

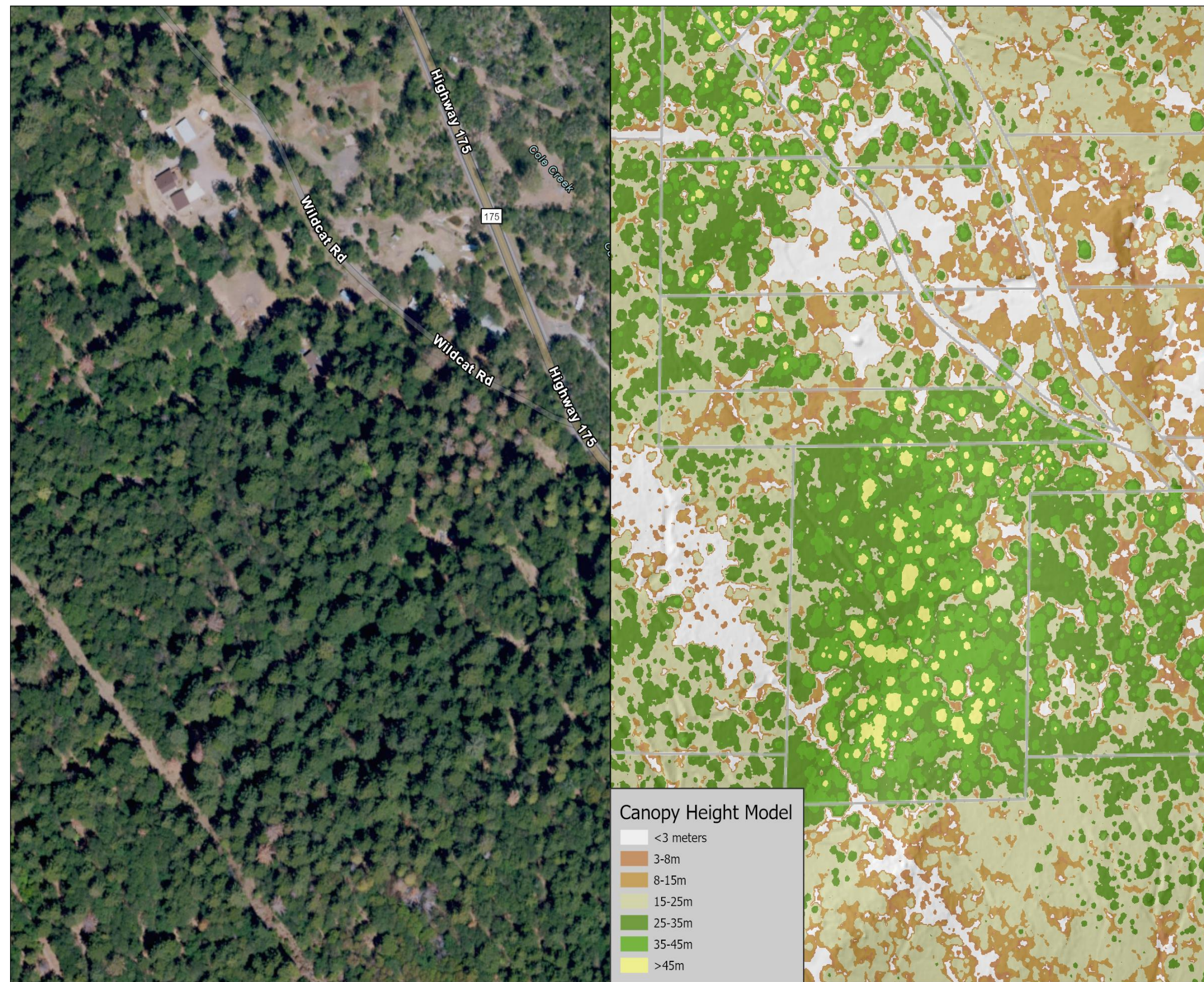
Lidar, Vegetation, and Fuels Data Update – Lake County

Board of Supervisors Meeting
January 12th, 2025

Mark Tukman – Tukman Geospatial

AGENDA

- 1 **Lidar datasets completed and available**
- 2 **Access to datasets**
- 3 **Upcoming datasets**



