



**OREGON  
POST-FIRE  
FLOOD  
PLAYBOOK**

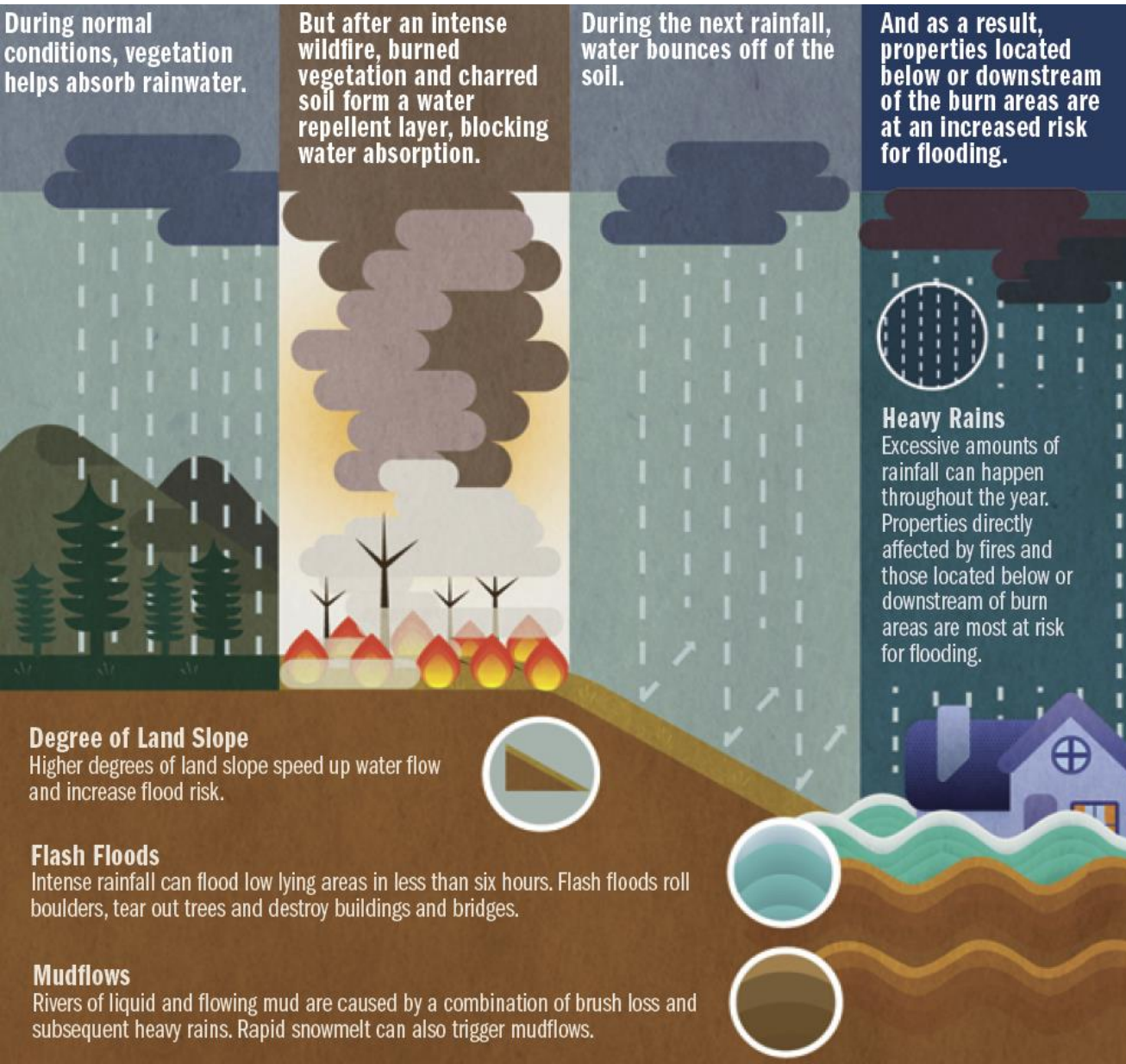
# Post-Wildfire Playbook Outline

- **Introduction to the problem**
- Playbook development
- Playbook objectives
- Playbook contents
- Further work





