



Oregon State University
Extension Service
Fire Program

How to stay safe and care for your community during wildfire season

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Regional fire specialist (Coast)
Assistant Professor (Practice)



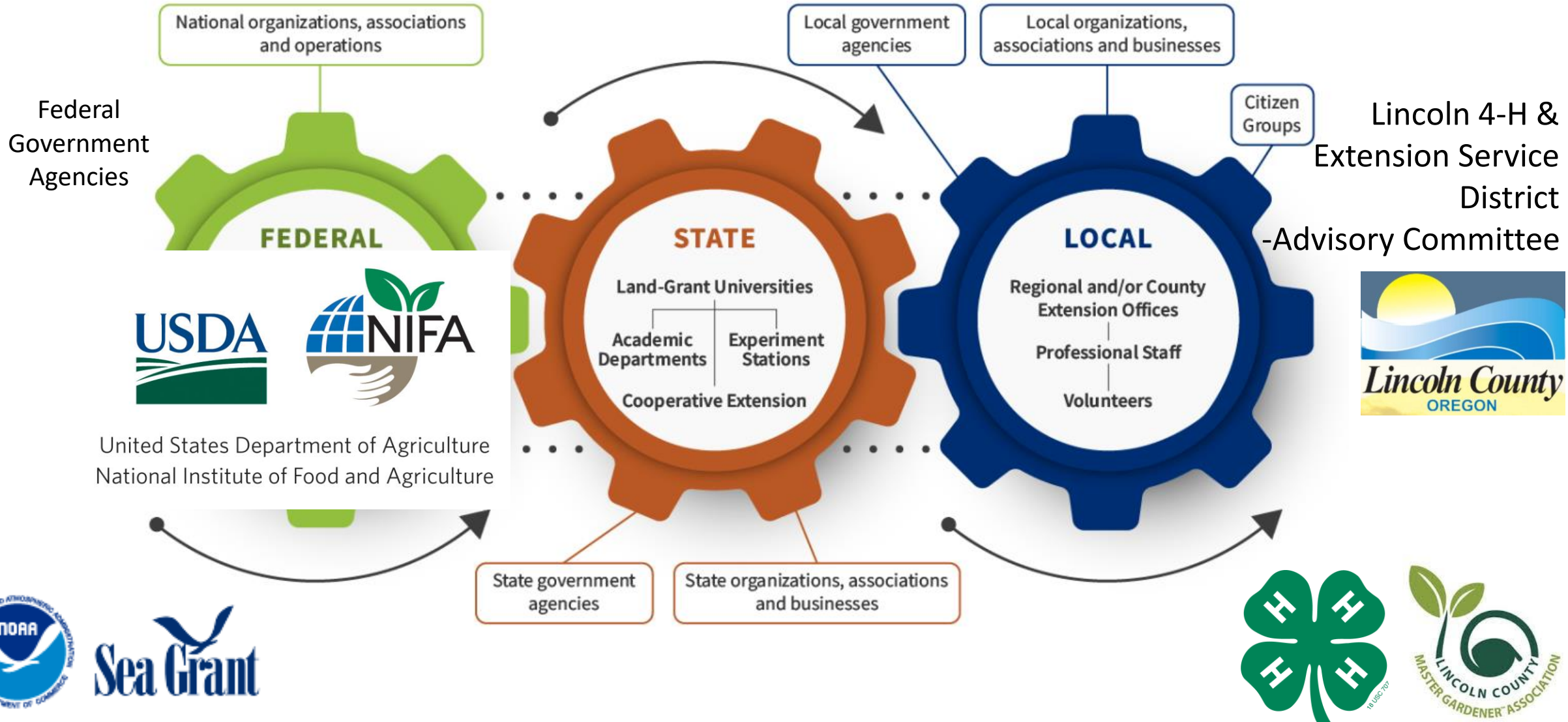
Objectives

- Describe the danger, risks and behavior of forest fires here on the coast
- Describe the criteria for a red flag warning to be declared and take appropriate action
- Identify different fire agencies and their roles
- Act in accordance with rules of the wildfire season
- Take steps to protect home and property

COOPERATIVE EXTENSION



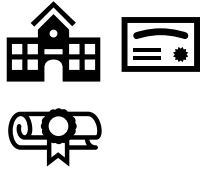
Oregon State University
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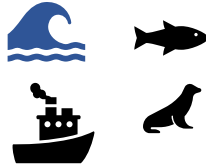


Oregon State University Extension Service

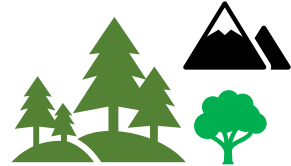
Open
Campus



Juntos



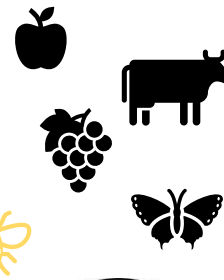
Coastal
Hazards



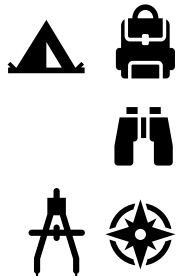
Family &
Community
Health;
SNAP-Ed



Agricultural
Sciences &
Natural Resources
Extension
-Small Farms



Outdoor
School



2024 Fire Season (thus far) in brief

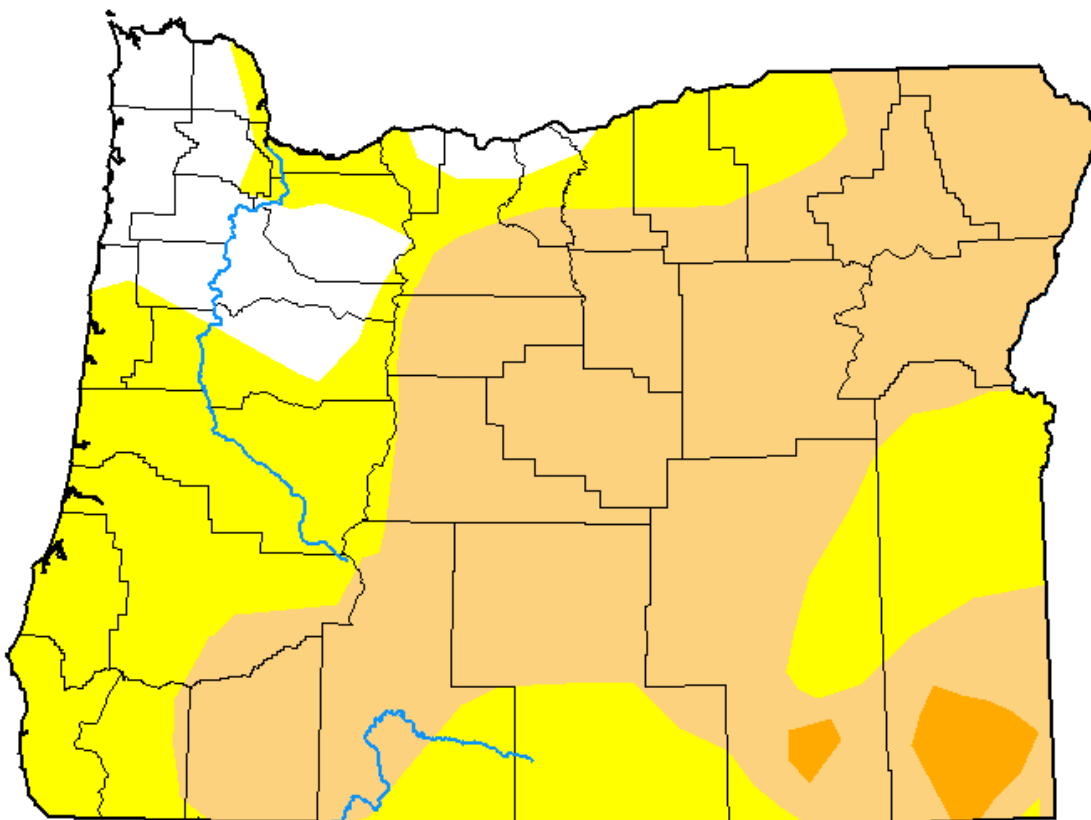


- National/Northwest area: **Preparedness Level 4** (on a scale of 5) (earlier was 5/5)
- **More acres of land burned this year than any** [Wildfires Dashboard \(arcgis.com\)](https://wildfires.arcgis.com) :
 - Over **1399 fires burned 1.49 million acres (2,200 sq miles)**.
- **State declaration of emergency for wildfire** (ODEM, National Guard)
- **Multiple conflagration orders:** support efforts to combat fires immediately threatening our population centers
- James Maxwell, fire fighter and Idaho resident, tragically lost his life while piloting a single engine air tanker (SEAT) on the Falls Fire near Seneca OR.









