

# Adaptive Management Program Committee

Sept. 25, 2023



# Attendance: Roll Call

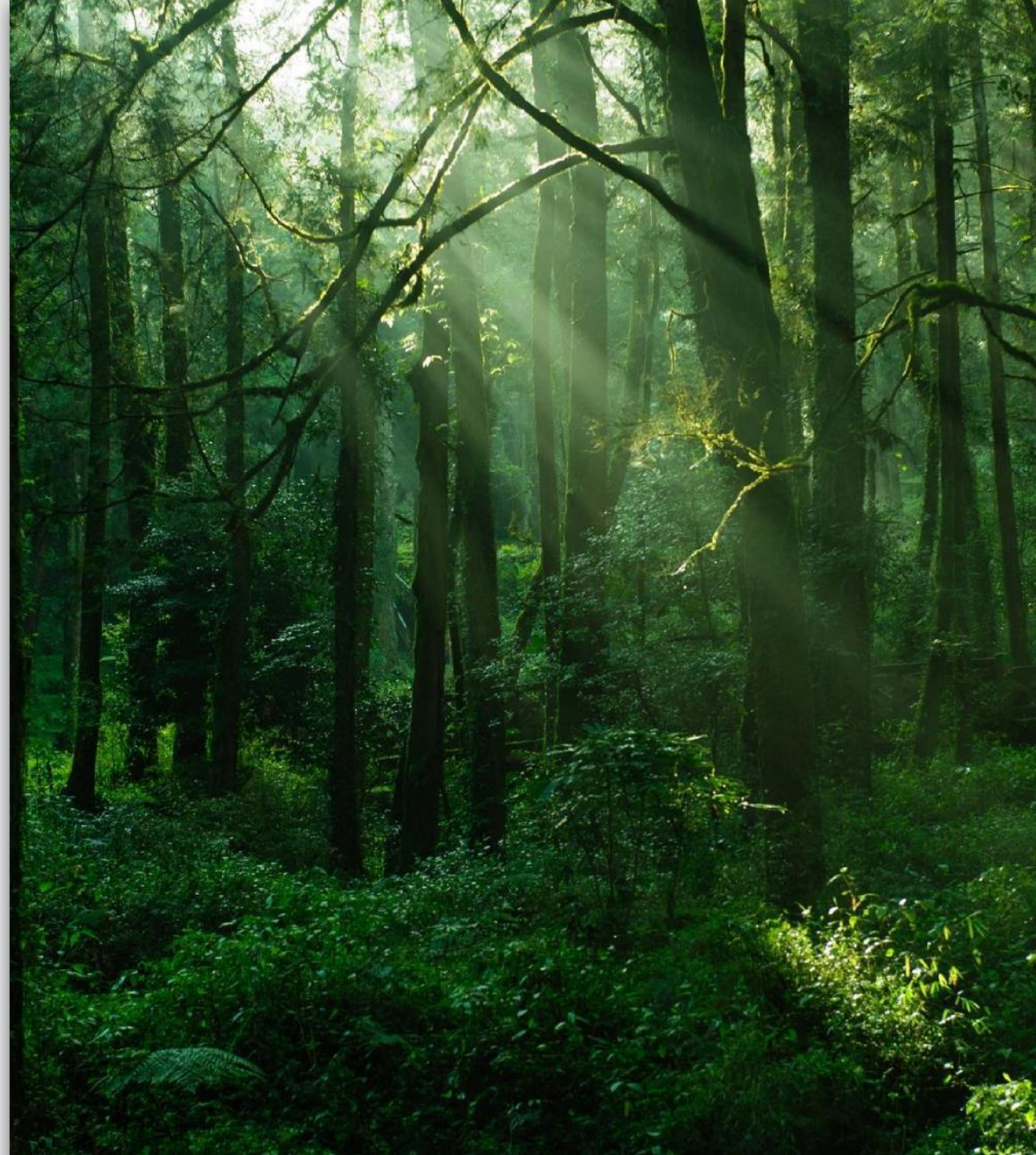
**Please answer “Present virtually”**





# Agenda

- I. Roll call, previous meeting  
Exec Summary, updates,  
public comment**
- II. Roads research question –  
hone package**
- III. Eastern Oregon Steep Slopes  
research question**
- IV. Process for prioritizing  
research questions**



# Housekeeping

- Meetings are public & recorded (instead of minutes), available online
- Please turn your camera on – it helps with discussion – also with “temperature read” (number of fingers)
- Raise virtual hand if you want to speak, state your name when you talk for the recording
- Warning - if “crickets”, Terry recommended to co-chairs “call people by name”
- AMPC is about conversation, prefer you don’t use chat
- Side-conversations make it hard to hear on recording & virtually;
- Please mute when not speaking
- Restrooms, exits





# Public Comment

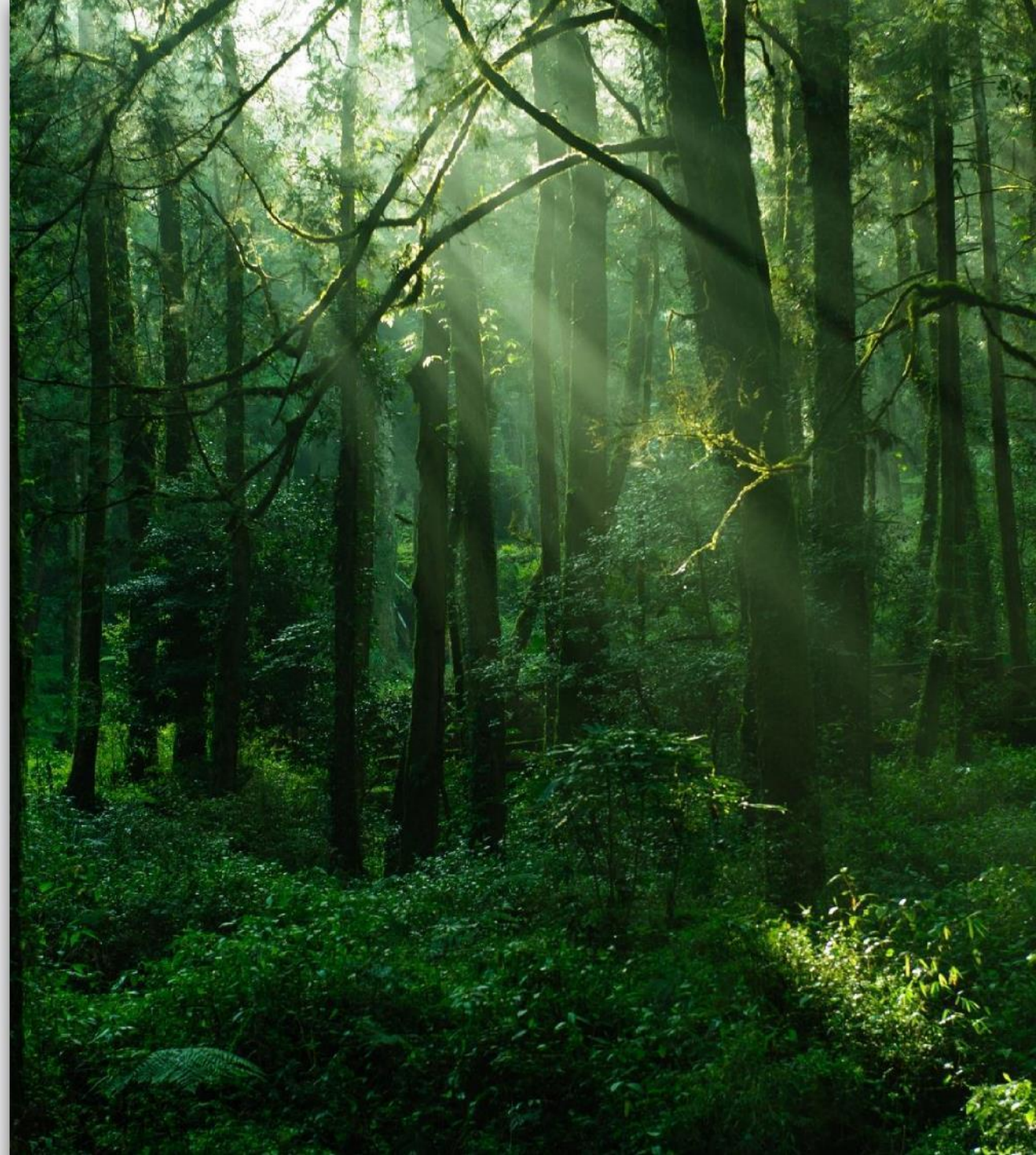


# **Executive Summary of previous meeting - Accept?**



# Updates

- **AMP budget approved at Sept. 6 Board meeting**
- **Participation grants**
- **IRST: INR Agreement; 1<sup>st</sup> meetings**
- **Reminder to do Board/Commission training series (online)**
- **Stick with 4<sup>th</sup> Mondays in 2024?**
  - **Working on 2024 AMPC workplan, likely not meet every month (stay tuned)**

