Worst Wildfire Smoke Impacts on Oregon Air Quality in September 2020

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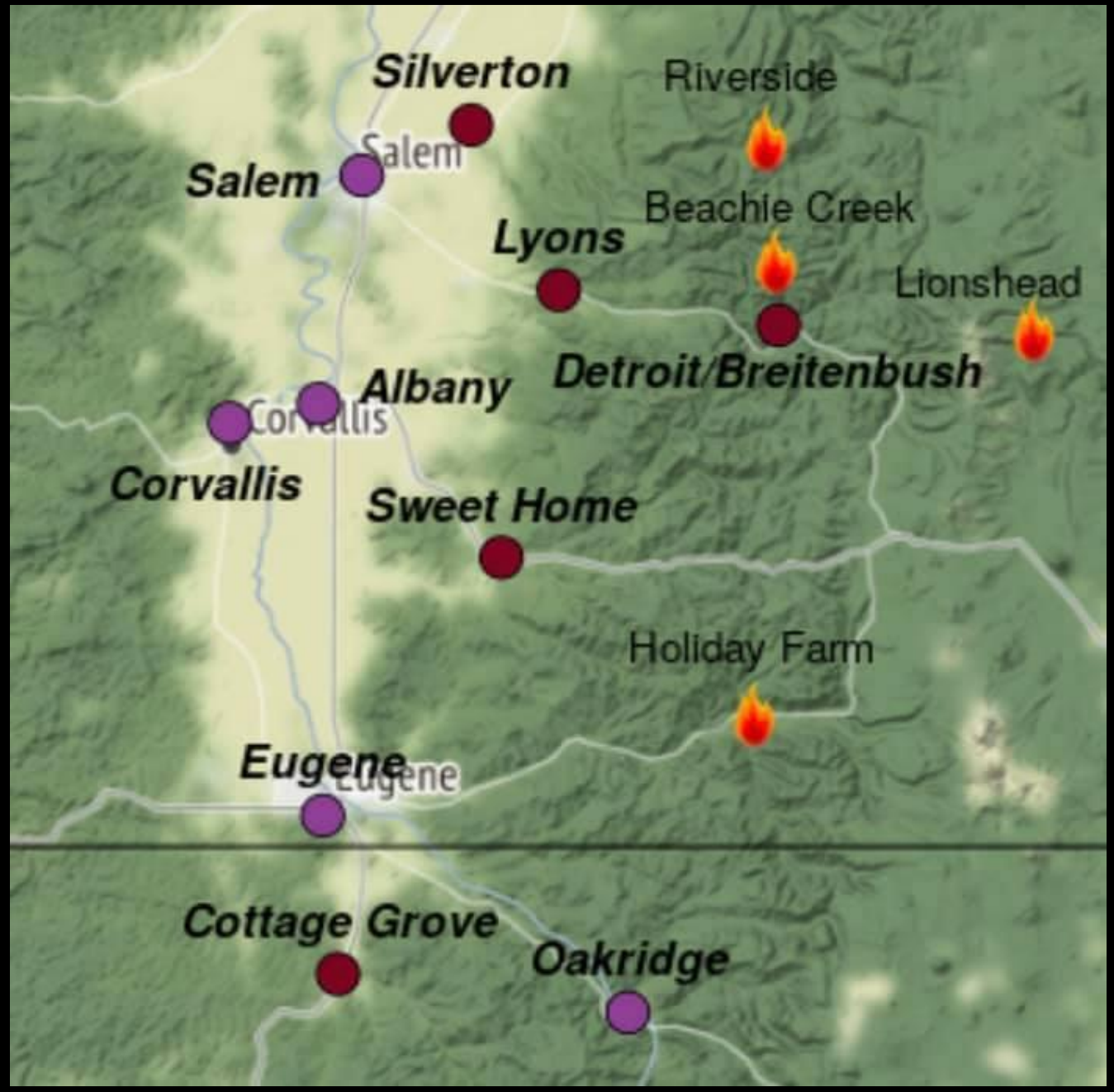
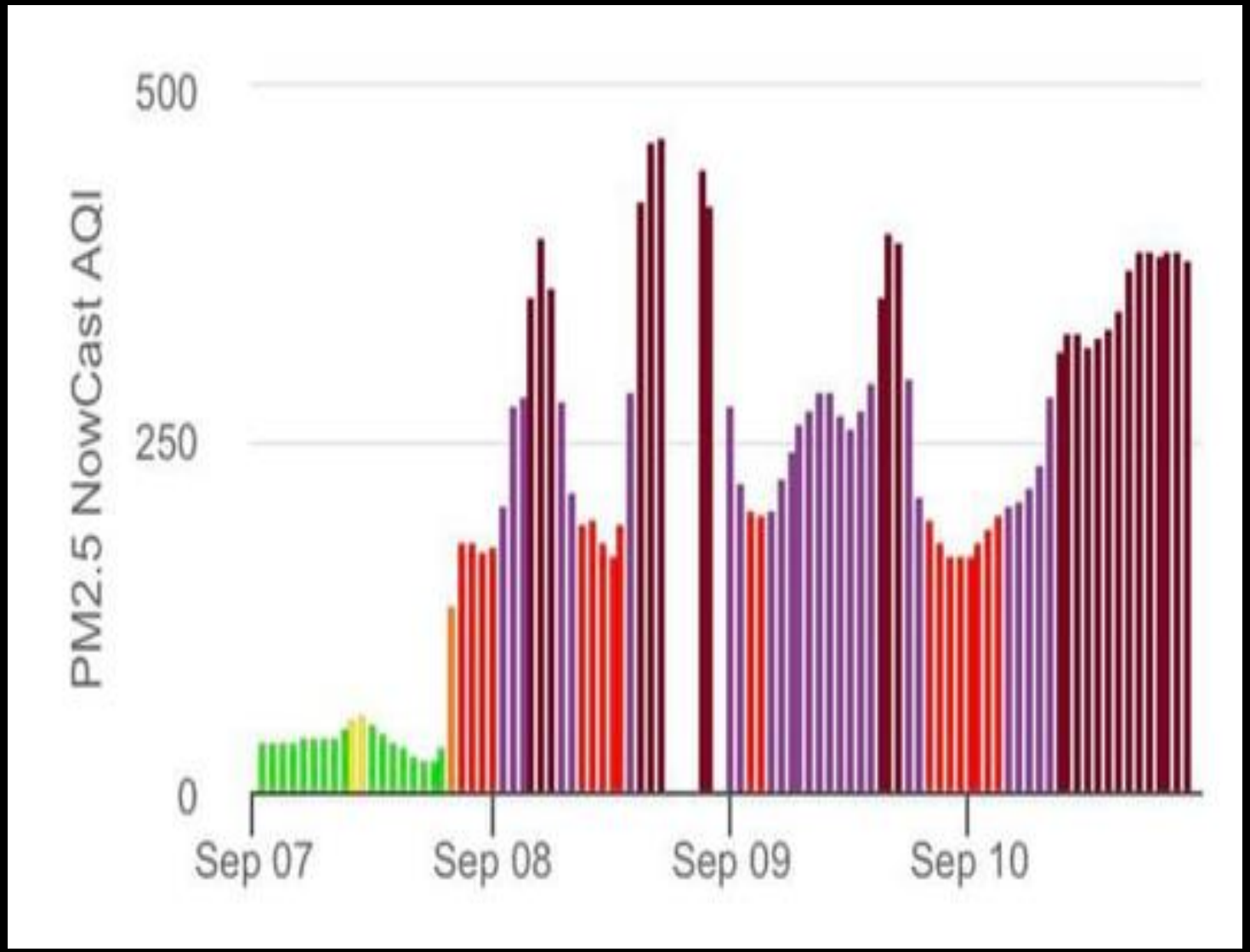
LRAPA