U.S. Drought Monitor Oregon

September 3, 2024
(Released Thursday, Sep. 5, 2024)
Valid 8 a.m. EDT



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Lindsay Johnson
National Drought Mitigation Center



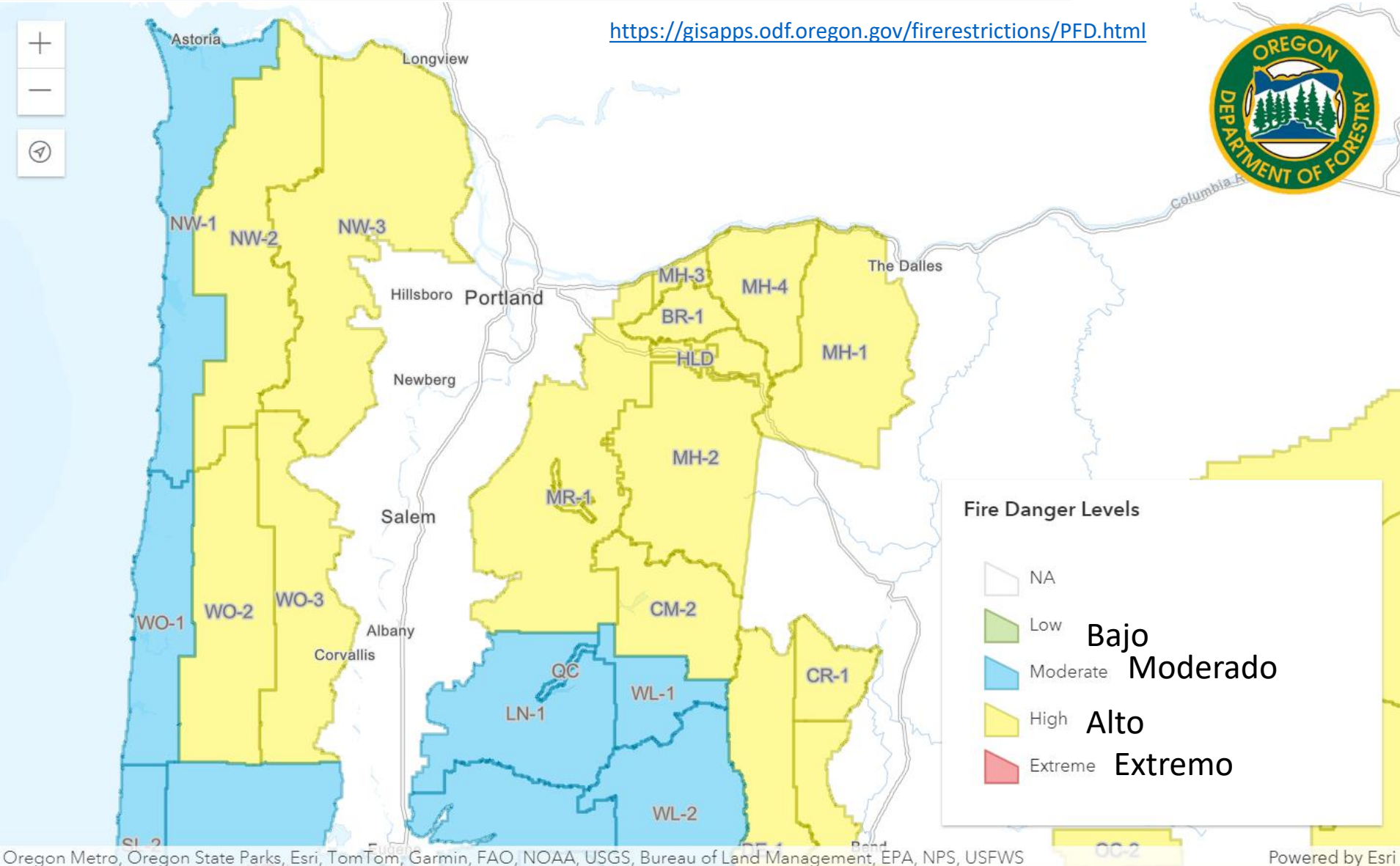
droughtmonitor.unl.edu

Public Fire Danger: 04 Sepetember 2024

Public Fire Danger

This map reflects fire danger on ODF protected lands only. Click [here](#) for industrial fire restrictions. Click [here](#) for public Fire Restrictions.

If you need additional information, [Contact](#) your local ODF or Forest Protective Association office.



Two (2) Things to Remember

- 1) Ecological perspective: forest fires across Coast Range play an important role as a disturbance regime (along with other disturbance regimes: wind, flooding, landslides, pests and pathogens)
- 2) Cultural (Indigenous) fire: played a key role in shaping landscapes. Prescribed fire is used for habitat and conservation objectives (USFS, USFWS, TNC).





HECETA HEAD LIGHT HOSE.

This image, dated 1898, shows Heceta Head Lighthouse not long after it first began operation. Courtesy of the Siuslaw National Forest Collection, Oregon State University