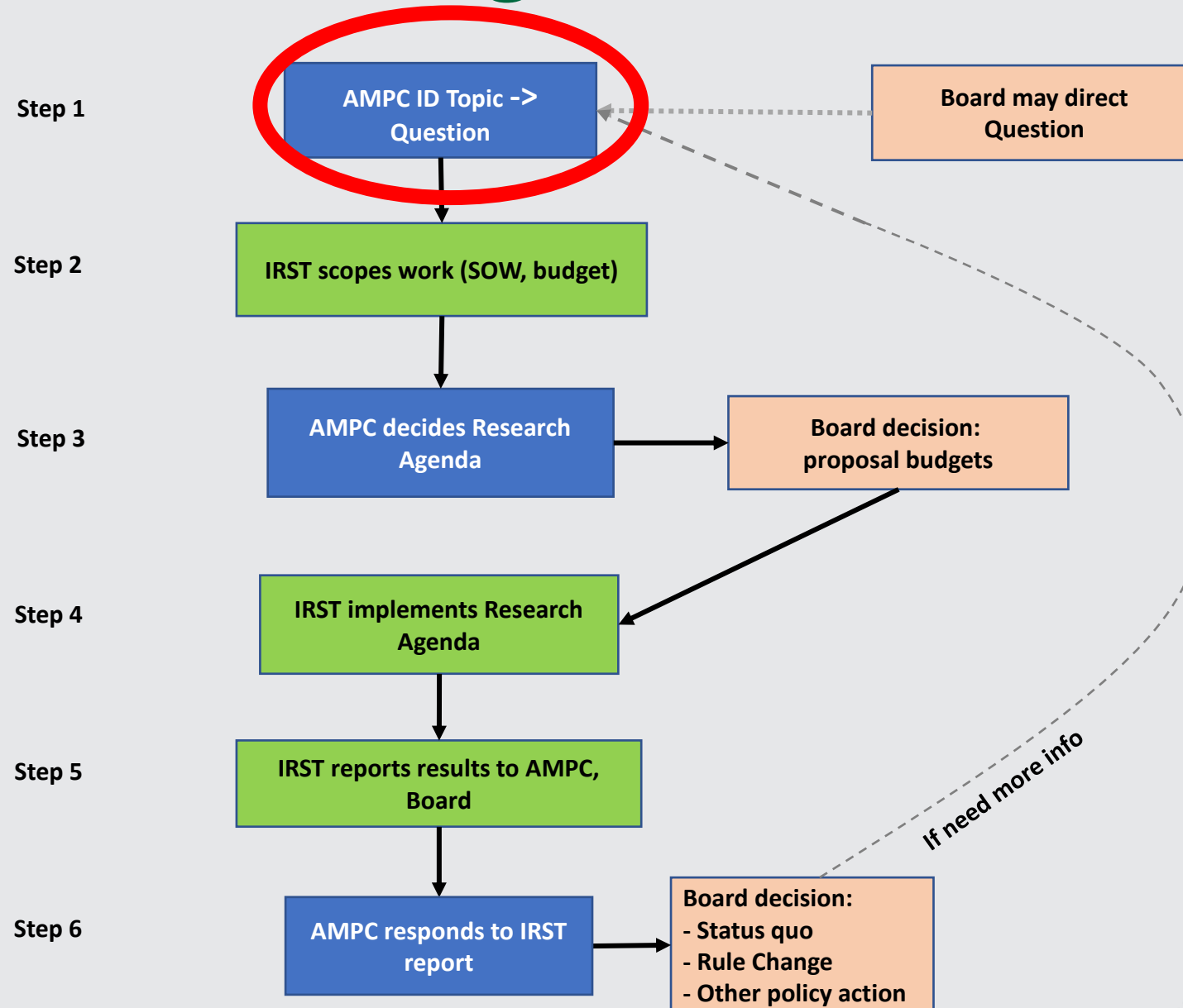


# Forest Roads Research Question(s) Package





# Adaptive Management Process Steps



# Roads primer: Research Topic vs. Research Question

Today

| Research Topics  | Research Questions  |
|--|---|
| <p>-Broad research theme [in rule (OAR 629-603-0100(7)) or raised by AMPC member]</p> <p>-Regular prioritization: 1) focusing on in the near term; and, 2) consideration later.</p> <p><b>EXAMPLE:</b> “The impacts of timber harvest along nonfish streams on downstream, fish-bearing streams”</p> | <p>Policy questions implemented via a research project; refinements of Research Topics.</p> <p>OAR 629-603-0200 (3)(a) requirements (“research question package”):</p> <ul style="list-style-type: none"><li>A. <u>Type</u> of research and monitoring;</li><li>B. <u>Rule, biological goals and objectives, or other issue</u> being studied;</li><li>C. <u>Objective</u> of the research;</li><li>D. <u>Context</u> of the research question;</li><li>E. <u>Other information</u> that AMPC deems necessary</li></ul> |

# Roads primer: PFA Report direction



## Overarching goal:

*“...to ensure that all forest roads and landings shall be hydrologically disconnected to the maximum extent feasible from waters of the state.”*

## Purpose of baseline and trend monitoring:

*“...to establish a baseline and to monitor and report the change in hydrologic connectivity over time as the FRIA is implemented.*

## IRST Role:

*“IRST...shall design and oversee baseline and trend monitoring for hydrologic disconnection.”*

## Methodology:

*“...shall be based off of Dube et al. (2010) & Martin (2009).”*

## AMPC role:

*“...use the results of the baseline and trend monitoring to develop regional goals consistent with that monitoring.”*

**Discussion of draft in meeting:  
Focus on what's important, save  
wordsmithing for offline**



# Forest Roads Research Question(s) Package

*(pull up version 2 draft in Word)*



# Forest Roads question(s) package: Getting across the finish line in October

**Next steps**



# Break





# Eastern Oregon Steep Slopes



# Eastern Oregon Steep Slopes: PFA Report

## 3.2 Goals *[re: timber harvest on steep slopes]*

**Provide large wood & sediment consistent with maintaining or improving aquatic habitat within large basins over long timeframes.**

**To accomplish this: subset of sediment sources and debris flow runout paths will be managed during timber harvest to retain trees and other vegetation.**

**to provide high-quality habitat to support recovery and long-term conservation of the species covered by this HCP on private forestlands.**



# Eastern Oregon Steep Slopes: PFA Report

Steep slope processes likely different in magnitude, frequency, & impact on covered species than W. Oregon. Similarly, impact of timber harvesting on these processes is potentially different in E. Oregon.

## Direction:

Examine scientific literature on the impacts that hillslope processes have on covered species in E. Oregon:

Focus: upslope initiated shallow rapid slides & how timber harvesting may impact these in E. Oregon.

Secondary, limited focus: whether other hillslope processes that likely affect covered species are changed by forest practices. -> merits more thorough consideration by the Adaptive Management Program?