Lidar-derived canopy height model (right side), near Mt. Hannah Lodge

Task 2 – Lidar Datasets Completed + Available

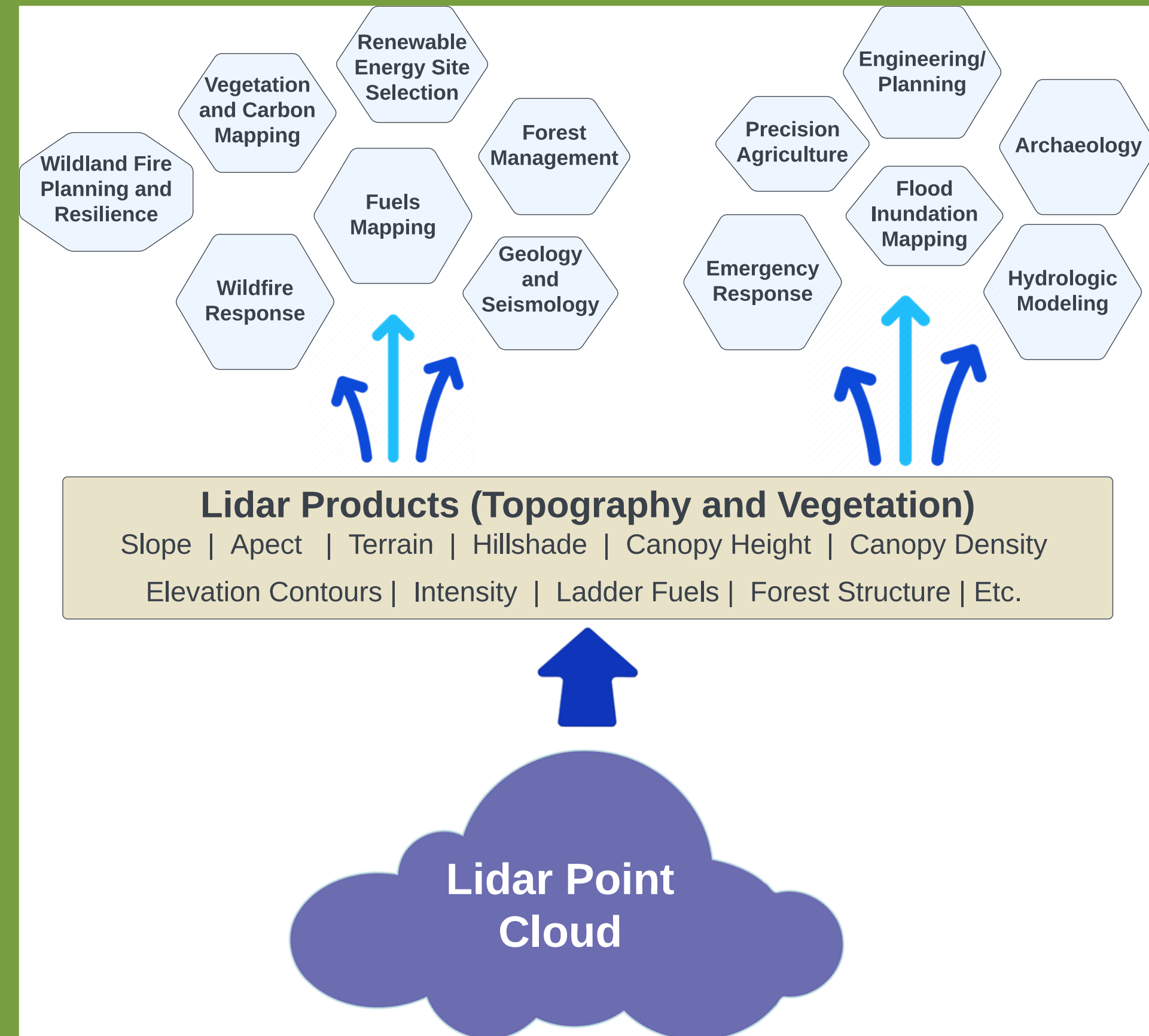
Lidar Products – Where?