Fire and the Oregon Coast Range

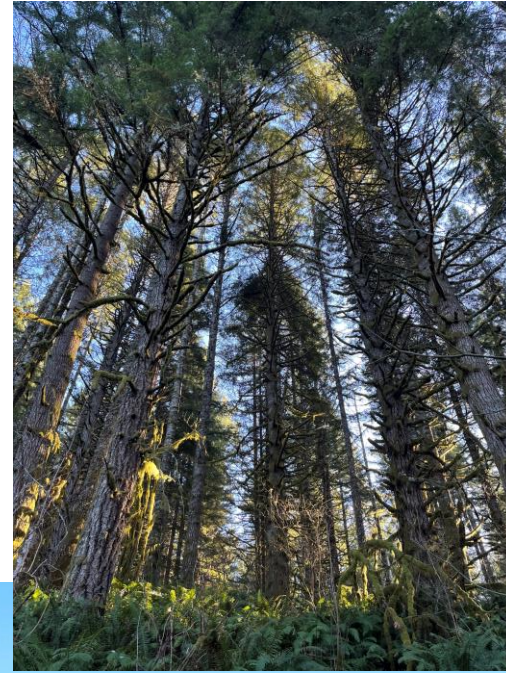
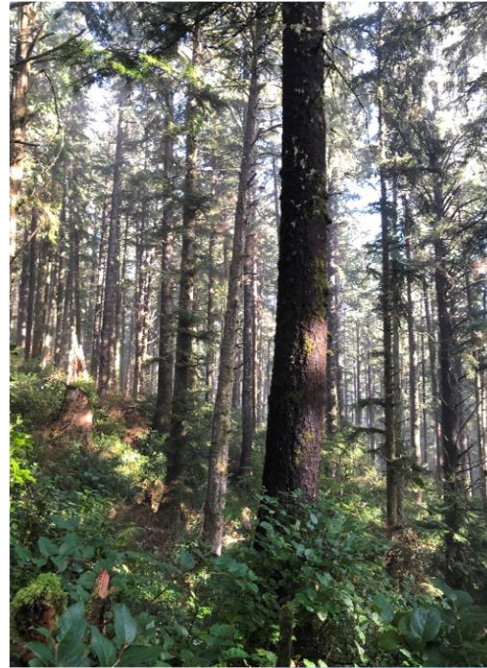
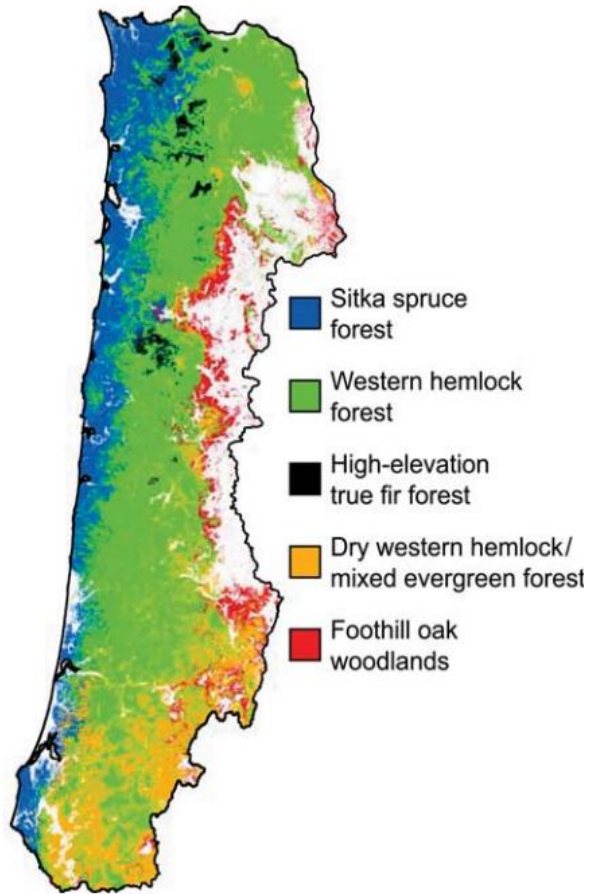
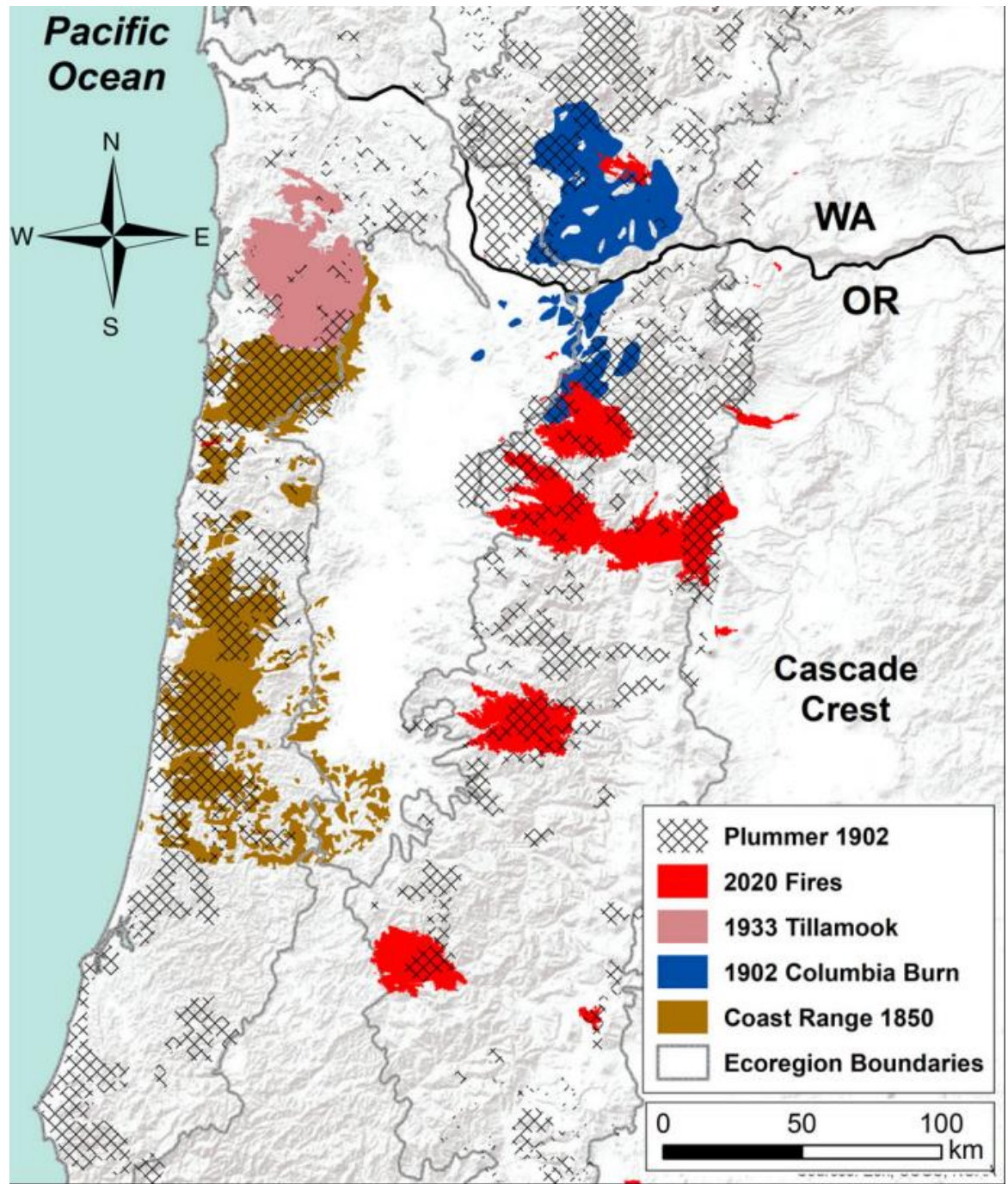


FIG. 4. Geographic distribution of potential vegetation types (see Fig. 3 for definitions).



Reilly, M.J., Zuspan, A., Halofsky, J.S., Raymond, C., McEvoy, A., Dye, A.W., Donato, D.C., Kim, J.B., Potter, B.E., Walker, N. and Davis, R.J., 2022. Cascadia Burning: The historic, but not historically unprecedented, 2020 wildfires in the Pacific Northwest, USA. *Ecosphere*, 13(6), DOI: 10.1002/ecs2.4070



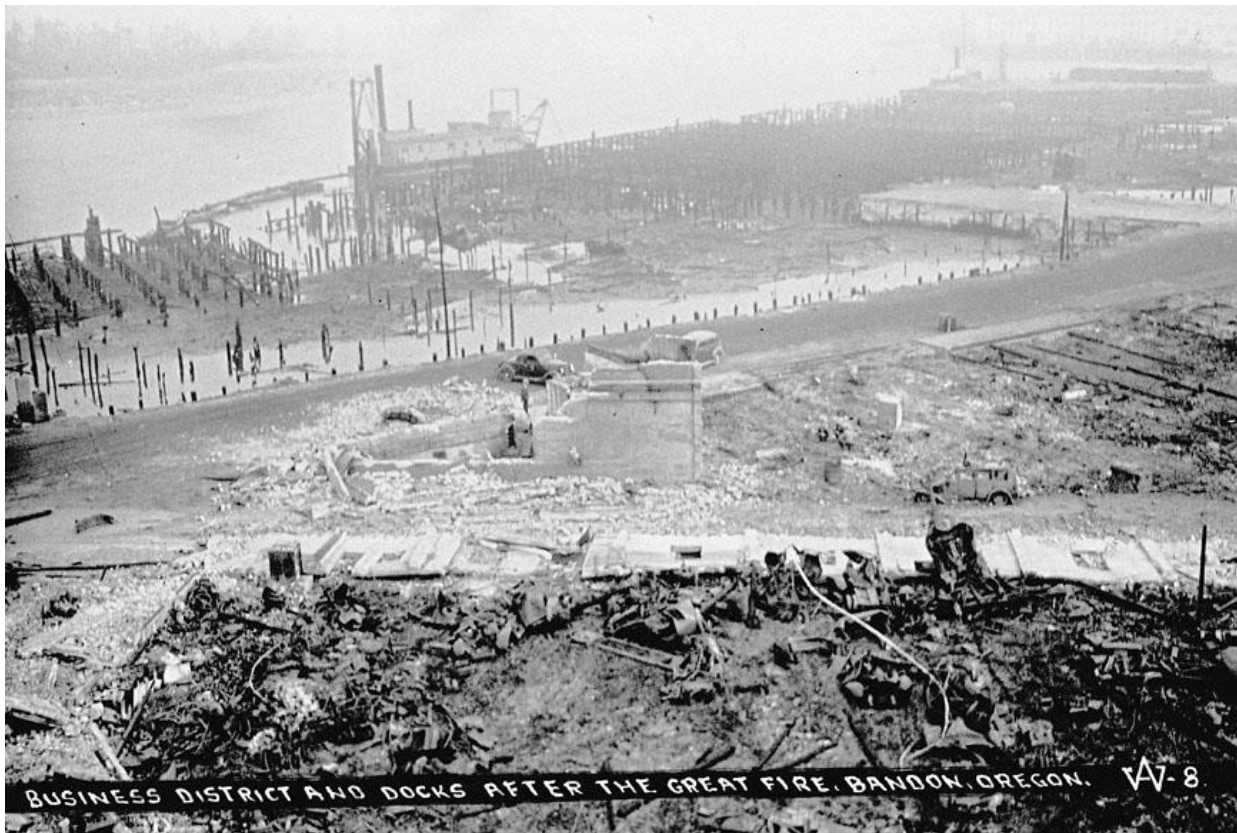
Mt. Hebo Ranger District, North Lake, Siuslaw National Forest, **1910**