# Eastern Oregon Steep Slopes

Camille Collett – ODF Geotechnical Specialist

September 25, 2023



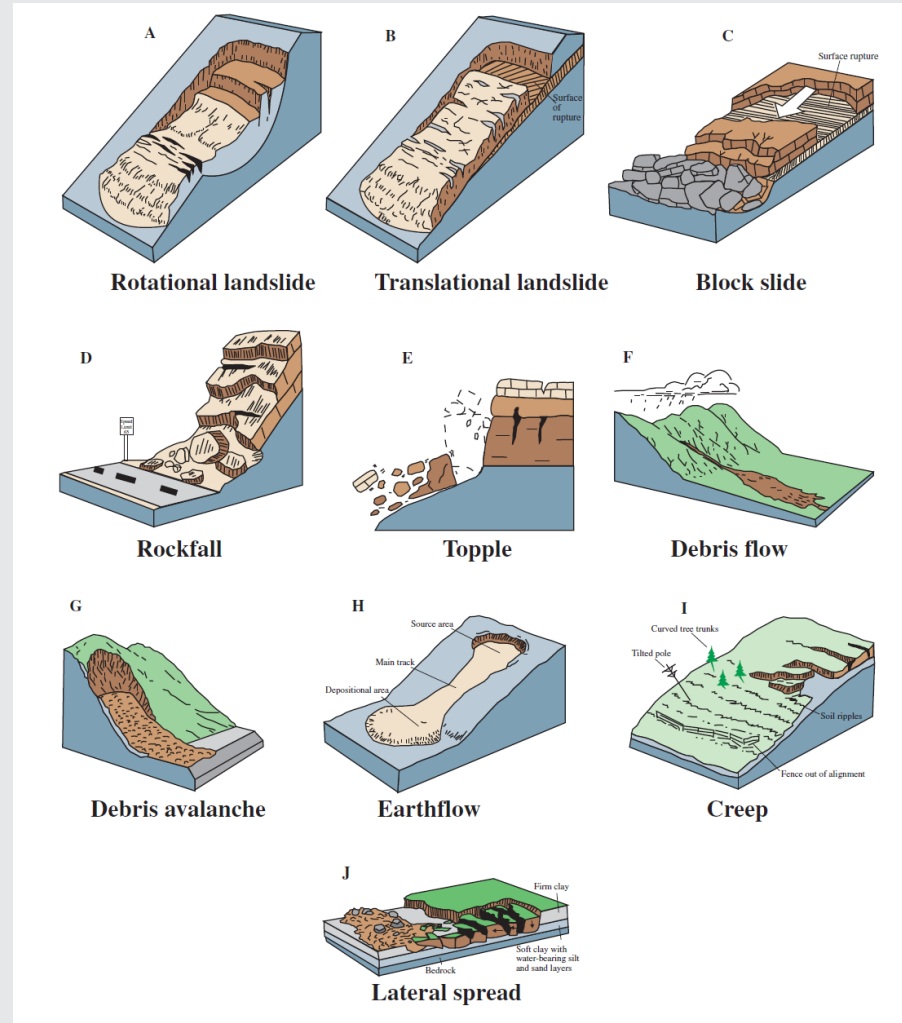
# Overview

- Landslides background
- Existing rules to control sediment delivery to waters of state
  - Western steep slopes rules / model
- Landslides in Oregon
  - West vs. East



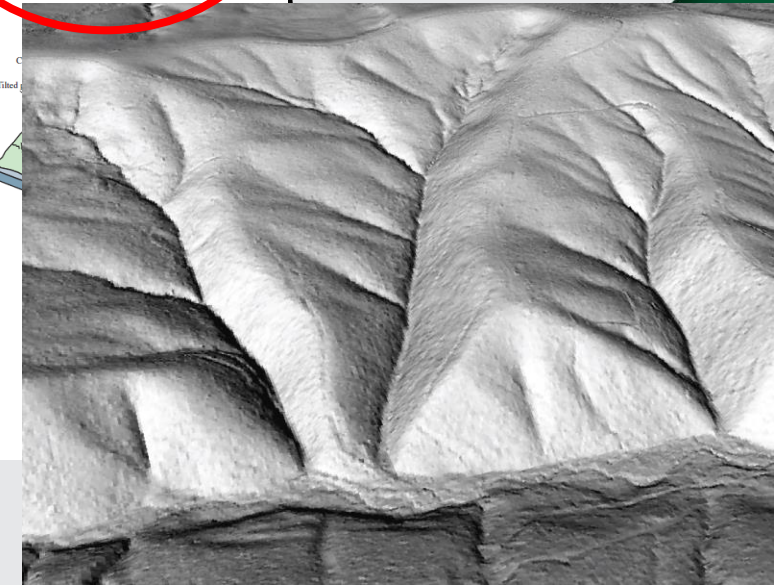
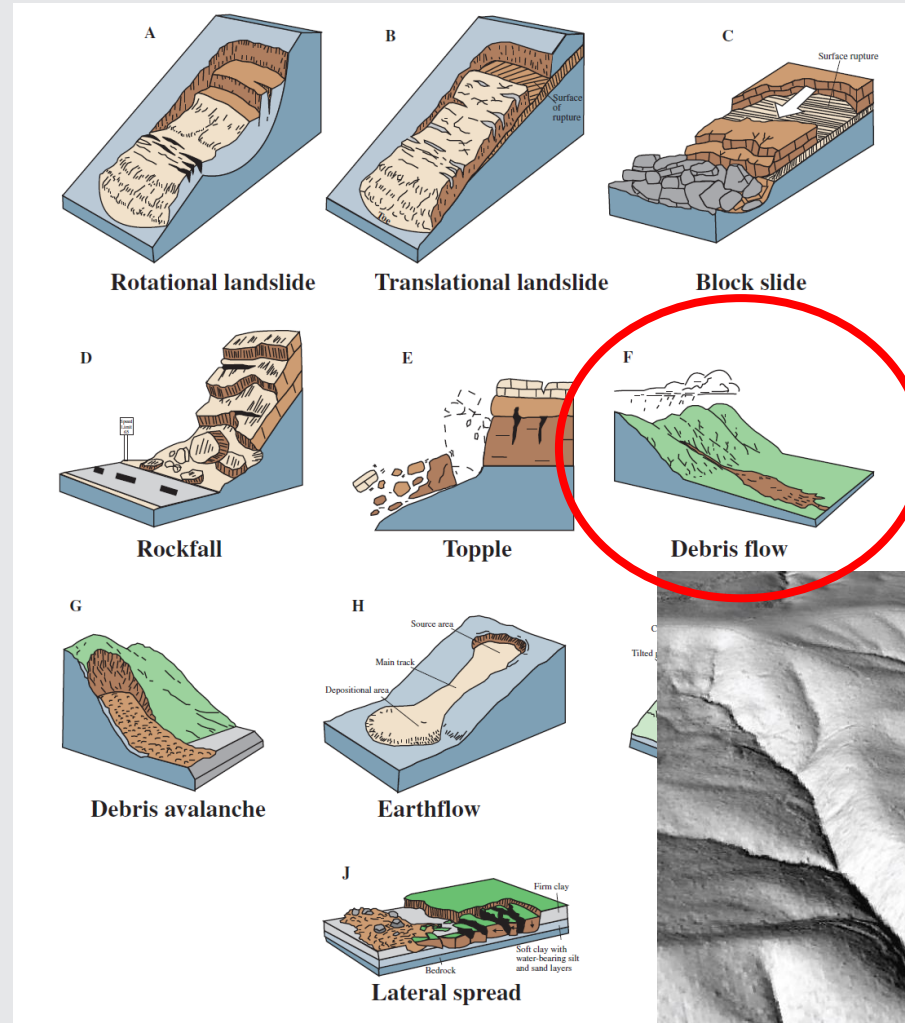
# Landslides Background

- Landslide Recipe
  - Steep slope
  - Moveable material
  - Trigger – common for Oregon:
    - **Intense rainfall**
    - Rapid snow melt, Freeze/thaw cycles, Earthquakes, Volcanic eruptions, Human (changing the natural slope, concentrating water)
  - Combinations of the above



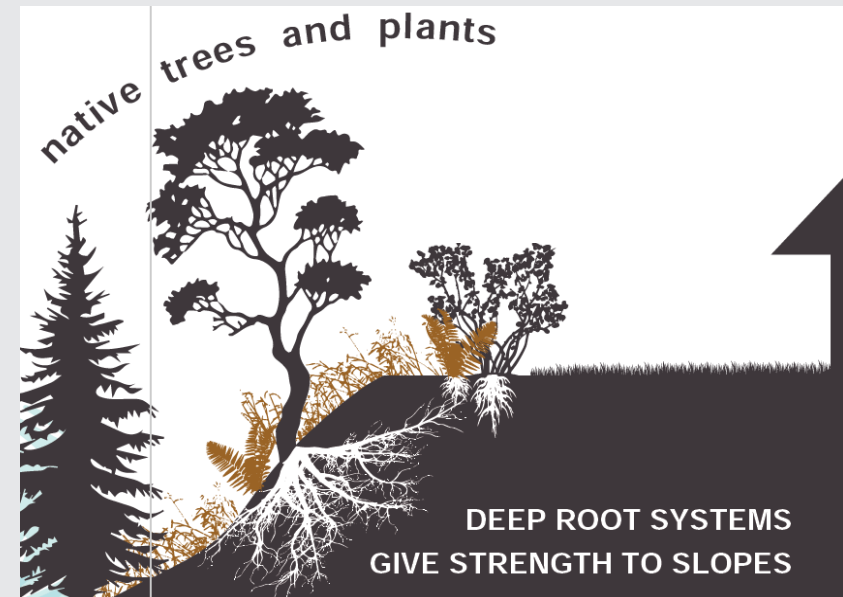
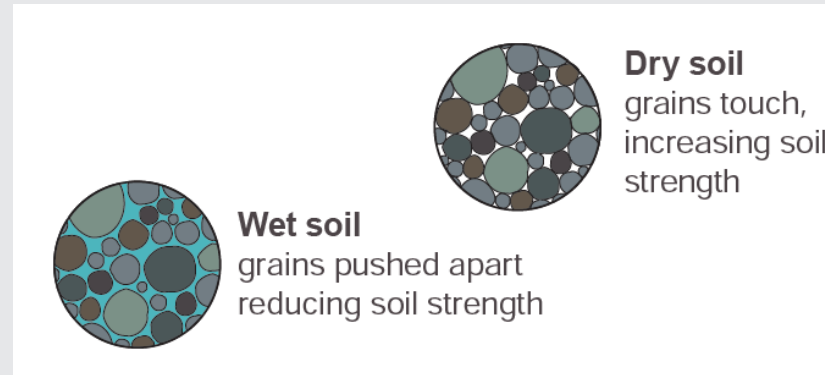
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# Harvest Effects on Landslides

(for slopes >60%)

Robison, et. al/ODF Study

| <b>Storm Intensity</b><br>as % of 100-year<br>event | <b>Stand<br/>Age</b> | <b>Landslide Density</b><br>for steepest slopes, slides delivering to<br>water |
|---|----------------------|--|
| Likely > 100% *                                     | 0 to 9               | 51.20/ sq. mile  |
|   | 10 to 30             | 22.40/ sq. mile  |
|   | 31 to 100            | 19.20/ sq. mile  |
|   | 100+                 | 26.24/ sq. mile  |

\* Specific precipitation data related to stand ages not available, but some stations in the C. Range and W. Valley were calculated at 100%. Tayler, 1997 in Robison, et. al, 1999.



