot test of upper air profiler

NCAR | NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

UNIVERSITY OF SAN FRANCISCO

Fuel Mapping & Fire Physics

Lead – Scott Stephens, PhD

Tasks

- Small- and large-scale fire physics experiments
- Tree mortality mapping and fuels recruitment projections
- Fuels characterization and mapping

Berkeley
UNIVERSITY OF CALIFORNIA

Wildfire Forecasting

Lead – Chris Lautenberger, PhD

Tasks

- Develop models to provide near-term fire forecast at a fine scale
- Produce decision support tools
- Cost-benefit analysis

REAX ENGINEERING

Climate Change & Fire Projections

Lead – Leroy Westerling, PhD

Tasks

- Develop coupled statistical/dynamical fire-climate-vegetation models
- Forward concepts for decision support tools
- Support California's 5th climate assessment

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