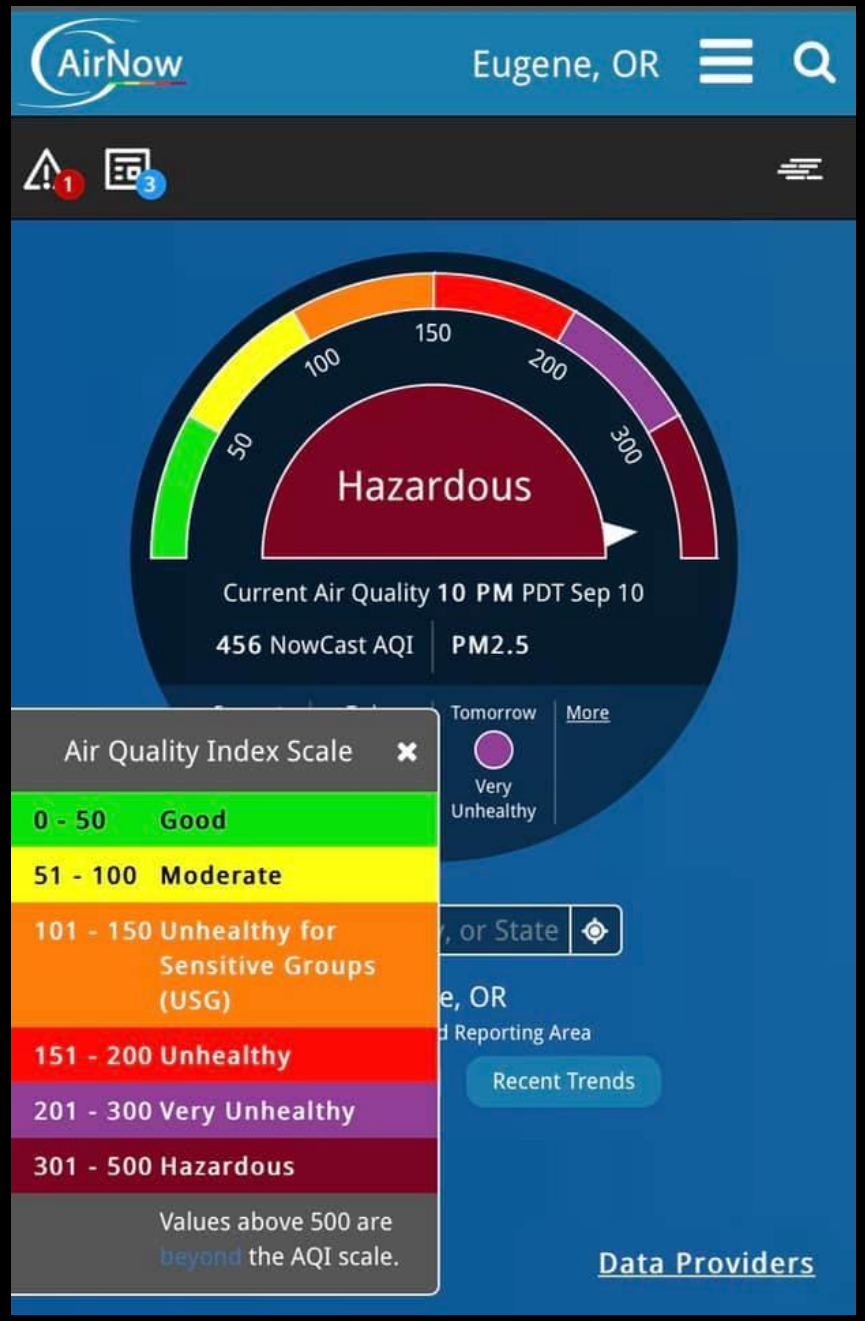
On Labor Day, the Air Quality Index (AQI) in Eugene was Green (“Good”) for most of the day, but wildfire smoke from the Beachie Creek and Lionshead fires steadily increased the AQI in the evening hours to Yellow then Orange, Red, then Purple (“Very Unhealthy”).