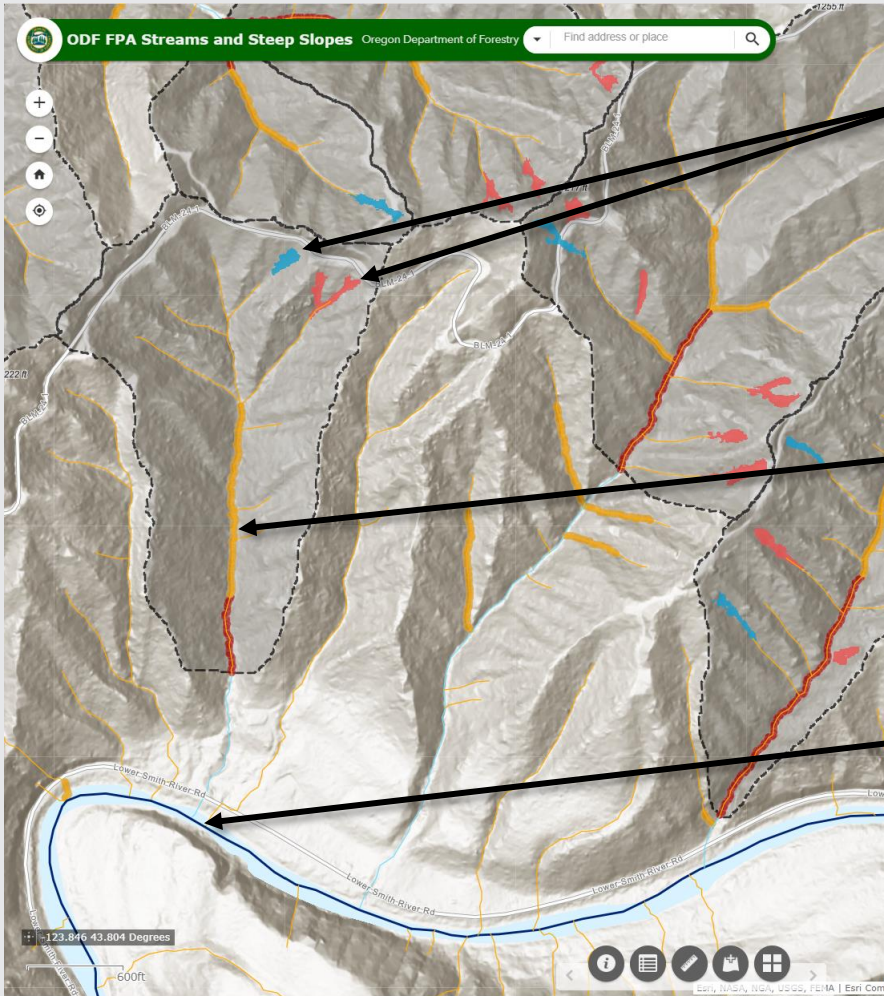


# Primary Forest Rules to Control Sediment Delivery to Waters of the State

- Division 625
  - Forest Road Construction and Maintenance
- Division 630
  - Harvesting\*
- Division 635-660
  - Water Protection Rules



# Division 630: Western Oregon Steep Slopes Rules and Model



- Designated Sediment Source Areas (DSSAs)
  - Retain trees in 50% of DSSAs in unit  
→ Slope Retention Areas (SRAs)
- Designated Debris Flow Traversal Areas (DDFTAs)
  - Retain trees along DDFTAS
- Keeps trees in areas most likely to fail and deliver sediment to fish streams