# The post-fire flood risk









# 2015 Canyon Creek Fire

New rain gauge



Temporary berm



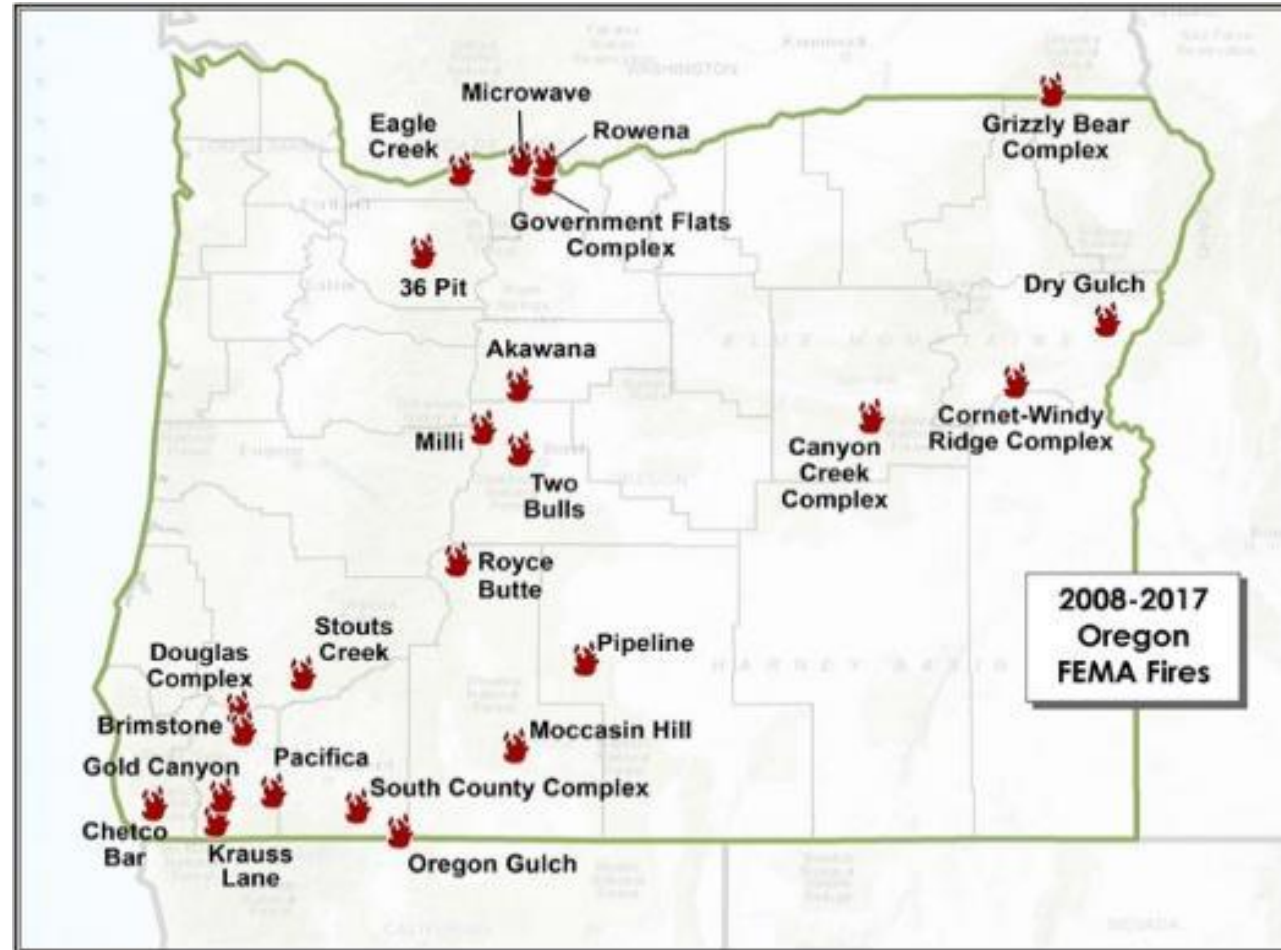
GRANT COUNTY

Culvert replacement



# Problem: Oregon wildfires

- No major post-fire floods in Oregon (yet)
- Statewide issue



# Post-Wildfire Playbook Outline

- Introduction to the problem
- **Playbook development**
- Playbook objectives
- Playbook contents
- Further work