[The Siuslaw National Forest Collection](#)

Mt. Hebo Ranger District, North Lake, Siuslaw National Forest, **2010**

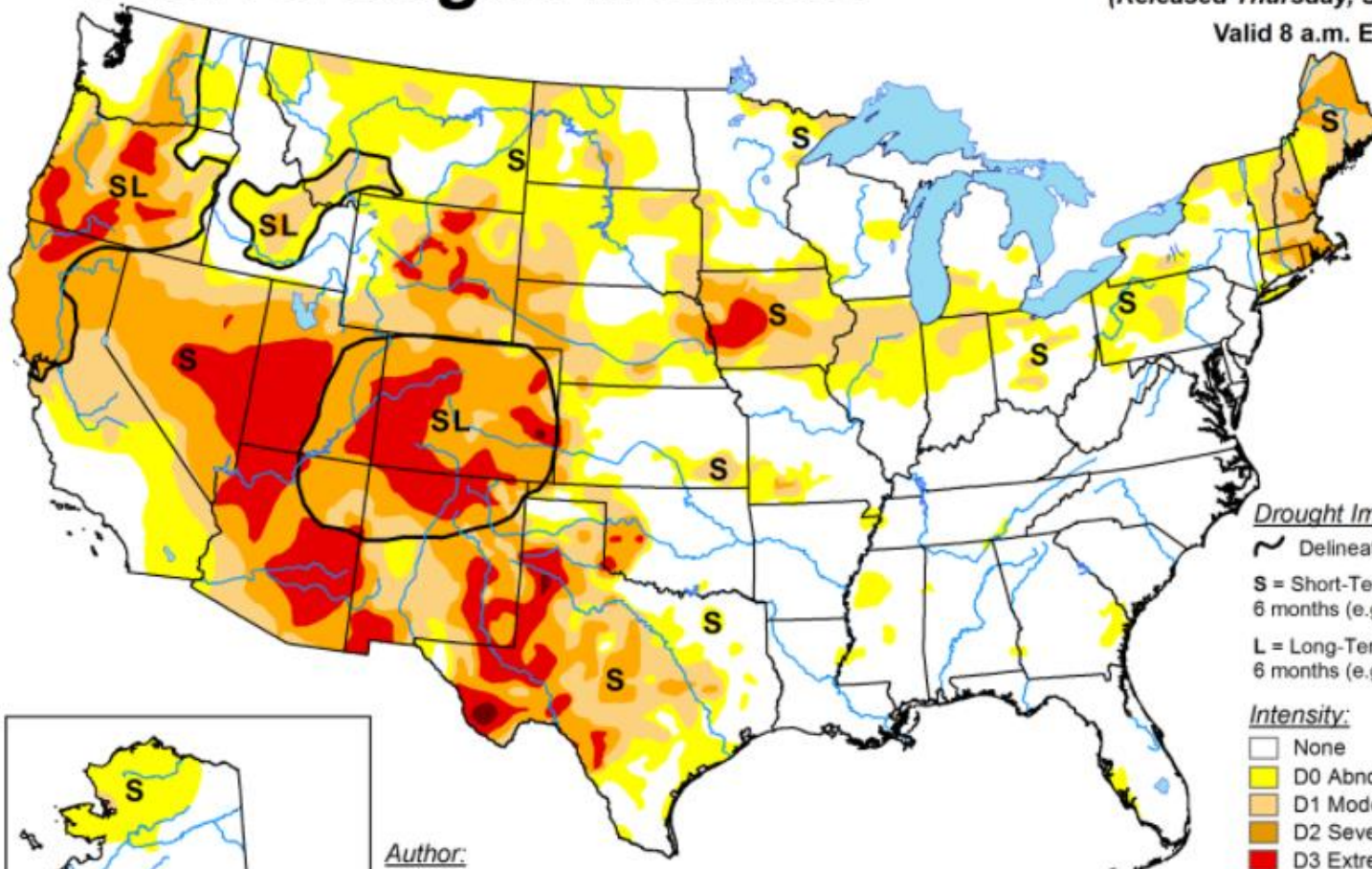
[The Siuslaw National Forest Collection](#)





U.S. Drought Monitor

September 1, 2020
(Released Thursday, Sep. 3, 2020)
Valid 8 a.m. EDT

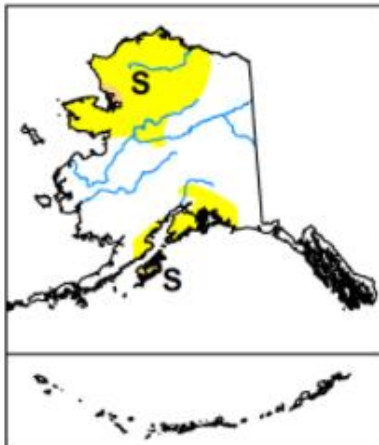


Drought Impact Types:

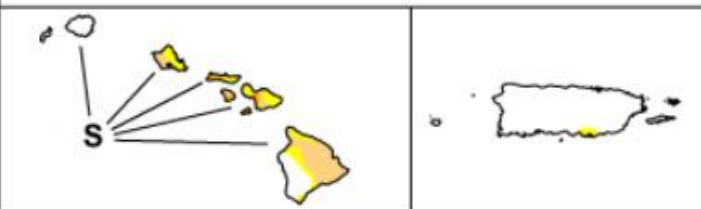
- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