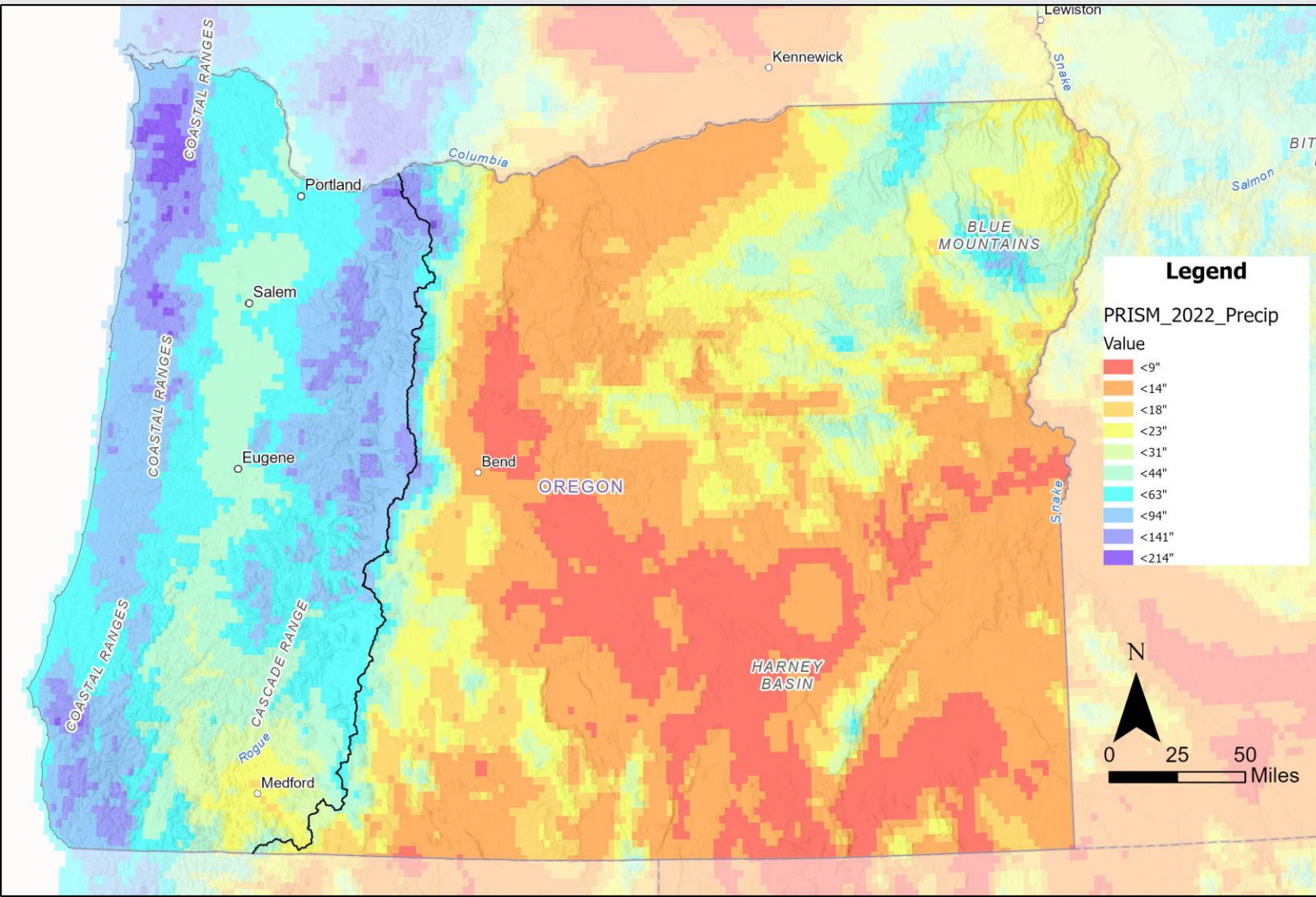


# Landslides in Oregon

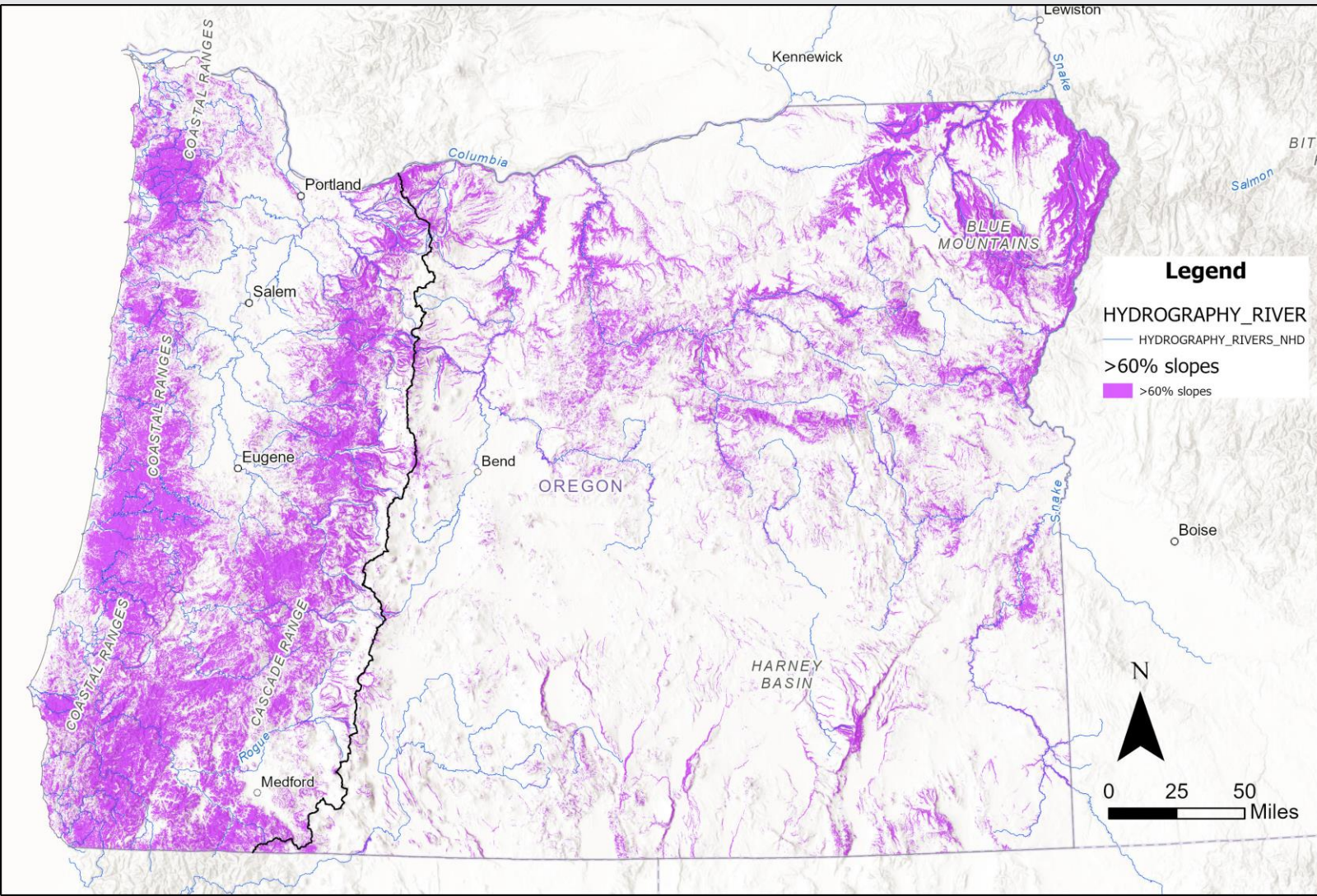
- The process is the same on east vs. west
- The frequency and location is different because in eastern Oregon:
  - Drier
  - Fewer steep slopes / in forested areas
  - Less harvesting