By Tuesday morning, September 8, 2020, the AQI in Eugene was Maroon (“Hazardous”) as extreme winds and historically challenging fire conditions fueled multiple wildfires across the region. “The fire weather forecasted is extremely rare and occurs only a few times a century,” said Eric Johnson, Deputy Fire Staff for Northwest Oregon Fire Management.



The AQI was a very valuable educational and advisory tool throughout the wildfire events.



Air Quality Index (AQI)	Actions to Protect Yourself
Good	None
Moderate	Unusually sensitive individuals should consider limiting prolonged or heavy exertion.
USG	People within Sensitive Groups* should **reduce** prolonged or heavy outdoor exertion.
Unhealthy	People within Sensitive Groups* should **avoid all** physical outdoor activity.
Very Unhealthy	Everyone should avoid prolonged or heavy exertion.
Hazardous	Everyone should avoid any outdoor activity.

Sports and other activities were already severely restricted by COVID concerns, but this public health guidance reminded everyone of the activity cautions at increasing AQI levels.

Oregon Health Authority



Public Health Guidance: School Outdoor Activities During Wildfire Events

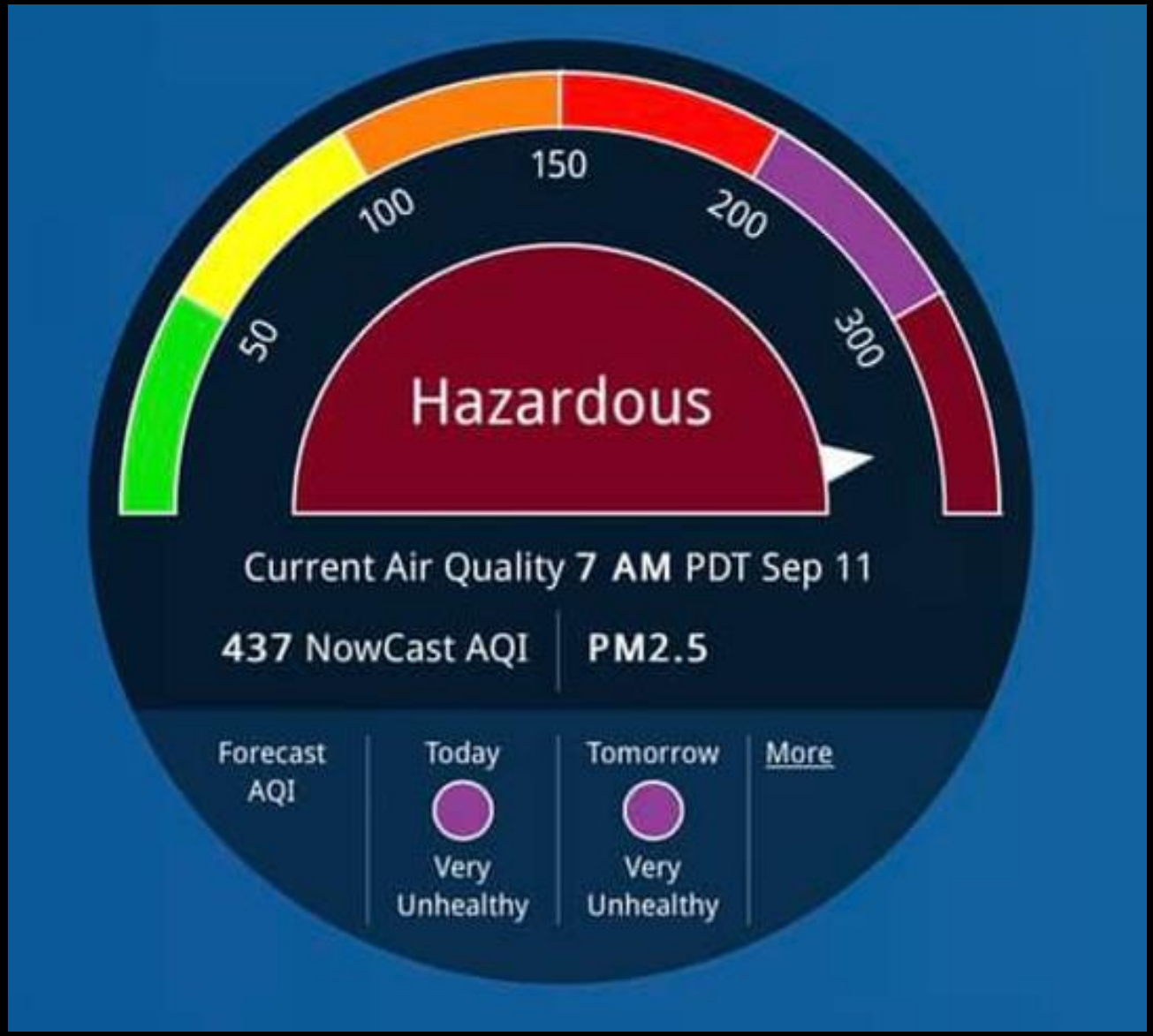
Check the local Air Quality Index (AQI) online (http://www.deq.state.or.us/aqi/) and do a visual inspection outside.* Compare the AQI and visibility test to determine the air conditions in your community. Then, use the guide below to determine activity level for your students.**