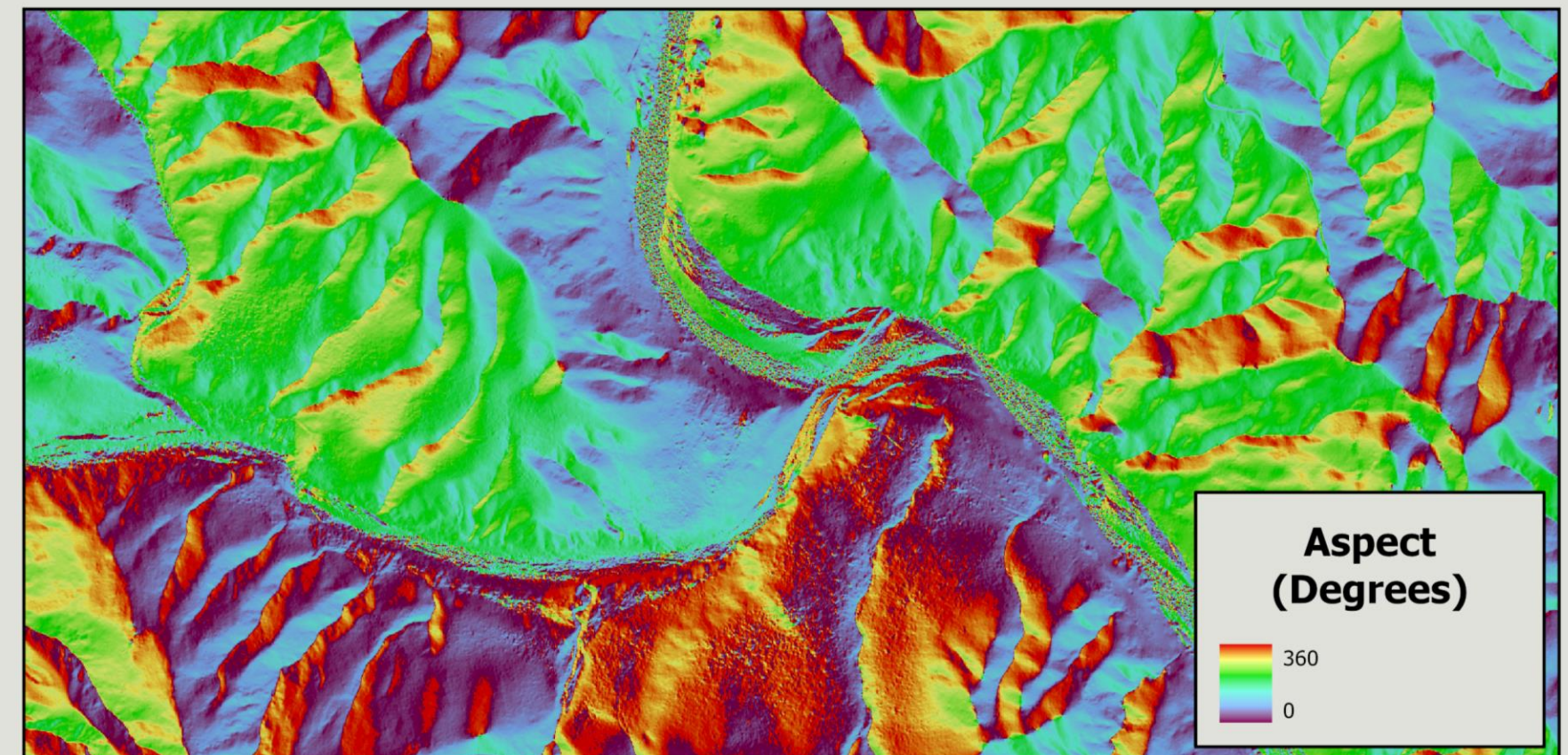
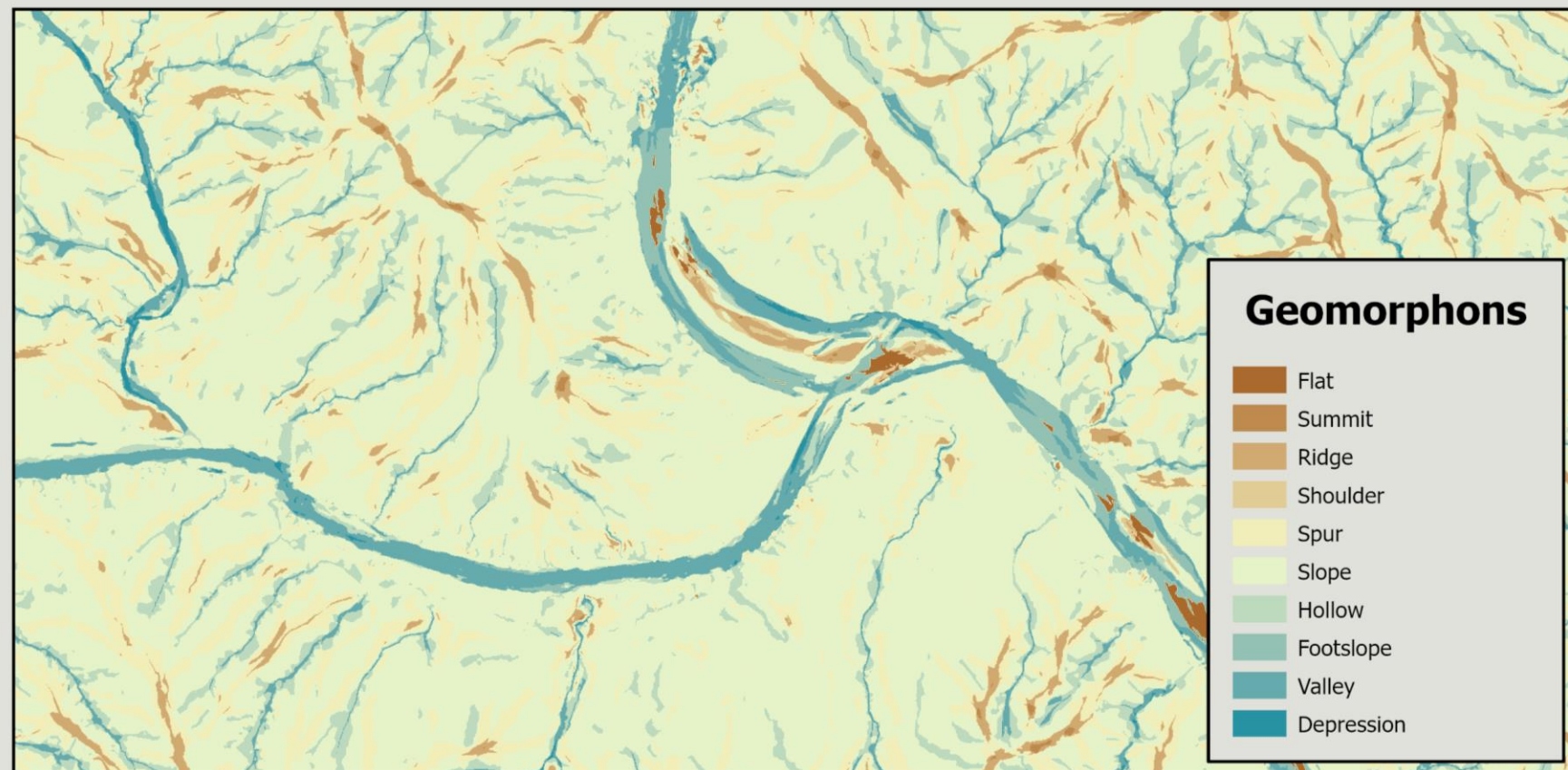
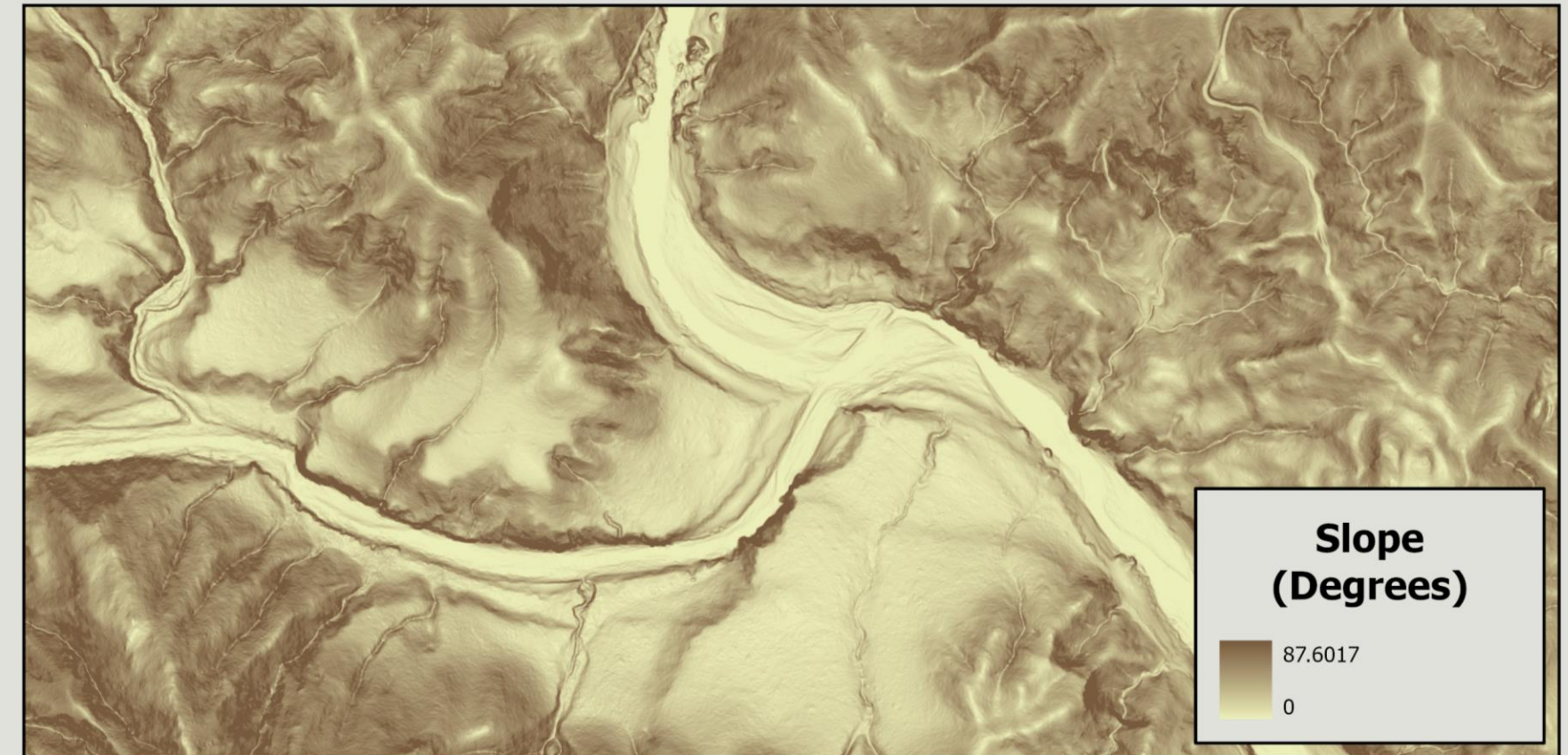
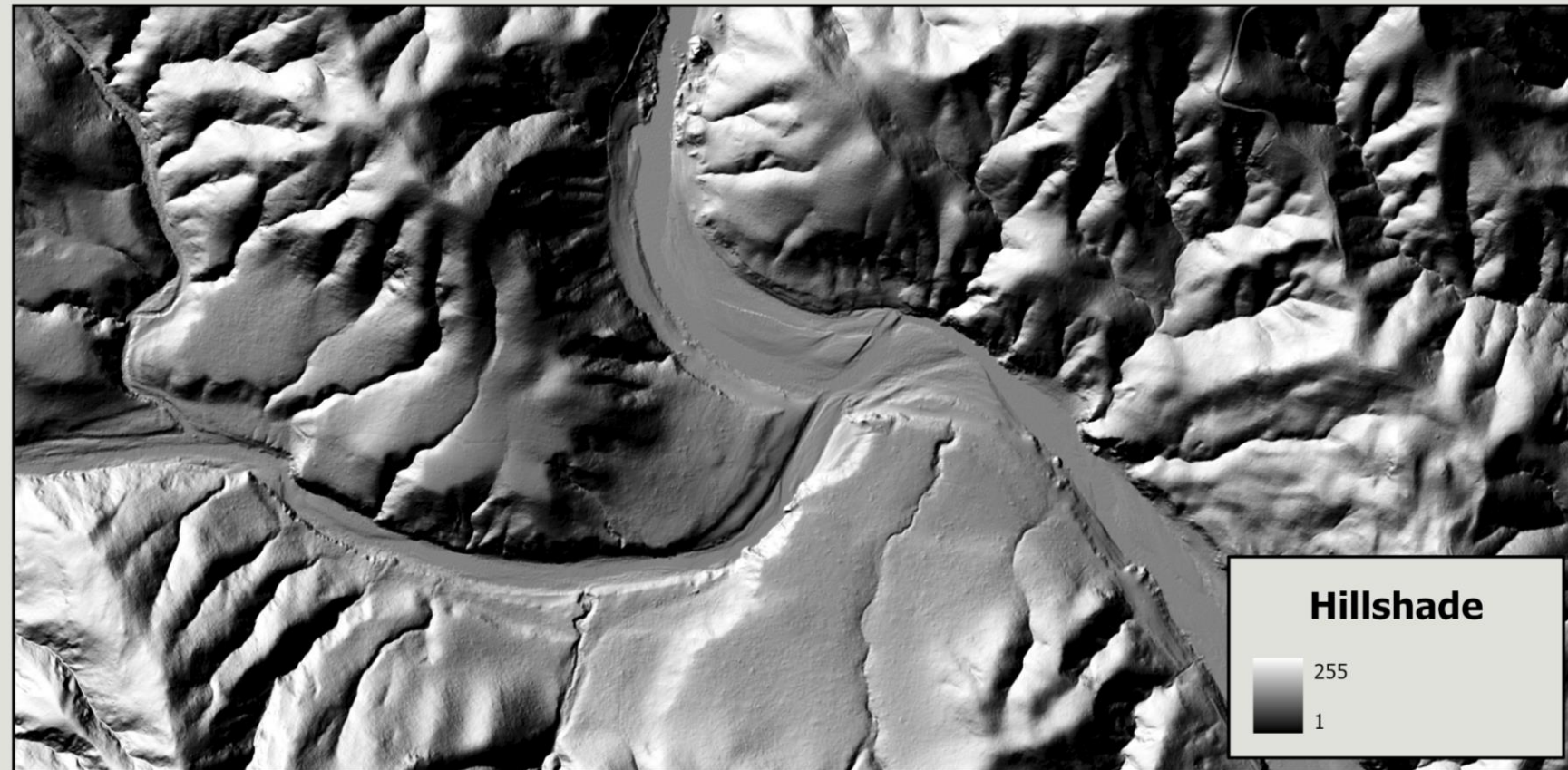
- Lidar products:
 - Cover 18 counties
 - Published by county for public use
 - Work funded by:
 - CA DNR
 - State Coastal Conservancy
 - USGS
 - Work done by
 - North Coast Resource Partnership
 - Coastal San Luis RCD
 - Tukman Geospatial, NV5 Geospatial