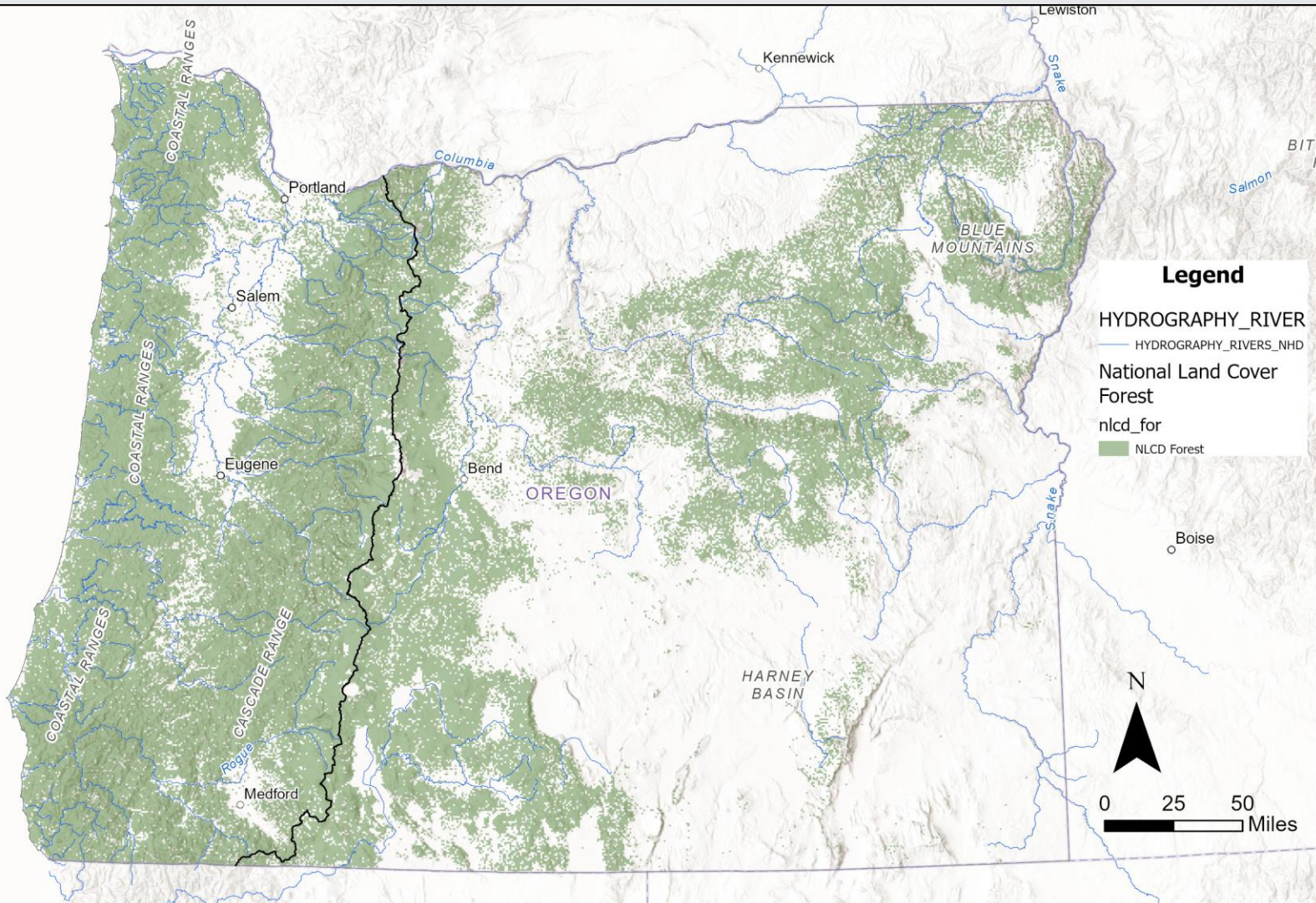
# Precipitation - 2022



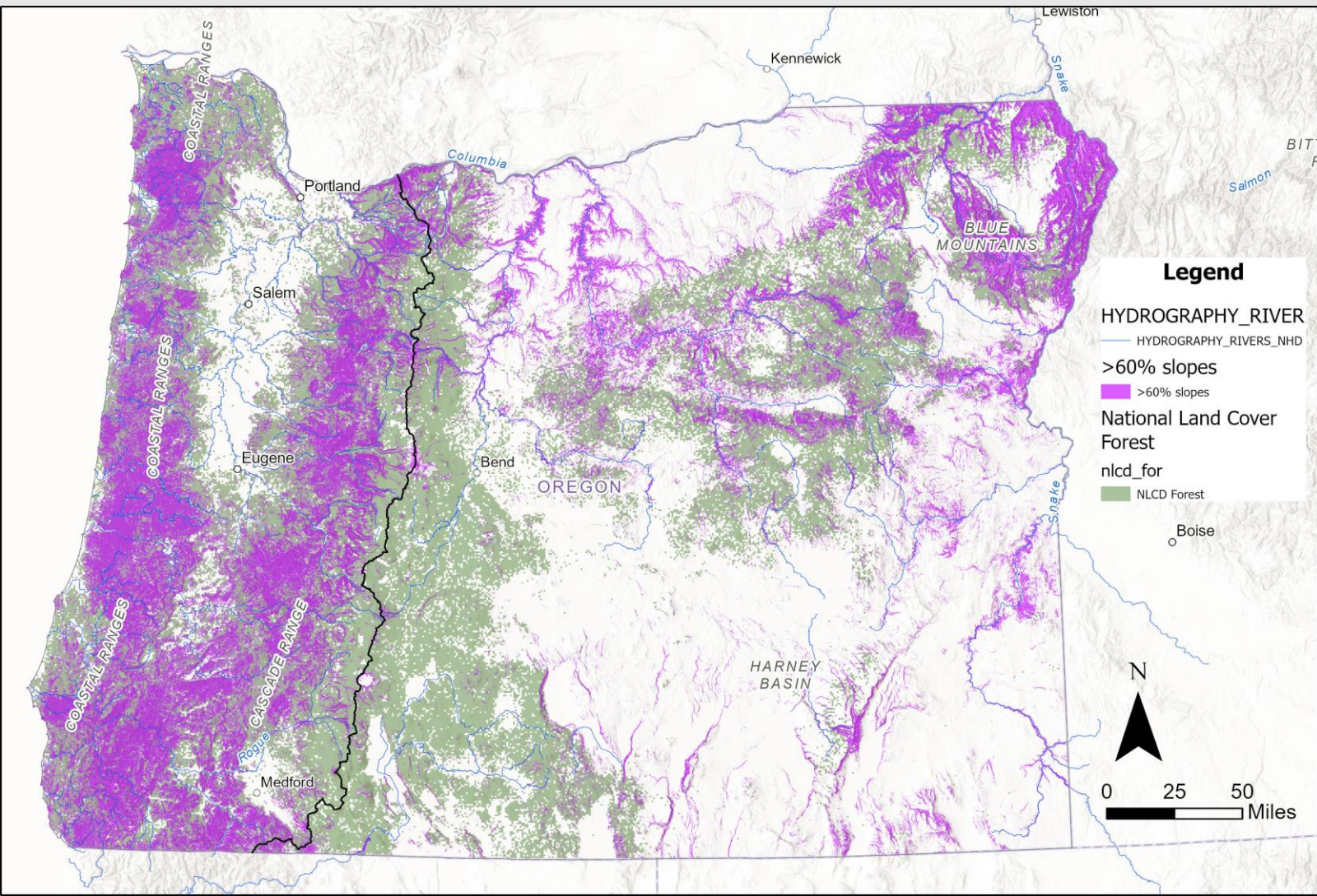
# Steep >60% slopes



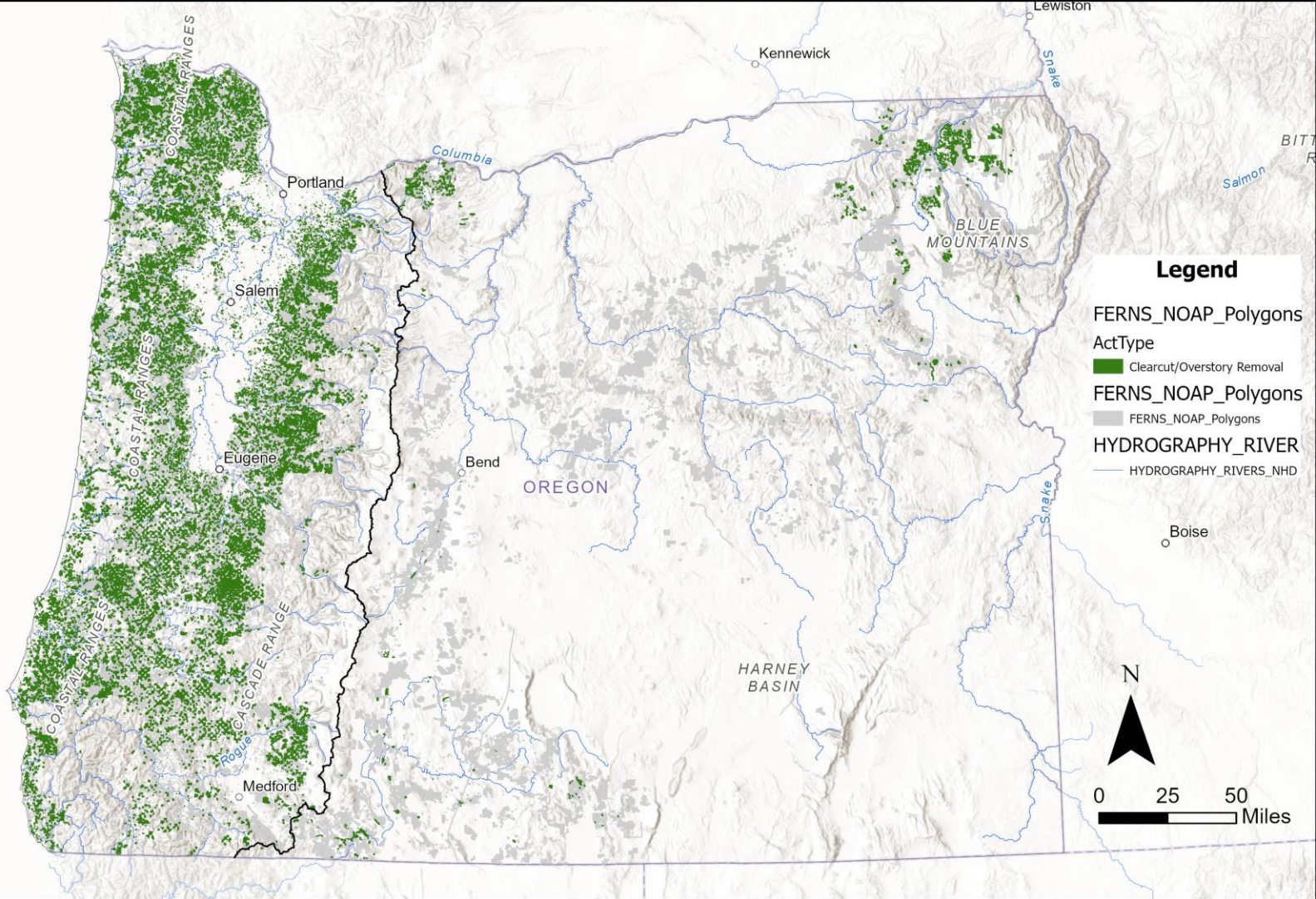
# Forestland



# Forestland & Steep >60% Slopes



# Clearcut Notifications Since 2014





# Landslides in Western Oregon

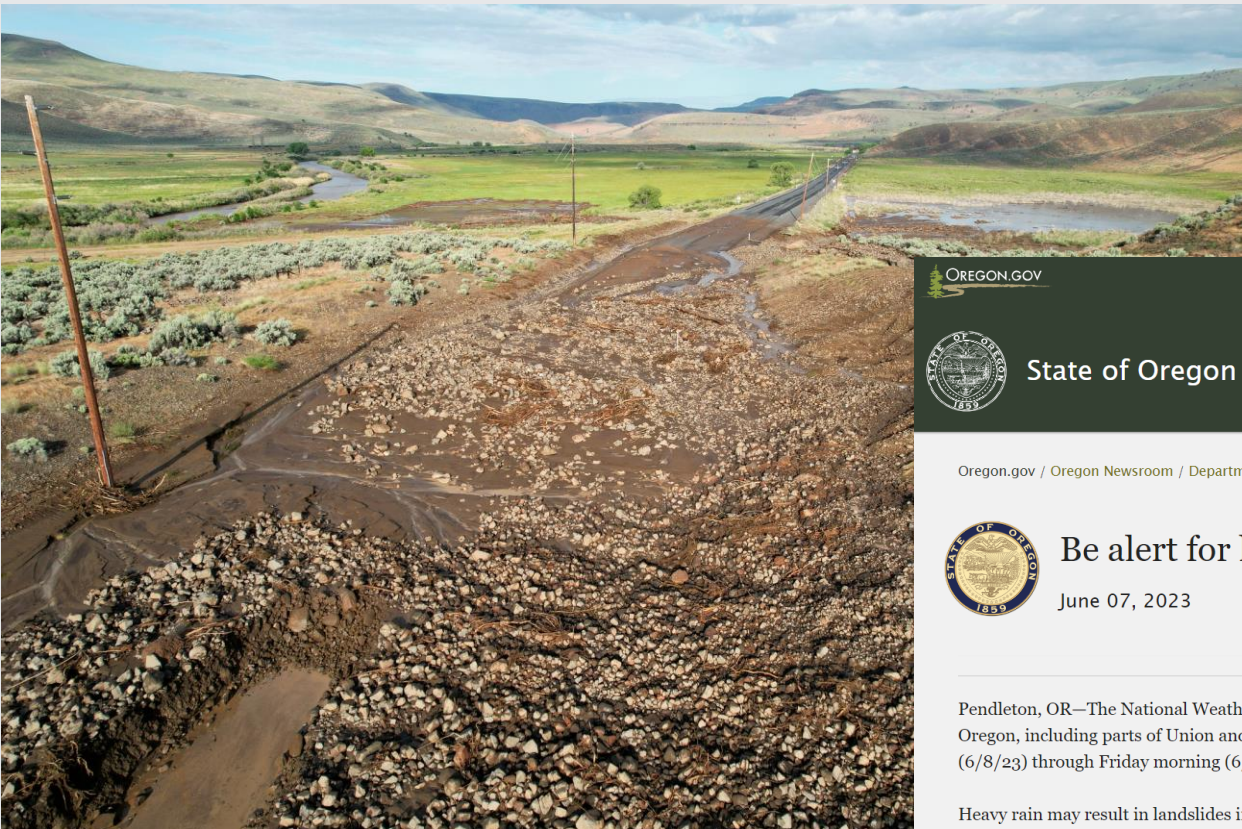


# Landslides in Western Oregon




# Landslides in Eastern Oregon

**Mudslides triggered by heavy rain near Juntura between Burns and Vale – June 11, 2023**



OREGON.GOV



State of Oregon Newsroom

Oregon.gov / Oregon Newsroom / Department of Geology and



## Be alert for landslides across northeast Oregon

June 07, 2023