# Oregon Silver Jackets

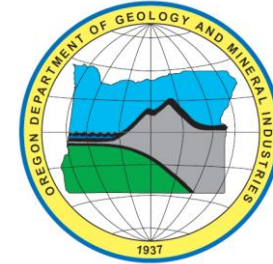
## Federal agencies



FEMA



## State agencies





# Oregon Silver Jackets

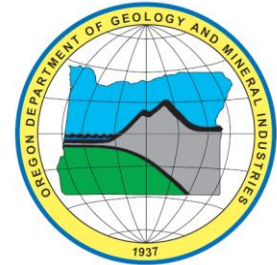
## Federal agencies

## State agencies

Core  
team  
members



FEMA



Partner  
agencies



# Primary Contributors

## Federal agencies

## State agencies

Core team  
members



Oregon Department of  
Land Conservation  
and Development

Partner  
agencies





# Post-Wildfire Playbook Outline

- Introduction to the problem
- Playbook development
- **Playbook objectives**
- Playbook contents
- Further work

# Project Objectives

- Provide resource for local communities to address post-fire flood and debris-flow risks
- All state/federal agency programs in one document
- Primary audience: Emergency/Floodplain managers

Not included:

- Other areas of recovery
- Technical details



# Post-Wildfire Playbook Outline

- Introduction to the problem
- Playbook development
- Playbook objectives
- **Playbook contents**
- Further work

# Local officials want to know...

- Is there really a risk?
- Who is responsible for reducing risk?
- What assistance is available?
- How do we respond?



# Local officials want to know...

- Is there really a risk?
- Who is responsible for reducing risk?
- What assistance is available?
- How do we respond?