Lidar Products – Uses + Benefits

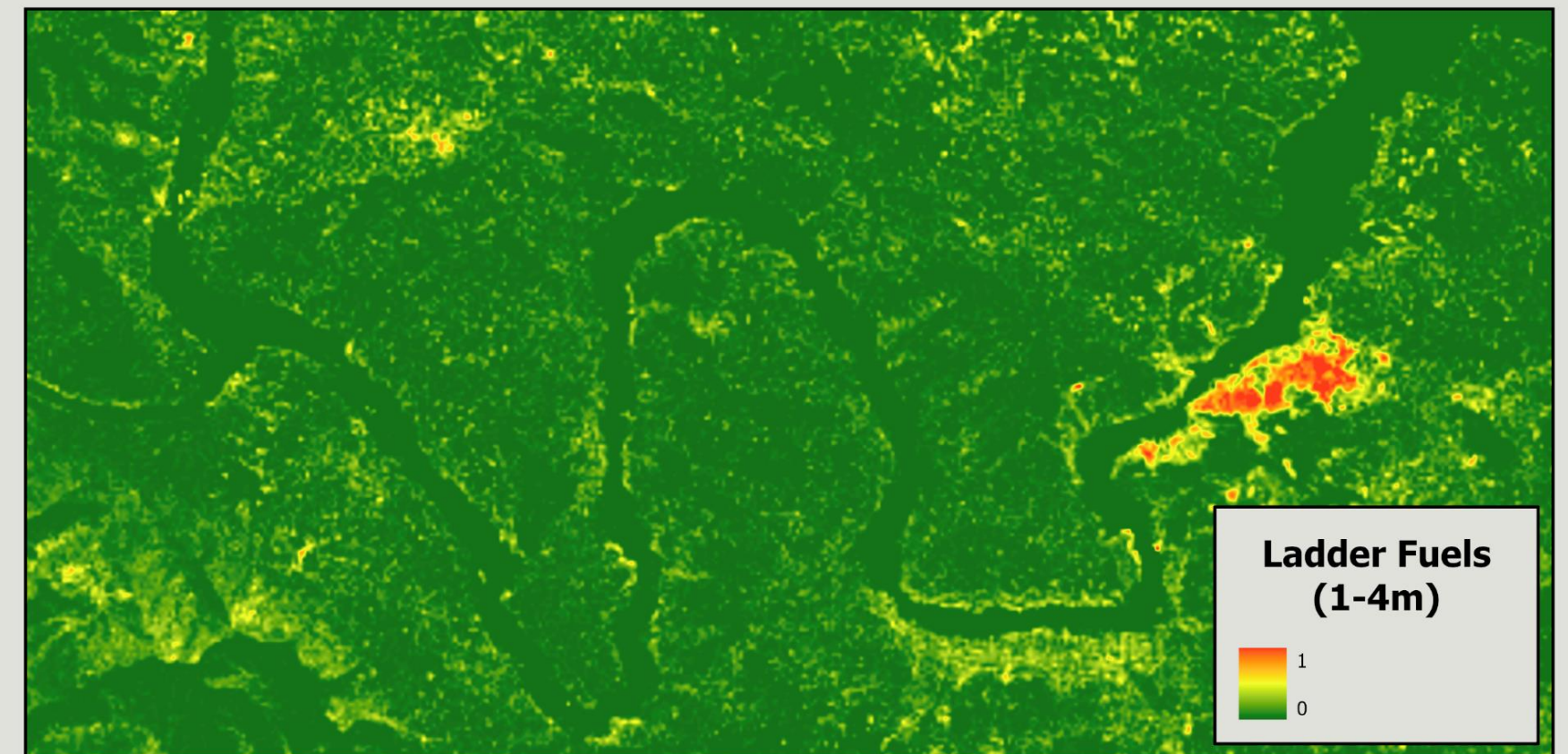
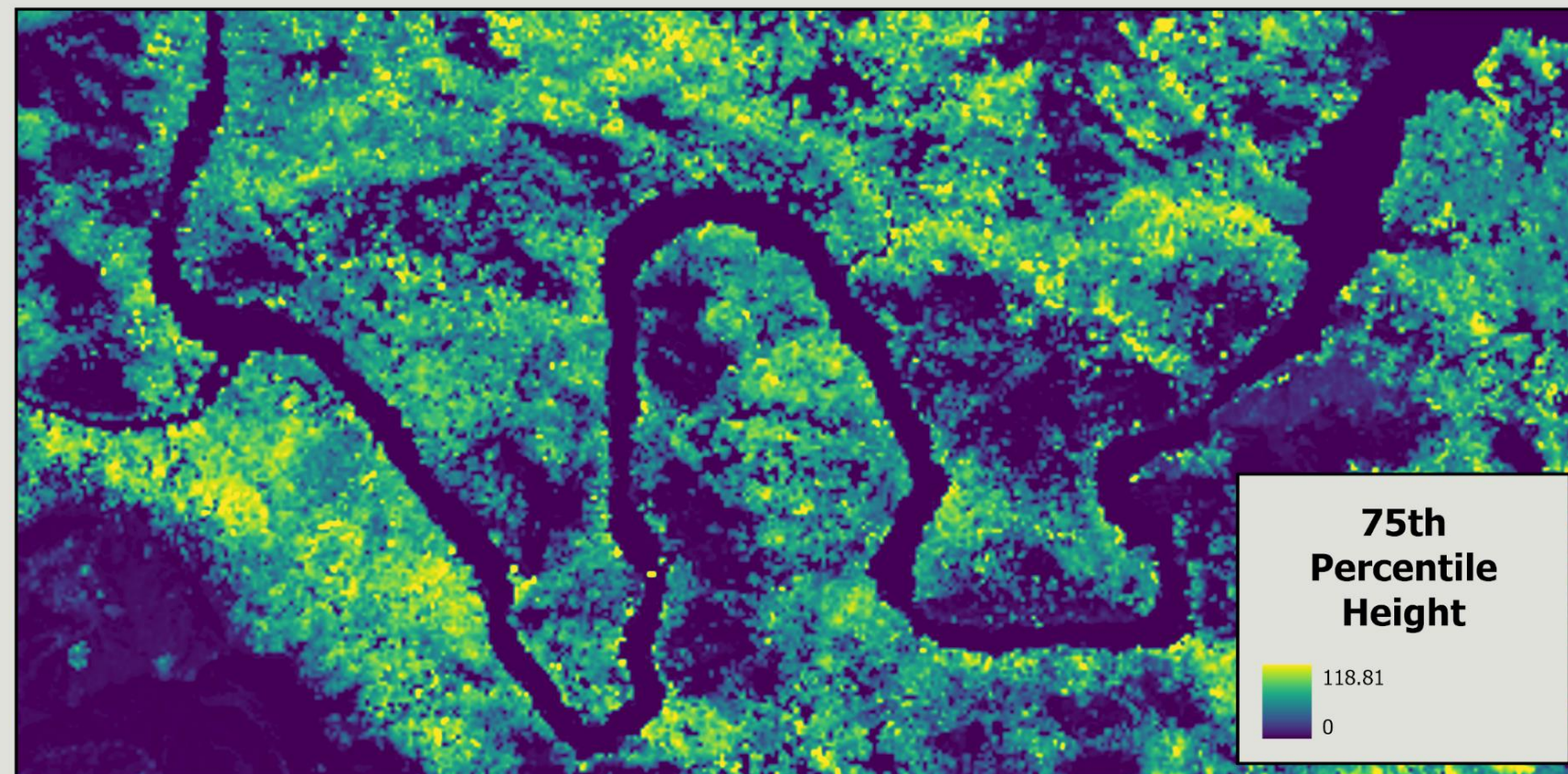
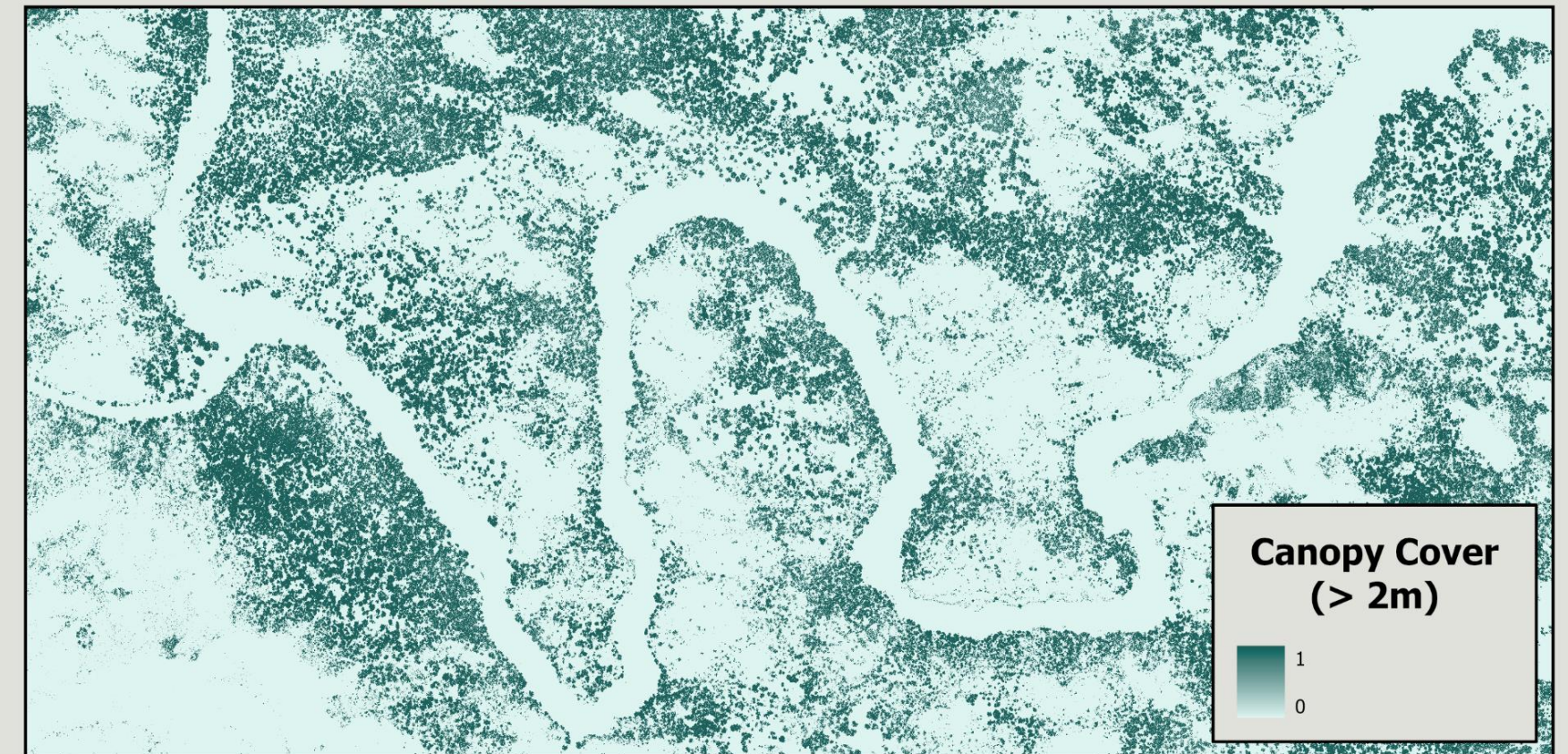
- Lidar products:
 - Topography Products
 - Detailed ground and building elevations
 - Slope and Aspect
 - Vegetation Products provide answers:
 - How tall is a tree or a stand of trees?
 - Where is the dense vegetation on a property?
 - Where are the understory fuels?