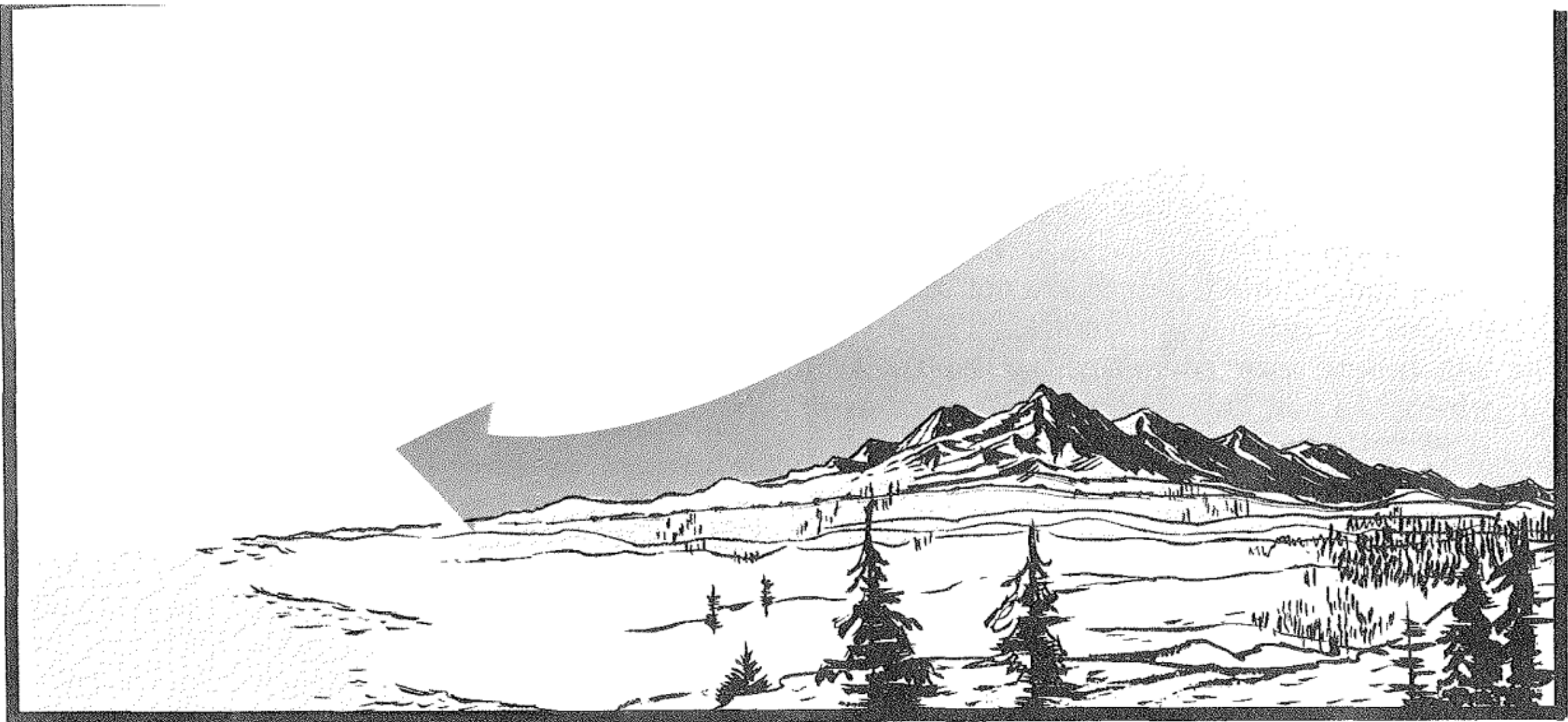
Author:
Richard Tinker
CPC/NOAA/NWS/NCEP



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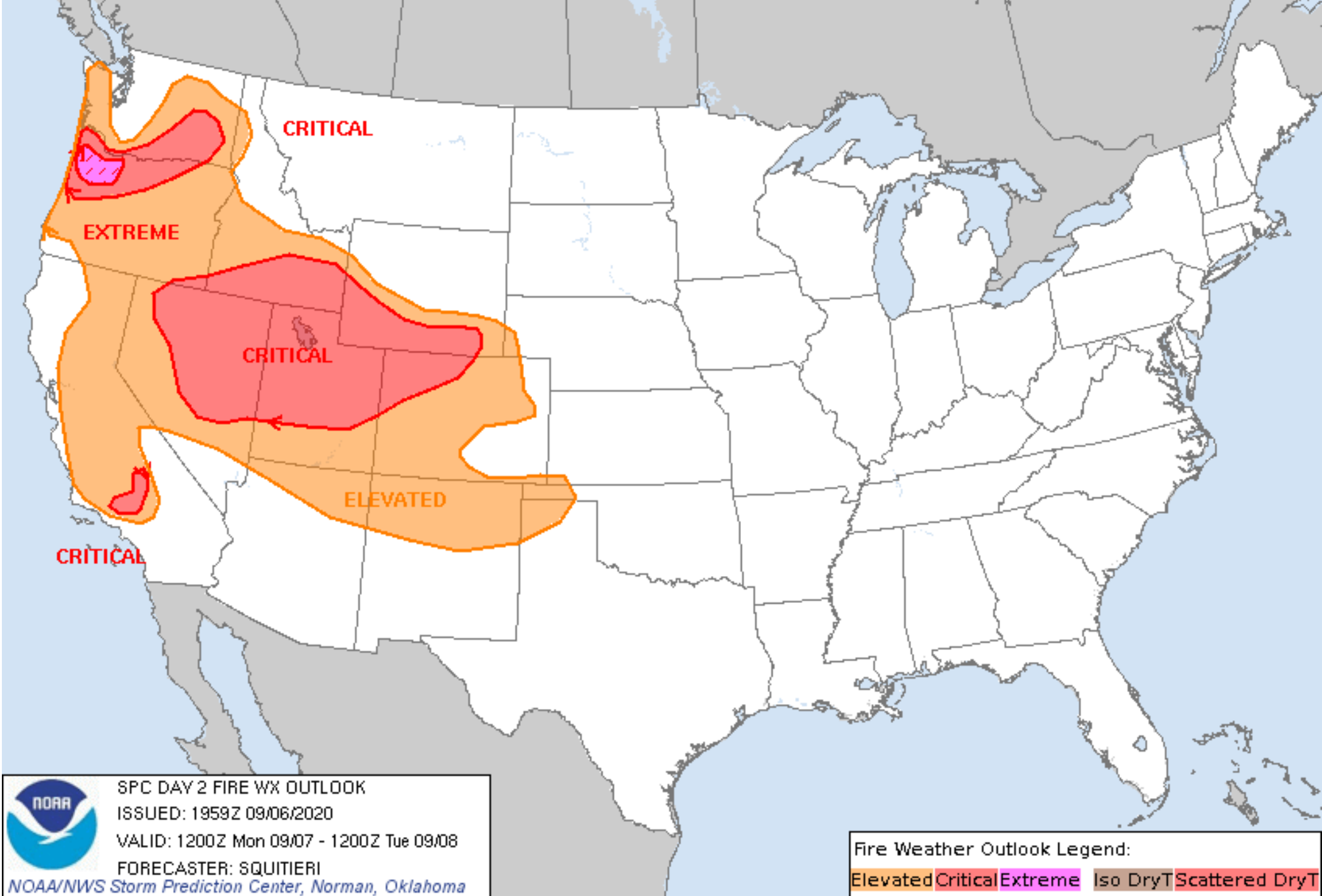
droughtmonitor.unl.edu



A strong foehn may flow down the leeward side of the mountains bringing warm and extremely dry air to lower elevations. The air initially to the lee of the mountains is either moved away from the mountains by a favorable pressure gradient or it is scoured out by a suitable mountain-wave shape in the foehn flow. The foehn flow may surface and return aloft alternately in some foehn wind situations.

Schroeder, M. and Buck, C. (1970). Fire weather : a guide for application of meteorological information to forest fire control operations. USDA Forest Service, Agriculture Handbook 360





Coast
Range-
specific

WHAT IS A RED FLAG WARNING?



Strong winds

25MPH+ Sometimes at 15 MPH +



High Temperatures

Generally, > 75 degrees F +



Low humidity levels

20% and below NW OR: 25-30%



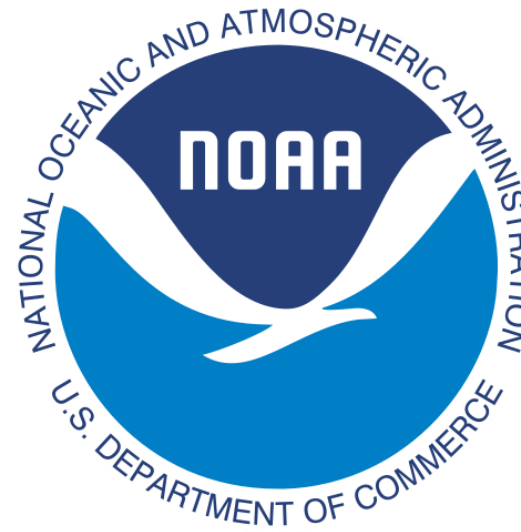
Dry Fuels



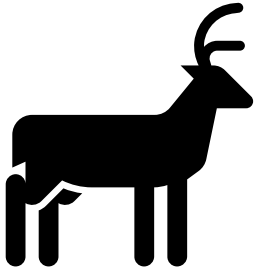
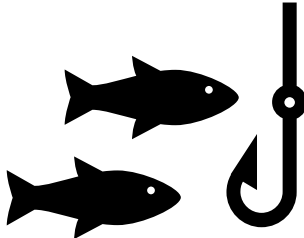
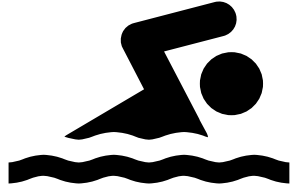
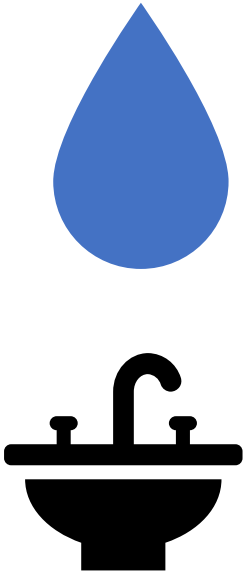
Possibility of Dry Lightning Strikes

<5% of fires on
Coast caused by
lightning

Any combination of these conditions.