Air Quality Index	Visibility Scale	Recess (15 min)	P.E. (1 hr)	Athletic events and practices (2–3 hrs)
Good	Over 5 miles	Great day to be active outdoors!	Great day to be active outdoors!	Great day to be active outdoors!
Moderate	5–15 miles	It is a good day for students to be active outside. • Watch students who are unusually sensitive to air pollution for symptoms of shortness of breath or coughing.	• Watch students who are unusually sensitive to air pollution. • Look for symptoms of shortness of breath or coughing. • Monitor symptoms and reduce or cease activity if symptoms arise.	• Watch students who are unusually sensitive to air pollution. • Look for symptoms of shortness of breath or coughing. • Increase rest periods and make substitutions for these students as needed. • Monitor symptoms and reduce or cease activity if symptoms arise.
Unhealthy for sensitive groups	3–5 miles	It is an OK day for students to be active outside. • Allow students who are unusually sensitive to air pollution to stay indoors if they'd like.	• Move activities indoors for students sensitive to air pollution. • Limit other students to light outdoor activities or move the activities indoors. • Increase rest periods and make substitutions. • Monitor symptoms and reduce or cease activities if symptoms arise.	• Move activities indoors for students sensitive to air pollution. • Limit other students to light outdoor activities or move the activities indoors. • Increase rest periods and make substitutions. • Monitor symptoms and reduce or cease activities if symptoms arise.
Unhealthy	1–3 miles	• Consider keeping all students indoors or allowing only light outdoor activity. • Move activities indoors for students sensitive to air pollution.	• Move activities indoors for students sensitive to air pollution. • Consider moving all activities indoors. • Limit all students to light activities. • Increase rest periods and make substitutions.	Consider any of the following: • Cancel the event. • Move the event indoors. • Postpone the event. • Move the event to an area with "good" air quality.
Very unhealthy/ hazardous	1 mile or less	Keep all students indoors.	• Move all activities indoors. • Limit all students to light activities. • Increase rest periods and make substitutions.	Do any of the following: • Cancel the event. • Move the event indoors. • Postpone the event. • Move the event to an area with "good" air quality.

* If you get conflicting results when you compare the AQI to your visual inspection, err on the side of caution. Follow the recommendations for the worse of the two assessments.