Lidar Products – Topographic Examples



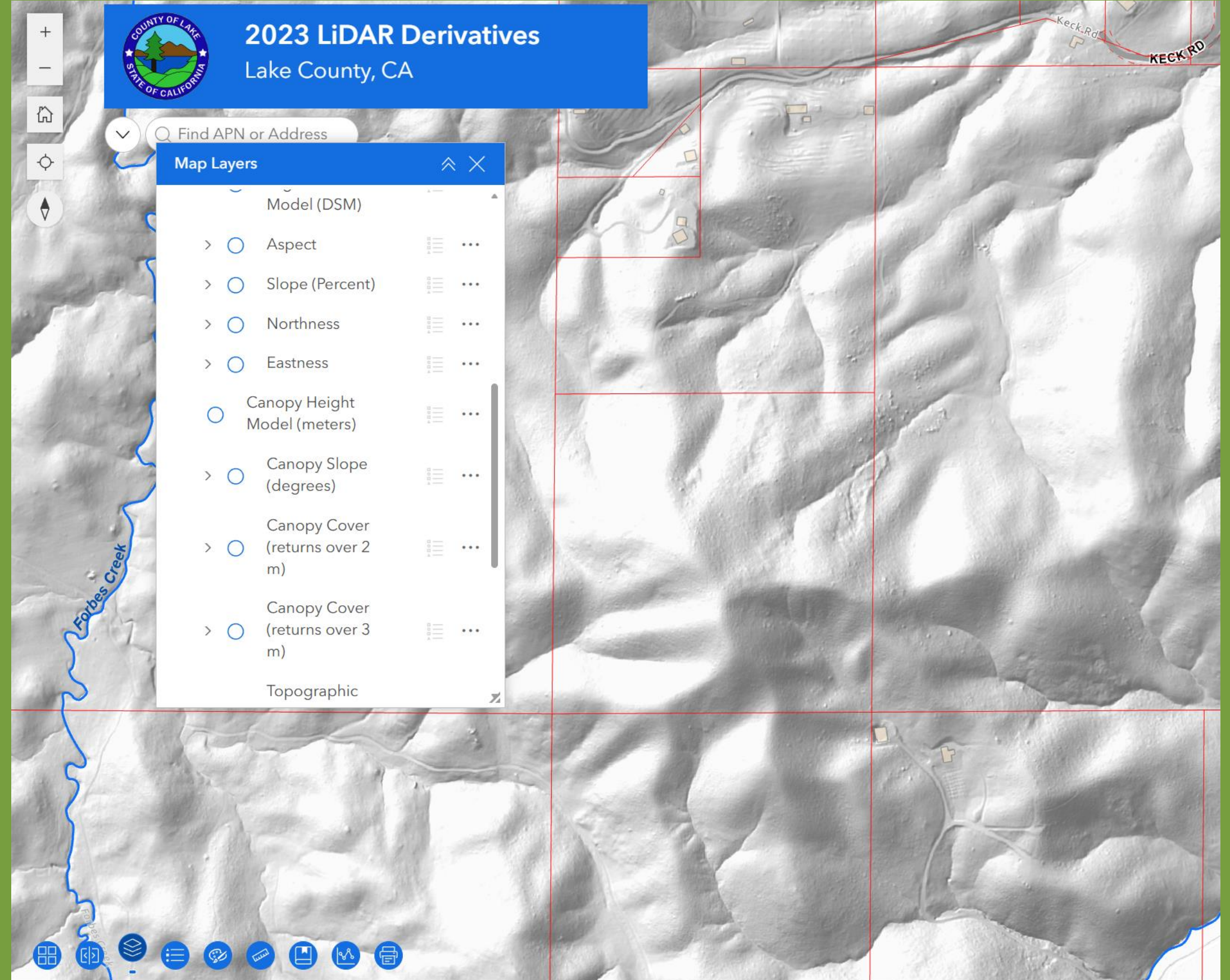
Lidar Products – Forest Examples



Task 2 – Access to Lidar Datasets

Lidar Products – Get the Data

- County viewer, from Lake County GIS – thanks Lon



Lidar Products – Get the Data

- Datasheet with access to all Lake County Data products
 - https://vegmap.press/lidar_prods_san_mateo
- Data also posted on <https://pacificvegmap.org>

Lidar Products – 1-Foot Elevation Contours

- Delivers NEW (2023) contours for all of Lake County
- https://vegmap.press/contour_clip
- Contours provide very accurate (near survey grade) elevations for planners, engineers, and farmers
- Thanks to Gene Forsburg + Kass Green for the server donation!



Contour Clip and Email Tool

Contour Clip and Email Tool

Need other data? Go to [Pacific Veg Map Data Downloads](#)

1) Select a data format:

☒ Shapefile
☐ File Geodatabase
☐ DWG 2018

2) Draw an area (< 3000 acres due to server capacity)

Click the button, press down to start, let go to end. Areas without grey masking contain contours.

3) Select a contour interval (default is 1 foot)

1 foot ▼

4) Enter your email

5) Submit the request

Check your junk mail if you don't receive an email.