Wildfires can affect homes, infrastructure, timber, recreation sites, wildlife and fisheries.



Lincoln County

Fire Protection Districts

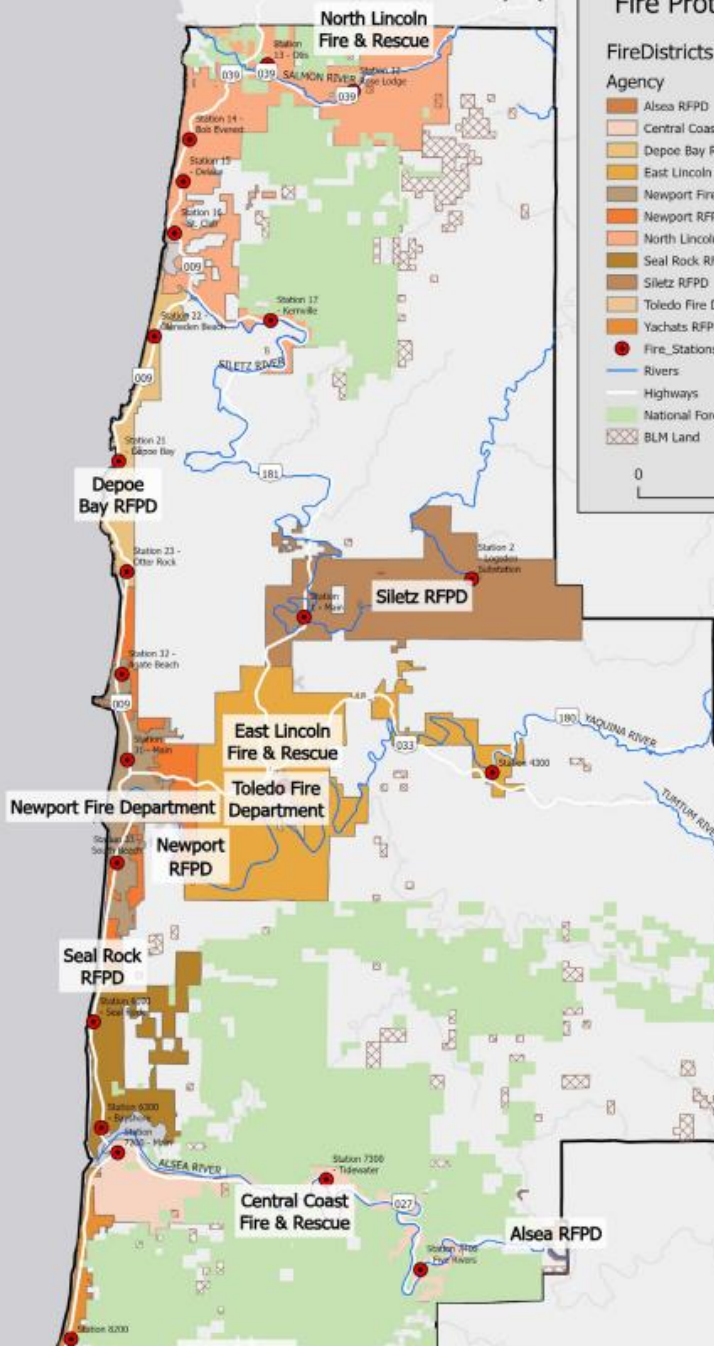
FireDistricts

Agency

- Alsea RFPD
- Central Coast Fire & Rescue
- Depoe Bay RFPD
- East Lincoln Fire & Rescue
- Newport Fire Department
- Newport RFPD
- North Lincoln Fire & Rescue
- Seal Rock RFPD
- Siletz RFPD
- Toledo Fire Department
- Yachats RFPD
- Fire_Stations

- Rivers
- Highways
- National Forest Land
- BLM Land

0 10 Miles



Many different Fire entities: local, state, federal

Local (Structural Fire)

municipal &

Rural Fire Protection Districts (RFPDs)

NOTE: USFS and ODF are forest fighting entities (not structural fire protection)