Pendleton, OR—The National Weather Service has issued a Flash Flood Watch for portions of northeast Oregon, including parts of Union and Wallowa Counties. The watch is in effect from Thursday morning (6/8/23) through Friday morning (6/9/23).

Heavy rain may result in landslides in areas of steep terrain, as well as debris flows in and near burn scars from recent wildfires including the Double Creek, Nebo, and Sturgill fires.



# Landslides in Eastern Oregon

Wy'East / Mt. Hood:

- 1980 Christmas day rainstorm triggered a landslide that turned into a debris flow on Polallie Creek
- 2006 November storm triggered several debris flows



# Landslides in Eastern (and Western) Oregon

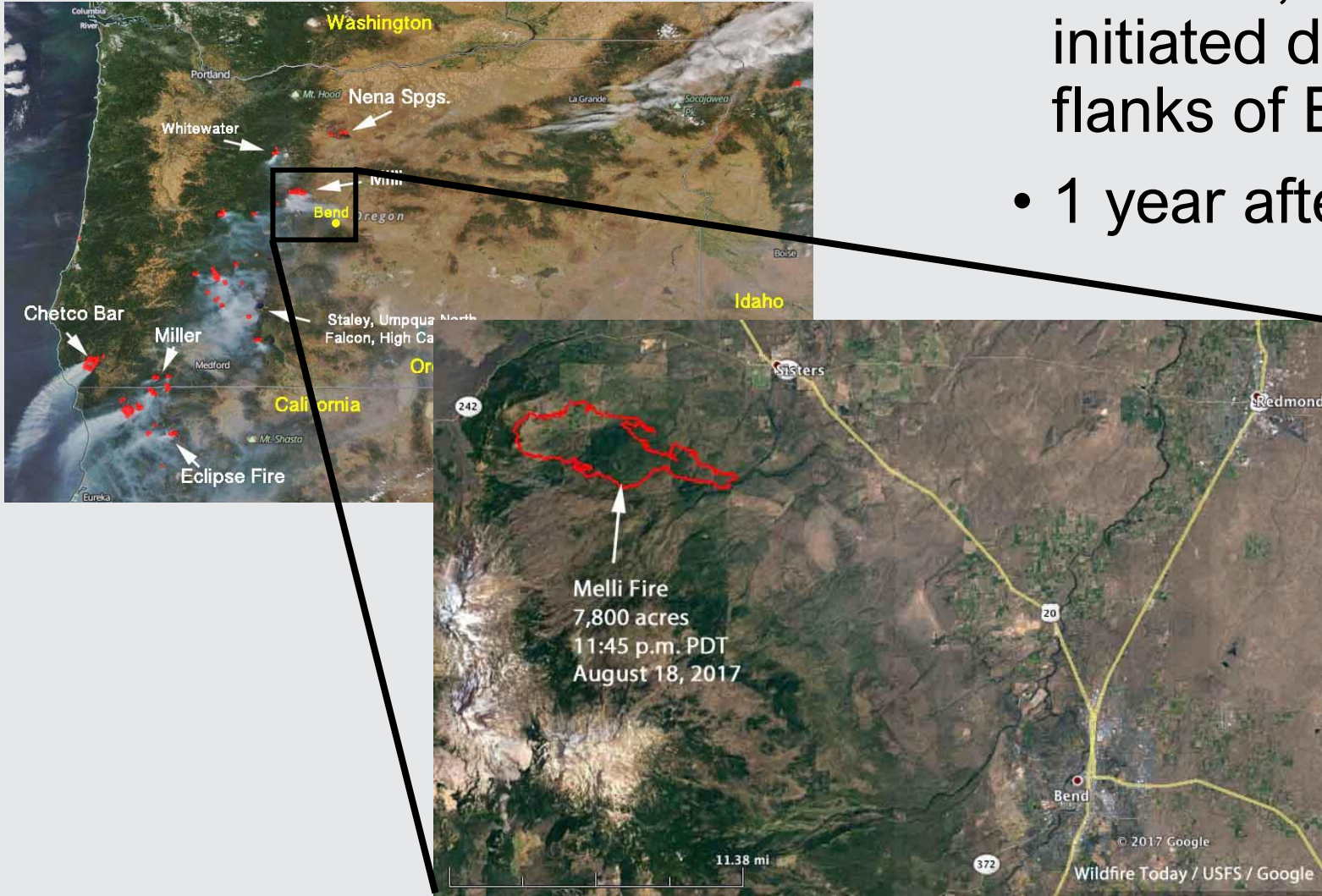


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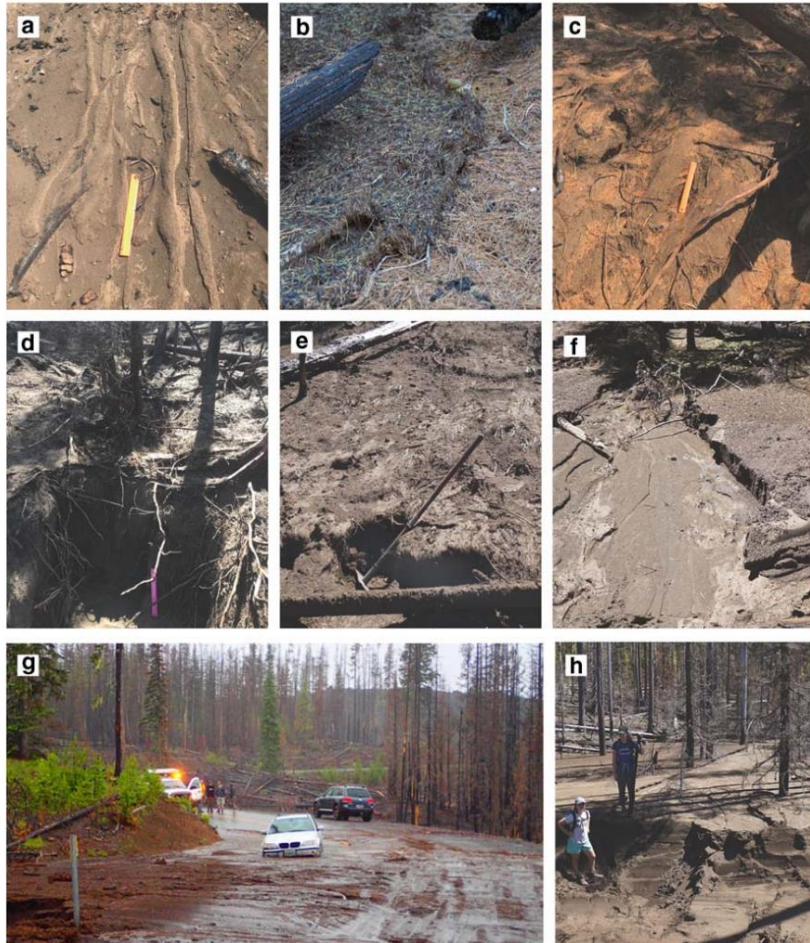