**Answer: *It depends***

# Is there really a risk?

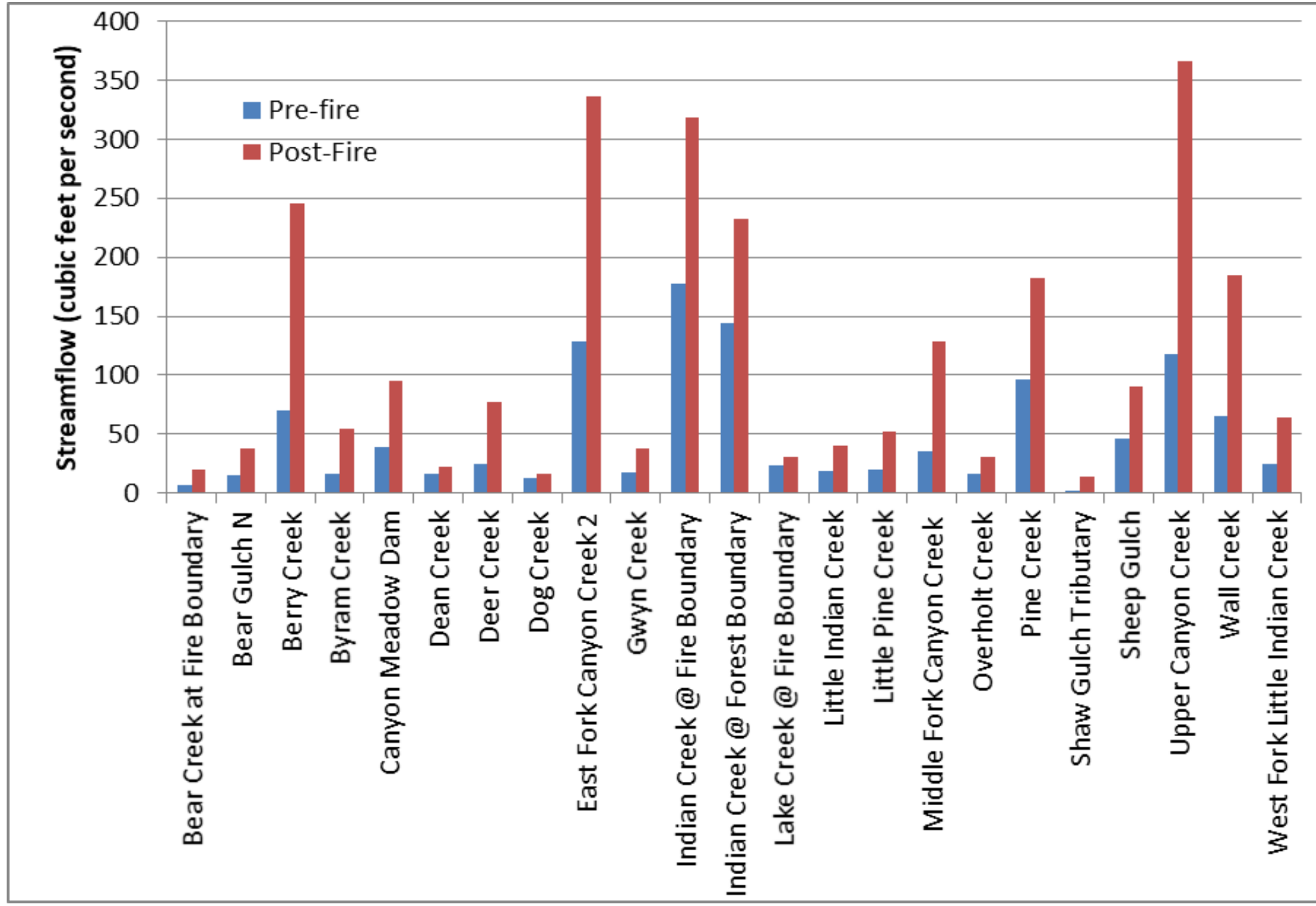
- 2016 Fish Fire Post-fire debris flow footage:  
<https://www.youtube.com/watch?v=OTuHQOHjC6Q>
- 2003 Clear Creek County, Colorado debris Flow footage:  
<https://www.youtube.com/watch?v=8mKC3eID074>



# Is there really a risk?

- Flash flooding/debris flows can be triggered by as little as:
  - 10 minutes of heavy rain
  - Rainfall rates of  $\frac{1}{2}$  inch per hour
- Peak flows
  - 300% increase over pre-fire conditions with 10-year storm in Canyon Creek

# The risk is real





# Who is responsible for reducing risk?

- Incident Command?
  - Clears out after fire containment
- U.S. Forest Service BAER teams?
  - Limited to federal lands
- Potential leadership vacuum



# Who is responsible for reducing risk?

- A coordinated team approach
- Most natural lead: Local emergency manager
- Team members:
  - Soil and Water Conservation Districts
  - State/Federal agency staff
  - City/County staff
  - Watershed councils/other nonprofits