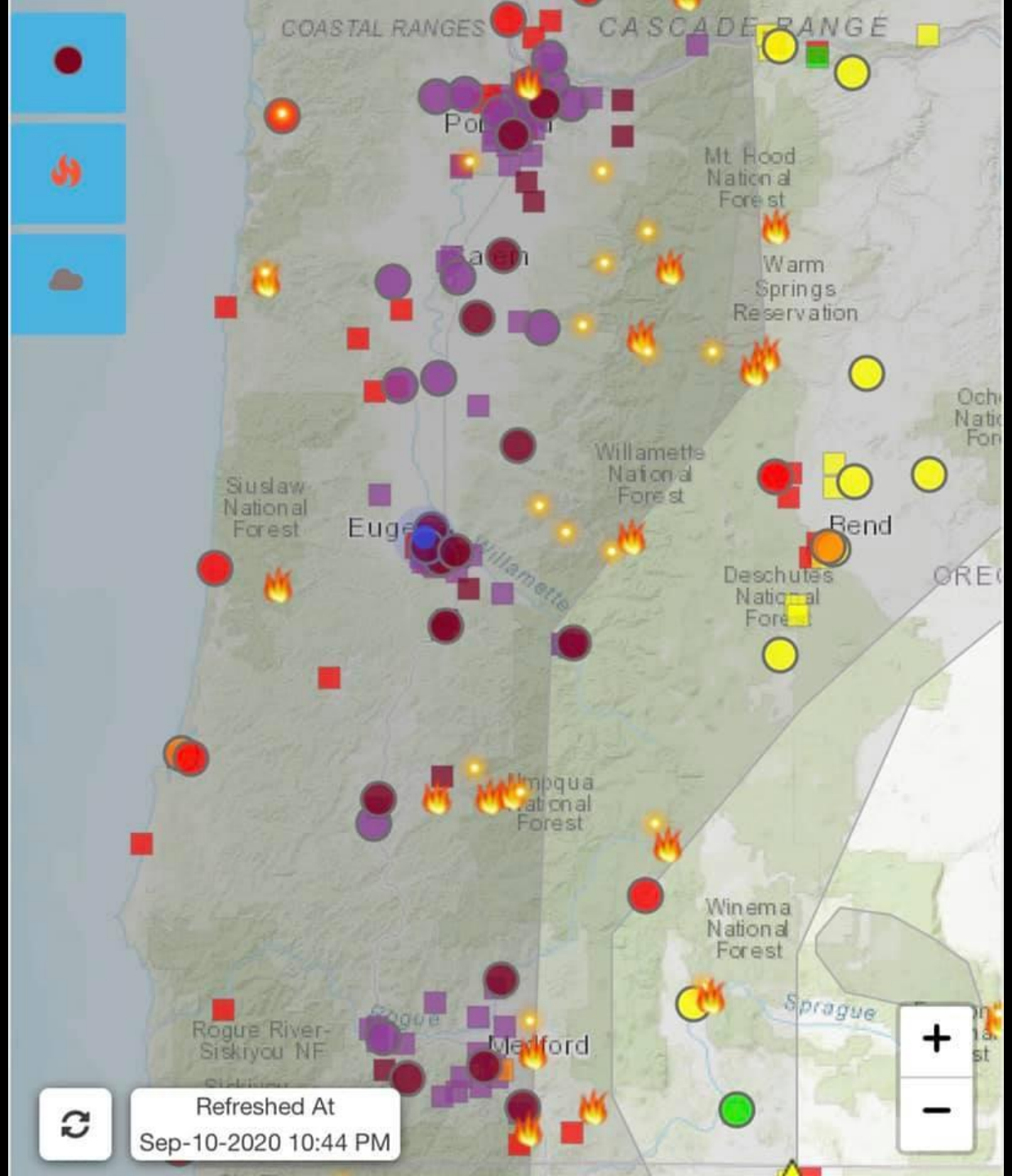
**Students with asthma action plans should follow them closely. They should monitor their breathing and exposure to wildfire smoke. Anyone experiencing symptoms should contact a health care provider for further advice. They should call 911 in an emergency.

By Thursday, the AQI was Hazardous throughout the Willamette Valley. Deadly windblown wildfires raging across Oregon (and throughout the Pacific Northwest) destroyed hundred of homes, and Oregon Governor Kate Brown warned, “This could be the greatest loss of human life and property due to wildfire in our state’s history.”

