California Vegetation Burn Severity Online Viewer - FAQ

Fire and Resource Assessment Program (FRAP)

1. What is the California Vegetation Burn Severity Online Viewer?

The California Vegetation Burn Severity Online Viewer is a public geospatial tool developed by CAL FIRE's Fire and Resource Assessment Program (FRAP). It displays burn severity data for wildfires across all land ownerships in California from 2015 to 2023, for fires that burned 1,000 acres or more.

"Geospatial" refers to data that is explicitly linked to geographic locations on Earth's surface, enabling spatial analysis and mapping. The California Vegetation Burn Severity Online Viewer is a geospatial tool because it integrates burn severity data with geographic coordinates, allowing users to visualize, analyze, and interpret the spatial patterns and extent of wildfire impacts across California using an interactive map.

Burn severity describes the extent to which wildfire damages vegetation. It measures whether an area was lightly burned with minimal damage or severely burned with a high proportion of vegetation killed.

2. Why was this viewer developed?

In accordance with Senate Bill 1101, FRAP developed this viewer to enhance public understanding of postfire conditions and ecological impacts. It offers insight into the severity of impacts to vegetation across both forested and non-forested landscapes.

3. What kind of data does the viewer show?

The viewer displays fire perimeters and two burn severity metrics. Users can view fire perimeters, severity maps, and proportional area statistics for each fire.

4. What burn severity metrics are displayed?

Composite Burn Index

Presented only in forested areas, this index is classified into four severity classes. Results are presented as maps and pie charts summarizing area by class. The Composite Burn

Index (CBI) measures wildfire severity by scoring changes to vegetation layers from ground fuels to tree canopies. Higher CBI values indicate more severe burning.

Relative differenced Normalized Burn Ratio (RdNBR)

Presented for all vegetation types, this index measures vegetation change from pre- to post-fire.

- **Orange shades** indicate loss of live vegetation
- **Purple shades** indicate gain in vegetation

Both indices use post-fire data from the summer after the year in which the fire occurred.

5. How can I use the viewer?

The viewer offers several interactive features:

- Filter fires by name, year, cause, and/or size
- View burn severity classifications and statistics
- Add custom and/or public data layers to the view
- Generate georeferenced digital maps for field use

6. What are some examples of use cases for this data?

The Burn Severity Viewer supports post-fire recovery planning by identifying areas in need of reforestation or restoration, informing habitat management and conservation efforts, enhancing safety through insights for fire suppression planning, and improving preparedness by helping prescribed fire practitioners plan treatments based on past burn severity and fuel changes. The data aid in understanding vegetation change, informing predictions of natural regeneration patterns after different wildfire severities, and predicting post-fire fuel changes over time.

7. Will the viewer be updated?

Yes. The viewer will be updated annually to include new fires ≥1,000 acres.

8. Why was this interval chosen?

Displaying vegetation burn severity data one year after the fire allows for both one year of vegetation recovery and allows the model to account for delayed tree mortality resulting from wildfires.

9. What are the project implementation phases?

Phase 1 – Online Viewer (2025)

- Public release of the geospatial viewer

Phase 2 – Downloadable Datasets (In Progress)

- Annual updates with new qualifying fires.
- Assessing accuracy of methods for measuring vegetation burn severity in non-forested vegetation
- Public release of one or more downloadable datasets.

10. How reliable is the burn severity data?

The methods used are well-established and produce reliable results in forested vegetation. However, methods for non-forested vegetation are still under evaluation and may be updated as research progresses.

11. Who is involved in developing and reviewing the data?

A Technical Advisory Committee provides expertise and guidance. Participating organizations include:

- Wildfire & Forest Resilience Task Force – Science Advisory Panel
- California Air Resources Board
- NASA – Wildfire, Ecosystem Resilience, and Risk Assessment (WERK) Project
- U.S. Geological Survey
- U.S. Forest Service – Geospatial Office
- U.S. Forest Service – Rocky Mountain Research Station

12. Where can I access the viewer?

The viewer is now live and available to the public HERE

For more information about CAL FIRE's Fire and Resource Assessment Program visit the webpage.