Wildland Fire

Structures/Infrastructure



WILDLAND FIREFIGHTERS

Setting the hottest safety trend this season

RANGERS ON THE RUNWAY

Sep 2022

1 Helmet

2 Safety glasses/sunglasses
With shelter

3 Backpack

4 Protective clothing

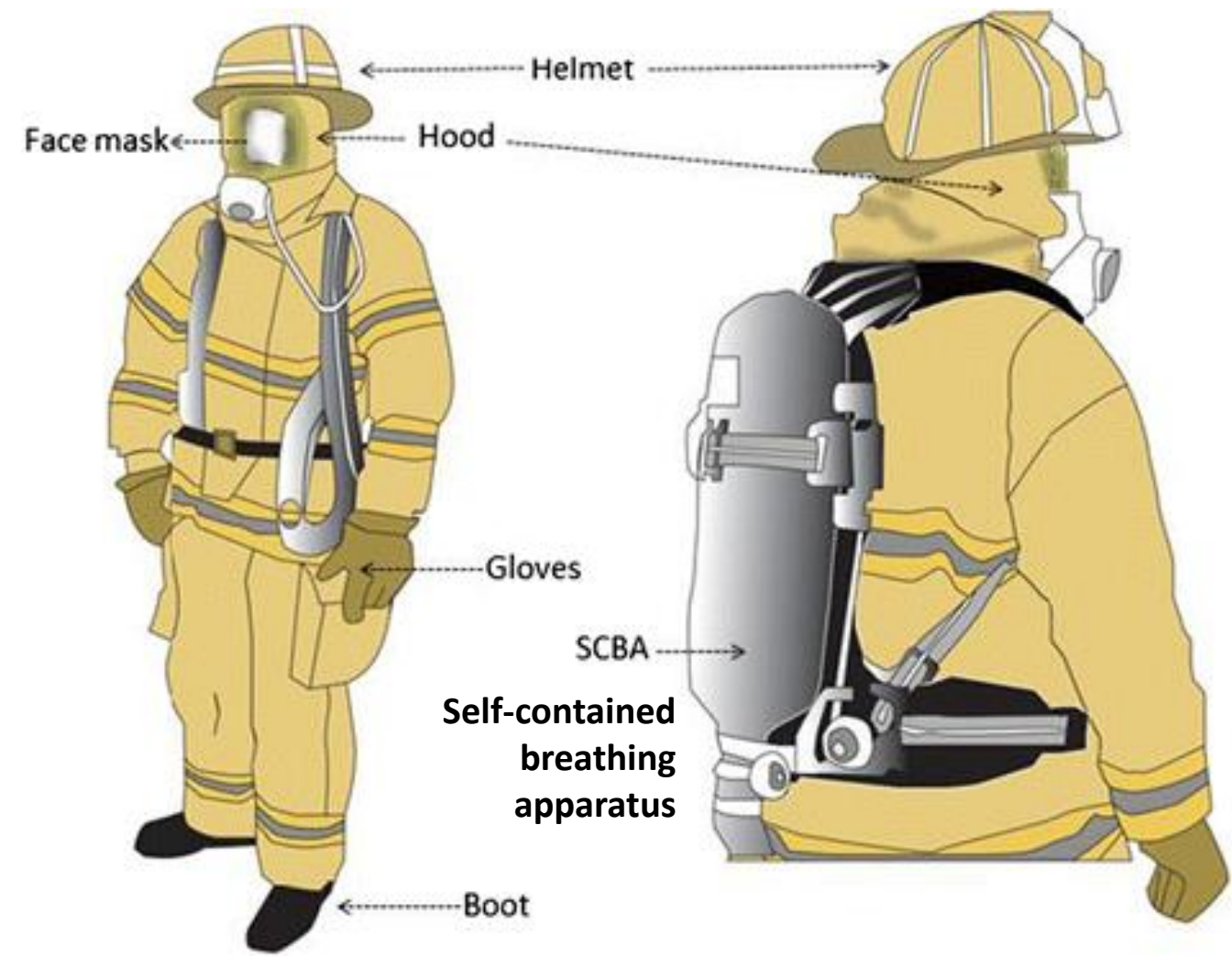
5 Leather Gloves

6 Wildland Pants

7 Wildland Leather Boots

8 Hand tool
(shovel,
Pulaski, etc.)

Firefighters



FIRE RESTRICTIONS IN EFFECT

WWW.OREGON.GOV/ODF



REGULATED FIRE CLOSURE IN ACCORDANCE WITH ORS 477.545

PROHIBITED

ALL Fires, Wood Stoves and Charcoal Briquette Fires



Campfires Prohibited



Smoking Prohibited unless in a vehicle, building, 3' clear area of vegetation



Wood Stoves Prohibited



Charcoal Briquette Fires Prohibited



Parking or Driving on dry grass has a potential of starting a wildfire



Chainsaw Use is Regulated by IFPL



Explosives Prohibited



Fireworks Prohibited



DRAGGING CHAINS CAUSES SPARKS



WILDFIRES ARE "NO DRONE ZONES"



INSPECT YOUR VEHICLE - SPARKS CAUSE FIRES

Vehicles on Forest Roads:



On Forest Roads
Tools Required:
Shovel, Axe or
Pulaski, AND
5 gallons of
water/2.5 lbs fire
extinguisher



Fire is a risk in this environment, so what can you do to protect your home, your family and your land?

- Home hardening Defensible Space/Home Ignition Zone
- Make a plan (evacuation) (loss of communications?)
- There are paths forward for you, your family and your community.

Protect people, pets and property from wildfire.

Following these tips, along with making improvements to the landscape surrounding your home, can help reduce your wildfire risk.



FEMA



U.S. Fire Administration

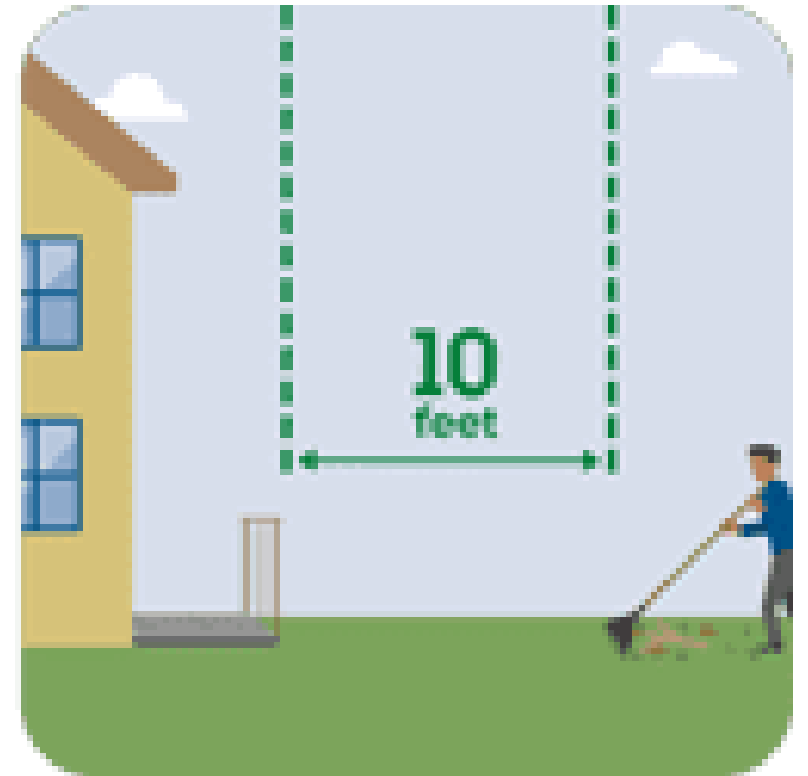
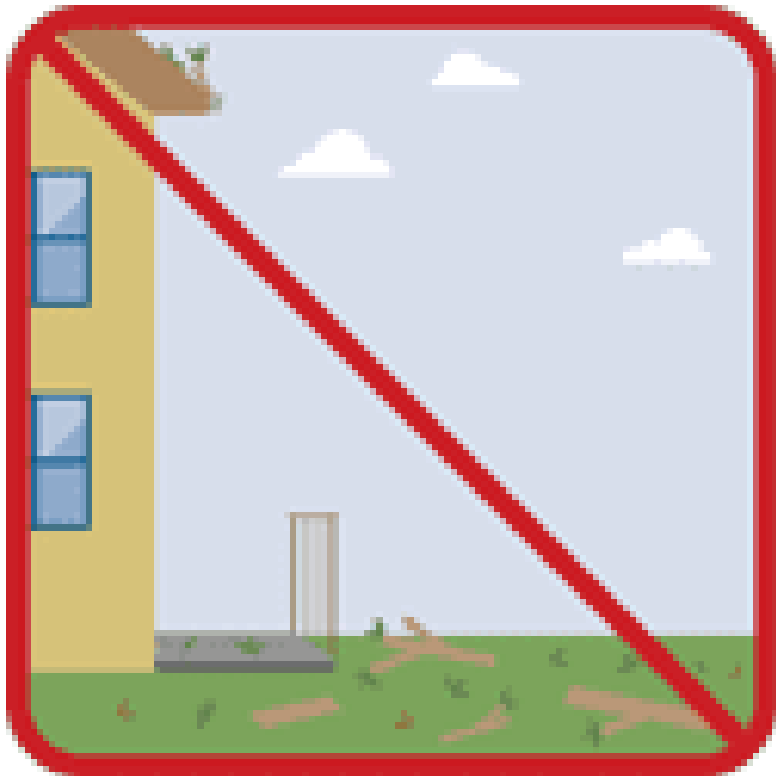
Click here to add image.



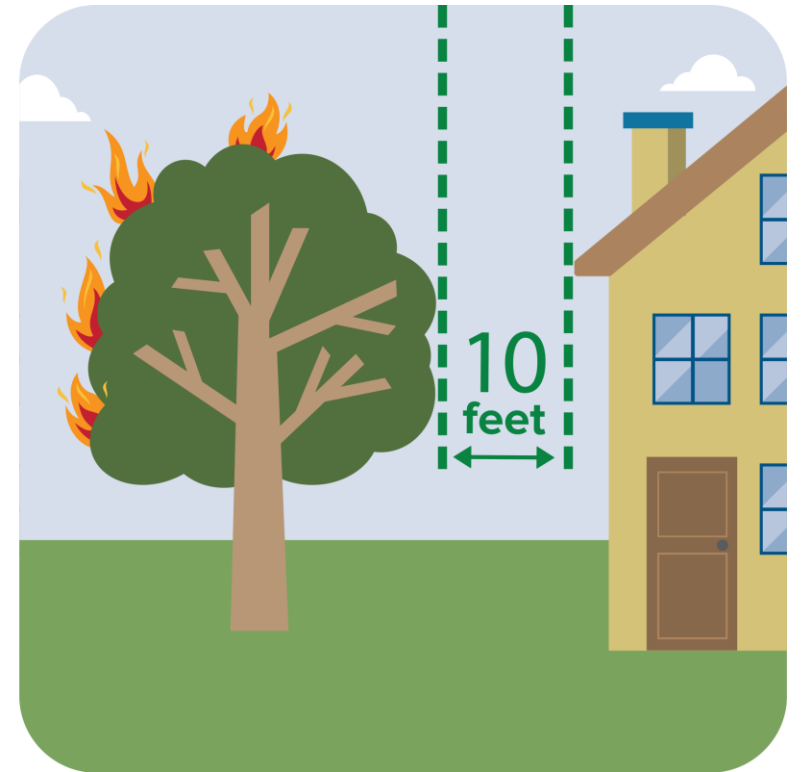
Visit usfa.fema.gov/wui to learn more about reducing your wildfire risk.