# Post-fire Debris Flow in Eastern Cascades

- June 20, 2018 – runoff-initiated debris flows on flanks of Black Crater
- 1 year after Milli fire



# Post-fire Debris Flow in Eastern Cascades



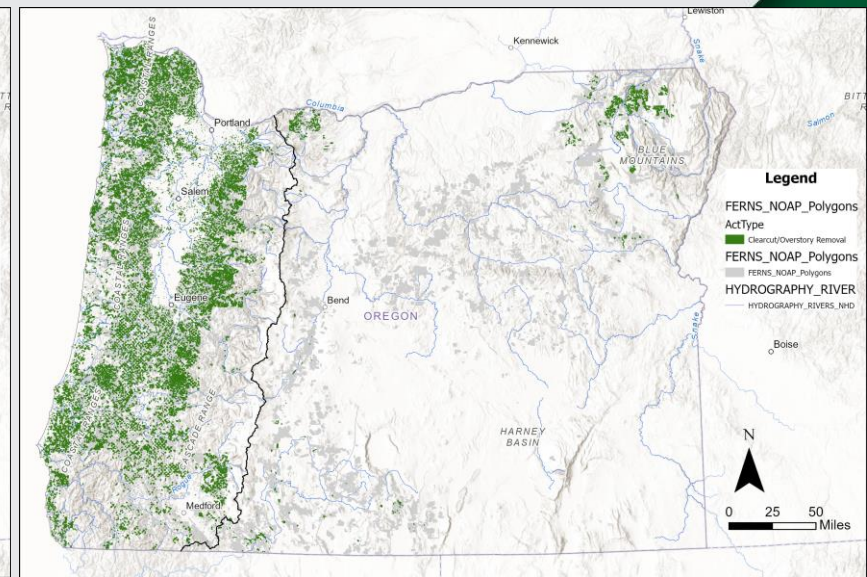
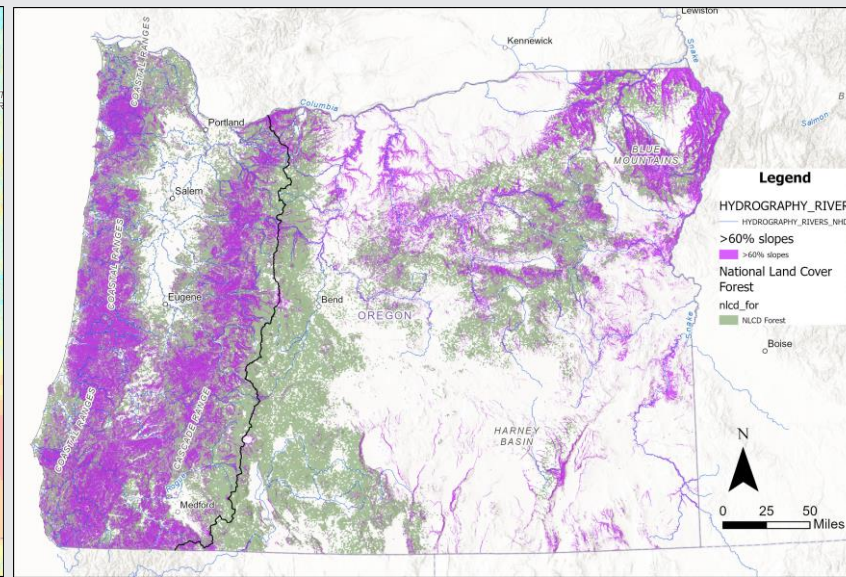
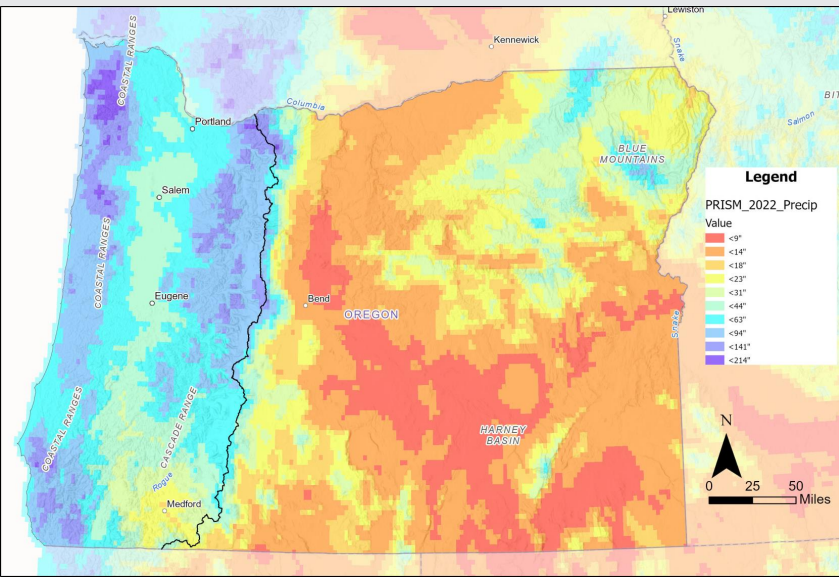
**Fig. 2** a Photo of rills observed in the source area. b Levee on perimeter of flow composed of pine needles, charcoal, and fine sediments. c Erosional steps found along hillslope in the erosional area. d Deep channel (> 1 m depth) observed in the narrowest section of the flow. e Deeper channel in erosional area. f Wider, shallower channel observed in transition zone between erosional and depositional areas. g Photo taken on 20 June 2018 after the debris flow (O'Casey 2018). Shows the deposition washed across Highway 242. h Deposition upslope of Highway 242. Face of deposition visible due to bulldozer activity during highway clearing

- 25.4 mm/hr (1 in / hr) rainfall rates
- High burn severity = Low soil infiltration
- Rilling on convergent and steep > 60% slopes



# Landslides in Eastern Oregon

- Less frequent than western Oregon because:
  - Drier
  - Fewer steep slope / in forested areas
  - Less harvesting





**Questions?**



**Discussion of draft in meeting:  
Focus on what's important, save  
wordsmithing for offline**



# Eastern Oregon Steep Slopes: Draft questions

*[East of the crest of the Cascades in Oregon; answer via lit. reviews]:*

**Question 1a.** What are the characteristics of upslope-initiated shallow rapid landslides? These characteristics include frequency, magnitude, location, runout, spatial and temporal change in deposits over e.g., decadal timescales.

**Question 1b.** What are the effects of these landslides on species covered in the draft HCP?

**Question 1c.** How do forest practices alter landslide characteristics and/or their effects on covered species?

Landslide effects that may impact covered species or the quality of their habitat include:

- Large wood delivery and dynamics;
- Fine sediment delivery and dynamics;
- Coarse sediment delivery and dynamics;
- The interaction of large wood, fine sediment, and coarse sediment.



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- Large wood delivery and dynamics;
- Fine sediment delivery and dynamics;
- Coarse sediment delivery and dynamics;
- The interaction of large wood, fine sediment, and coarse sediment.

**Question 2a.** How do forest practices impact other hillslope processes [aside from upslope-initiated shallow rapid landslides] that may in turn affect species covered in the draft HCP?

**Question 2b.** Do any of the practices or effects in Question 2a require more thorough consideration by the Adaptive Management Program?



# Eastern Oregon Steep Slopes: Next steps



# Process for Prioritizing Research Topics

*Pull up document*



# Process for Prioritizing Research Topics

It is recommended that a finalized version of this document be incorporated into the AMPC charter as an appendix.



# Anticipated AMPC Timeline – rest of 2023

## October 23:

- Finalize roads research question package
- Hone E. Oregon steep slopes research question package
- Start on Amphibians research question

## November 30:

- Joint meeting with IRST
- Finalize E. Oregon steep slopes research question package
- Amphibians (*maybe*)





**Next AMPC meeting:  
October 23, 2023**





**Thank you for your  
participation today**

*Extra slides*



# What does the PFA Report say?

- **“4.3.10 Development of Monitoring Requirements**
- *The Independent Research Science Team (IRST) created under the PFA shall design and oversee baseline and trend monitoring for hydrologic disconnection. Compliance monitoring will be conducted through the Department’s process.*
- **Baseline and Trend Monitoring for Hydrologic Disconnection:** *The methodology for the monitoring shall be based off of Dube et al. (2010) and Martin (2009). The purpose of the monitoring for hydrologic disconnection is to establish a baseline and to monitor and report the change in hydrologic connectivity over time as the FRIA is implemented. The overarching goal is to ensure that all forest roads and landings shall be hydrologically disconnected to the maximum extent feasible from waters of the state. The Adaptive Management Program Committee shall use the results of the baseline and trend monitoring to develop regional goals consistent with that monitoring. All hydrologic connectivity data should be public and shared as it becomes available to help focus goals, identify accomplishments, and inform statewide learning.”*



# Extra slides

