# Using GIS for Post-Fire Watershed Recovery & Resiliency Planning

Allison Schichtel Sonoma County Agricultural Preservation & Open Space District



Watershed Collaborative | Sonoma County Recovery Framework



# Watershed Collaborative | Natural & Working Lands

- Over 150 participants/60 groups
  Working Groups/Focus Areas
  - Data, Assessment & Planning
  - Education & Outreach
  - Land Management
  - Legislative, Policy & Funding
  - Working Lands
  - Overall Coordination



AFTER THE FIRES: NATURAL & WORKING LANDS

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# Watershed Collaborative | Fire Response

#### **Specific Datasets Available**

(http://sonomavegmap.org/fires)

- Post-fire imagery
- Fire datasets
  - Soil burn severity (USFS)
  - Debris flow likelihood (USGS)
  - Fire perimeters (Calfire, USGS)
- Viewers and apps
- Watershed Emergency Response Team Reports – WERTs (Calfire)
- Publications, post fire assessment guidelines



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Source: USFS

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### Watershed Collaborative

### Data, Assessment, and Planning Priority Actions:

- Identify short-term threats to waterways and public safety
- Evaluate the response of natural and agricultural lands to fire
- Ensure equal access to best available information
- Strengthen and coordinate data collection and analysis
- Develop long-term landscape vision for restoring lost ecosystem services

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# Watershed Collaborative | Planned Actions

- Acquire 1-foot 4-band orthoimagery and Phodar-derived point cloud and Digital Surface Model of burned areas
- Proposal submitted to NASA for funding

#### Pre-Fire Digital Elevation Models



Post-Fire Digital Elevation Models



### Watershed Collaborative | Planned Actions

Orthoimagery and Digital Surface Model of burned areas will be used:

- As baseline for monitoring vegetation response
- To map and quantify carbon loss
- To assess vegetation mortality and inform veg map updates
- To map fine-scale burn severity



## Watershed Collaborative | Planned Actions

Orthoimagery and Digital Surface Model of burned areas will be used to answer questions like:

How does burn severity vary by vegetation community type?

How does vegetation mortality and/or vegetation recovery vary by vegetation community type?



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## Watershed Collaborative | Planned Actions

Orthoimagery and Digital Surface Model of burned areas will be used to answer questions like:

How did existing vegetation conditions contribute to fire severity?

How did different forest management and land use practices affect burn severity?



## Watershed Collaborative | Planned Actions

- Leverage existing systems to share information and manage data
- Establish common data platform(s) and make data accessible for partners and community