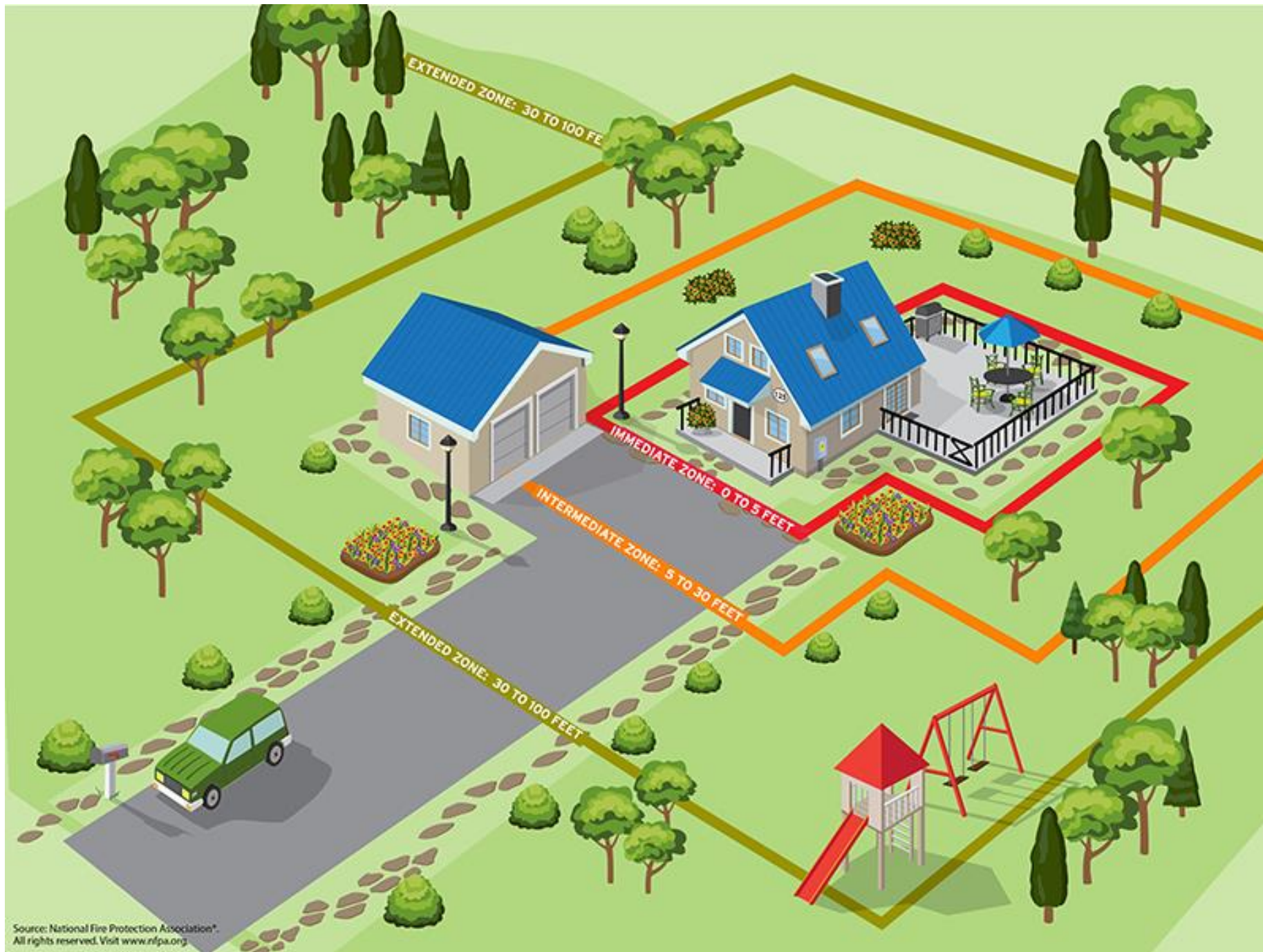
August 2021

Clear gutters and fallen leaves/ twigs/ sticks/ branches at least ten feet around the house.



Keep trees away from home/ no overhanging branches





Everybody has a role to play: Community Preparedness

- Remove fuels from roofs, gutters, and areas of accumulation



- Prepare a to-go bag with essentials for evacuation

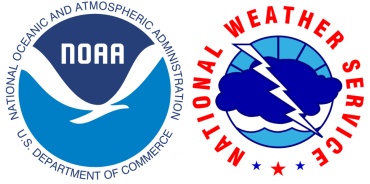
- Restrictions/prohibitions on recreation on public and private lands due to wildfire risk. [County Fire Defense Boards]



- If evacuation order is given, leave quickly, and close all doors and windows (most homes burn from the inside out).



- Adhere to local regulations: acquire burn permits from fire department and comply with burn bans.



- Be vigilant during **Red Flag Warnings**, and if you see fire (flames and/or smoke), call 911.



- Contact your local fire department and/or the ODF for wildfire risk assessment.



FIREWISE USA
Residents reducing wildfire risks

- Consider working with neighbors to form a Firewise community!



- Stay safe, keep your neighbors safe, and keep firefighters safe!

Thank you

- Evaluations:

- 1) Something you learned? Or Something that surprised you?
- 2) An action you are going to take to stay safe during wildfire season?

Aaron Groth, aaron.groth@oregonstate.edu

Wildfire smoke impacts on our bodies

- Wildfire smoke found to be more toxic than other sources of particulate matter that people are more commonly exposed to.
- Breathing in smoke:
 - causing trouble breathing,
 - irritated sinuses,
 - headaches,
 - stinging eyes,
 - chest pain, and fatigue.
- Most severe health impacts from wildfire smoke the day after exposure.
- May exacerbate respiratory, metabolic, and cardiovascular chronic conditions like asthma, chronic obstructive pulmonary disease (COPD), and congestive heart failure. It can also impact mental health and increase stress.

Human hair
50-70 microns in diameter



PM2.5
Combustion particles,
organic compounds,
metals, etc.
<2.5 microns in diameter

PM10
Dust, pollen, mould, etc.
<10 microns in diameter



Fine beach sand
90 microns in diameter

Wear N-95 or better



A one-strap paper mask will not protect your lungs from wildfire smoke.



A surgical mask will not protect your lungs from wildfire smoke.

No Cost Ways to Lower Smoke Exposure

- Know your air quality (track fires and smoke here: <https://fire.airnow.gov/>)
- Stay inside
- Reduce indoor pollution you can control
- Take it easy (not strenuous labor or exercise)
- If you have one, set air to recirculate on your HVAC or window air conditioner

Low to Medium Cost Ways to Lower Smoke Exposure

- Leave the smoky area
- Upgrade your HVAC filters (MERV 13)
- Buy a HEPA portable air cleaner (\$100-\$300)
- Build a simple box fan filter. (\$40-\$50 you can build an air filter by attaching a 20"x20" furnace filter to a 20" box fan.) Instructions:

<https://www.montanawildfiresmoke.org/diy-fan-filter.html>

DIY Air Cleaner Designs: Beyond the Basic

Good

Basic Supplies:

- 20" x 20" box fan
- 20" x 20" x 1" or 4" MERV 13 air filter
- 20" x 20" cardboard shroud (cutout the size of the fan blades)
- Clamps, duct tape, or bungee cords

Better

Additional Supplies:

- Two - MERV 13 air filters
- Triangle cardboard cutout for base on top

Best

Additional Supplies:

- Four or five - MERV 13 air filters
- If using five filter design, use leg supports (e.g., blocks) to allow airflow through bottom

Ways to Improve Effectiveness:

- Add a cardboard shroud (no-cost improvement)
- Use thicker filters (4" rather than 1" MERV 13 filters)
- Use multiple filters (2-5 filter designs)

Key Reminders:

- Only use certified fans with UL or ETL marking (2012 model or newer)
- Keep extra filters on hand
- Replace filters when dirty