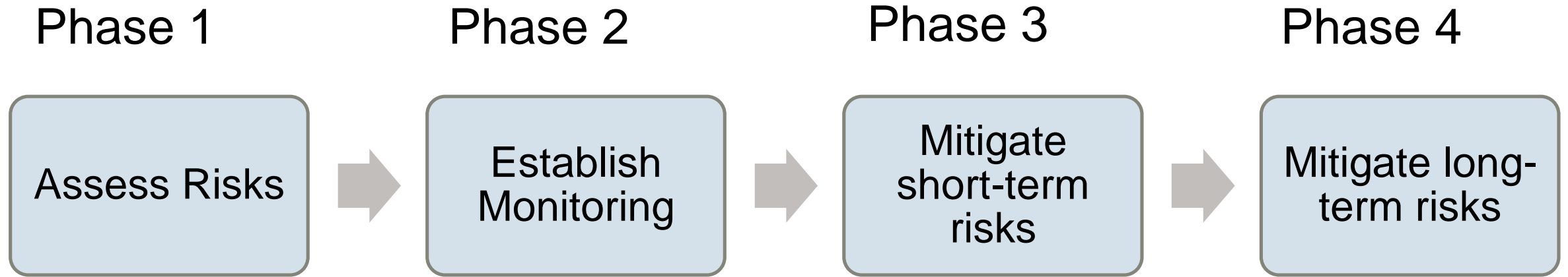


# What State/Federal assistance is available?

- One-pagers on available assistance programs

| Program Name                               | Agency | Owner of Wildfire-burned land |                                 |                |              | Type of Assistance <sup>2</sup> | Matching Funds required? | Emergency or Disaster Declaration Required? | How long will this take? <sup>3</sup> | Must be requested from local government? |
|--|--------|-------------------------------|---------------------------------|----------------|--------------|---------------------------------|--------------------------|---|---------------------------------------|--|
|  |        | Privately owned <sup>1</sup>  | State-owned (State Forest, DSL) | Federal-owned  | Tribal-owned |                                 |                          |   |                                       |  |
| Burned Area Emergency Response             | USFS   |                               |                                 | X <sup>4</sup> |              | Direct                          | None                     | None  | Medium                                | No                                       |
| Emergency Stabilization and Rehabilitation | DOI    |                               |                                 | X <sup>4</sup> | X            | Direct                          | None                     | None  | Medium                                | No                                       |
| Advance Measures                           | USACE  |                               | X                               | X              | X            | Direct                          | None                     | None  | Fast                                  | Yes                                      |
| Rapid Deployment Rain Gauges               | NWS    |                               | X                               | X              | X            | Direct                          | None                     | None  | Fast                                  | Sometimes                                |
| Rapid Deployment Stream Gauges             | OWRD   | X                             | X                               | X              | X            | Direct                          | None                     | None  | Fast                                  | Sometimes                                |
| Rapid Deployment Stream Gauges             | USGS   | X                             | X                               | X              | X            | Direct                          | None                     | None  | Fast                                  | Yes                                      |
| Targeted Forecasting                       | NWS    |                               | X                               | X              | X            | Direct                          | None                     | None  | Medium                                | Sometimes                                |
| Snowpack monitoring                        | NRCS   |                               | X                               | X              | X            | Direct                          | None                     | None  | Medium                                | Sometimes                                |
| Emergency Watershed Protection Program     | NRCS   | X                             |                                 |                | X            | Funding                         | 25% of cost              | None  | Fast/<br>Medium                       | Yes                                      |
| Emergency Permitting                       | USACE  | X                             | X                               | X              |              | Direct                          | Permit fee (\$100)       | USACE-defined                               | Fast                                  | Yes                                      |
| Emergency Permitting                       | DSL    | X                             | X                               | X              |              | Direct                          | Permit fee (variable)    | DSL-defined                                 | Fast                                  | Yes                                      |
| Technical Assistance                       | ODF    | X                             |                                 |                |              | Direct                          | None                     | None  | Medium                                | Yes                                      |
| Debris Flow Hazard Mapping                 | USGS   | X                             | X                               | X              | X            | Direct                          | None                     | None  | Fast                                  | Sometimes                                |
| Hazard Mitigation Grants (HMGP)            | OEM    |                               | X                               | X              | X            | Funding                         | 25% of cost              | Presidential disaster <sup>5</sup>          | Medium                                | Yes                                      |
| Flood Mitigation Assistance                | OEM    |                               | X                               | X              | X            | Funding                         | 0%-25% of cost           | None  | Slow                                  | Yes                                      |
| Pre-Disaster Mitigation                    | OEM    |                               | X                               | X              | X            | Funding                         | 25% of cost              | None  | Slow                                  | Yes                                      |
| Technical Assistance Grant                 | DLCD   |                               | X                               | X              | X            | Funding                         | None                     | None  | Slow                                  | Yes                                      |

# How do we respond?





# Post-Wildfire Playbook Outline

- Introduction to the problem
- Playbook development
- Playbook objectives
- Playbook contents
- **Further work**

# Further work

- Getting the word out
- Include other recovery activities
  - Landslides
  - Economic recovery





# Questions