Zoom to an Address:

1. This app provides access to contours for the following counties (check the specific metadata after you download for details): Del Norte (partial), Humboldt (partial), Lake, Marin, Mendocino, Modoc, Monterey, Napa, Sonoma, San Benito, San Luis Obispo, San Mateo, Santa Cruz, Santa Clara, San Francisco, Solano, and Trinity counties.

2. Some counties do not have 1 foot interval contours (e.g., Santa Cruz and Napa); for these counties you will get 2 foot contours even if you request 1 foot.

3. If an area on the border of multiple counties is selected, outputs will include separate files for each county.



POWERED BY 

[Pacific Veg Map Web Site](#)

Task 2 – Upcoming Datasets

WERK – Wildfire, Ecosystem Resilience, and Risk Assessment Initiative

- Partnership between CARB, CNRA, and NASA
- Will produce first ever, statewide datasets using recent lidar and imagery
- Spatial datasets will include
 - Maps of disturbance (fire, management, etc)
 - Buildings
 - Basic Land Cover (6-classes)
 - Tree mortality! See next slide.
- WERK Web Site - <https://www.nasa.gov/werk/>

WERK Tree Mortality Data

- Tree mortality data!
- Created from Lake's new lidar and NAIP imagery
- ETA – FALL, 2026

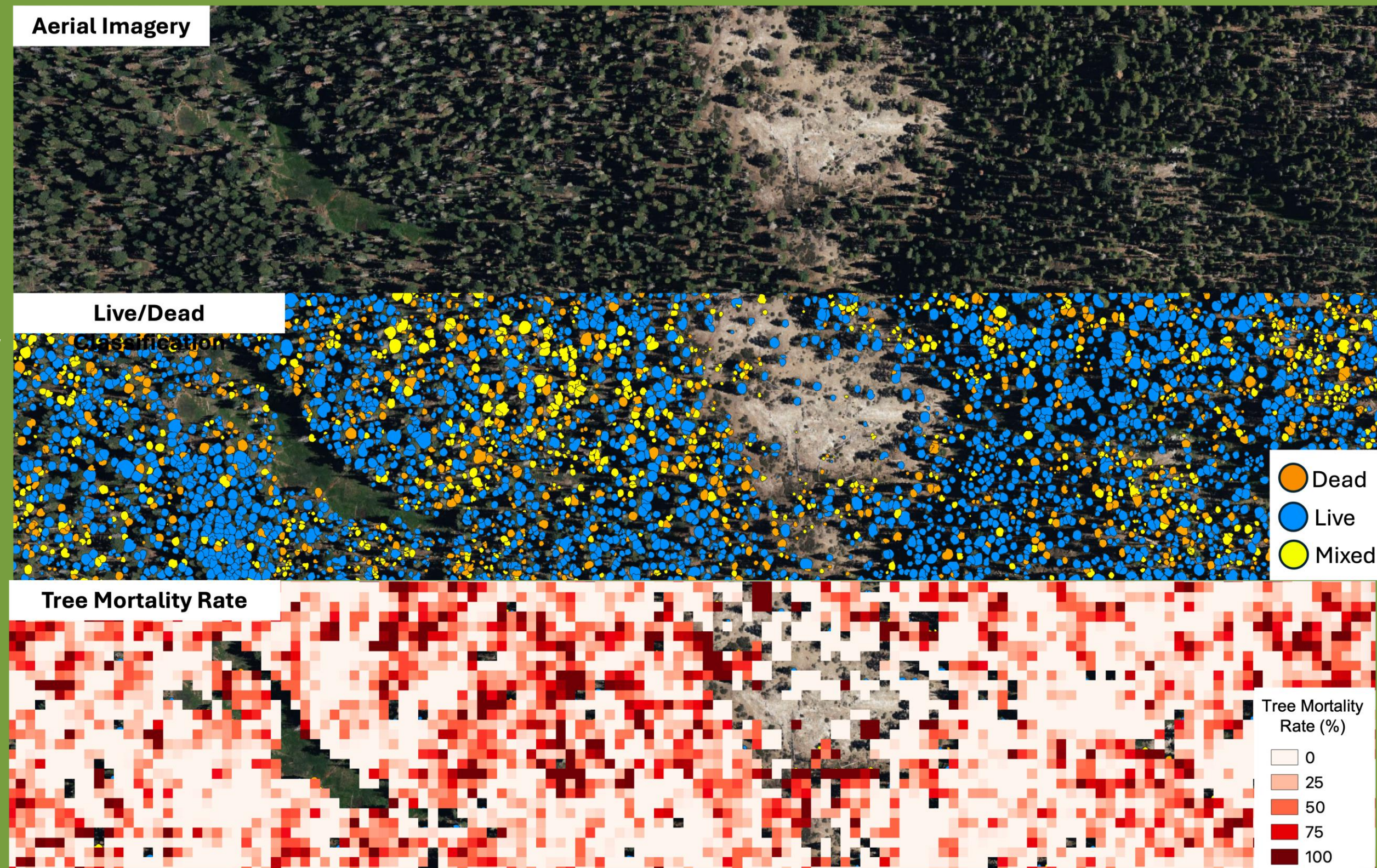


Figure from the WERK website at NASA

WERK Data – Uses + Benefits

- Annual tracking of land cover change and acres affected by fire, disturbance, land conversion, etc.
- Provides very accurate building footprints
- Provides tree-level mapping of mortality, far better than from aerial surveys

Fine Scale Vegetation Maps + Fuels for Lake County

- **Fine scale vegetation maps** created by CDFW expected for Lake County in 2027 – will be a ‘best available’ dataset and very useful for forestry and fuels management
- Once complete, a new **5-meter fuel model** will be developed from the vegetation map and lidar
- **Wildfire hazard and risk** datasets will be developed from the **fuel model, fine scale vegetation map, and lidar**
- These new datasets will provide enhanced tools for planning + prioritizing fuel reduction projects countywide