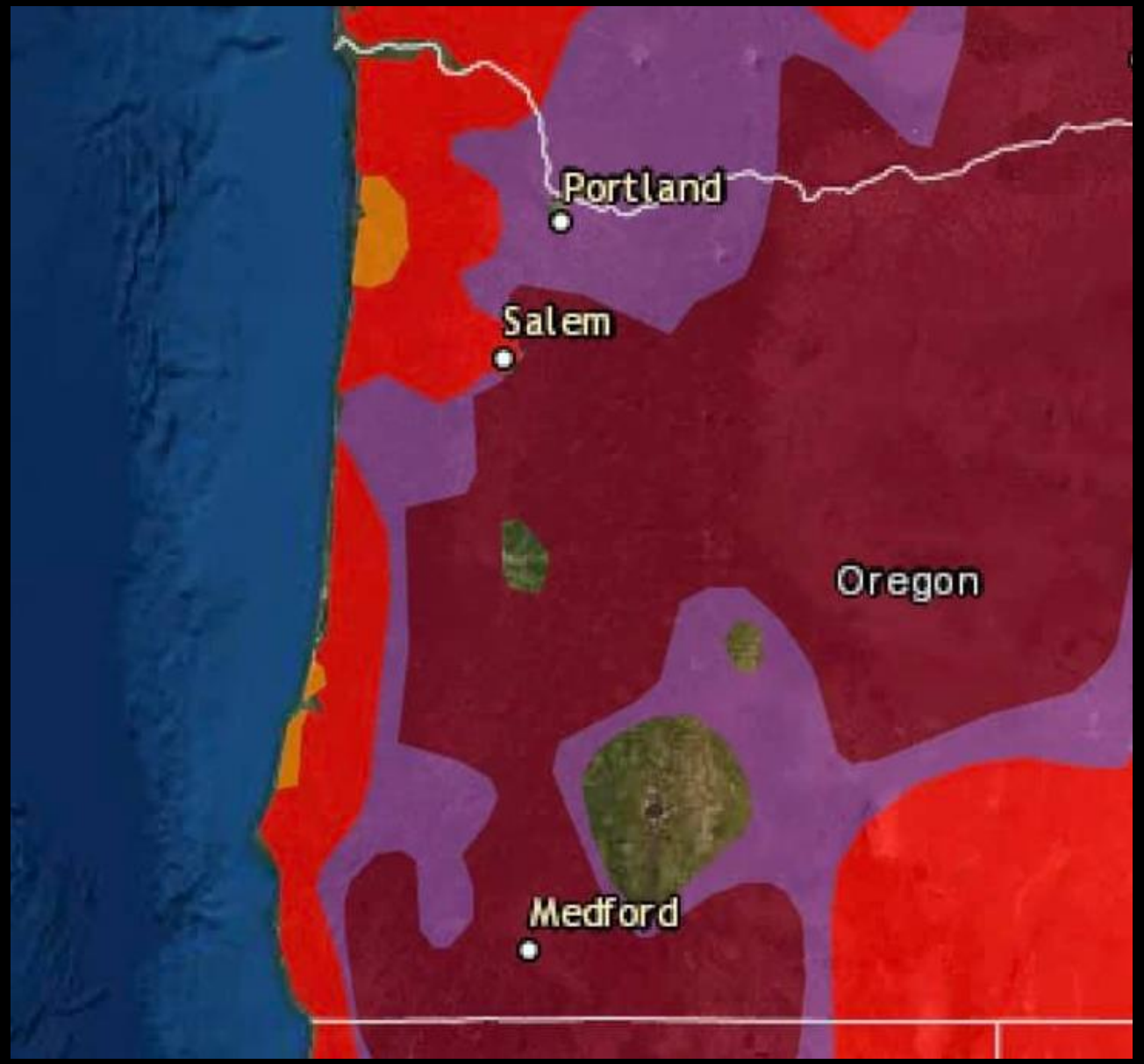


Western Oregon: In one week, over one million acres were burned. This was over twice the acreage burned in a typical year in Oregon.

This screenshot from fire.airfire.gov shows active wildfires, hotspots from satellite detections, permanent air monitors, and low-cost air sensors.



On Saturday, September 12, 2020, the Air Quality Advisory was extended to the entire State of Oregon, with Hazardous smoke levels expanding into much of Central Oregon. Governor Kate Brown said more than 40,000 Oregonians have been evacuated and about 500,000 (of the 4.2 million residents in Oregon) are in different levels of evacuation zones. (Level 1 is Get Ready, Level 2 is Get Set, Level 3 Evacuation Zones are GO NOW!)



Here are a few examples of social media updates through the wildfire events. Many views, reactions, comments, and shares.

Merlyn Hough is in **Eugene, Oregon.**
September 10 at 11:03 PM ·

It will take a few days for the Willamette Valley to see much improvement in smoke concentrations. Some slow improvement in the coastal areas as the light winds have a more westerly component, but the wildfires sent smoke hundreds of miles out over the Pacific in the past few days and some of that smoke will be returning with the westerly flows.

For updates, see:
- airnow.gov
- fire.airnow.gov

Please note the continuing cautions. Keep safe.

30 4 Comments 2 Shares

Merlyn Hough is in **Eugene, Oregon.**
September 11 at 7:54 AM ·

Conditions similar this morning to last night. It will take a few days for the Willamette Valley to see much improvement in smoke concentrations. Some SLOW improvement in the coastal areas as the light winds have a more westerly component, but the wildfires sent smoke hundreds of miles out over the Pacific in the past few days and some of that smoke will be returning with the westerly flows.

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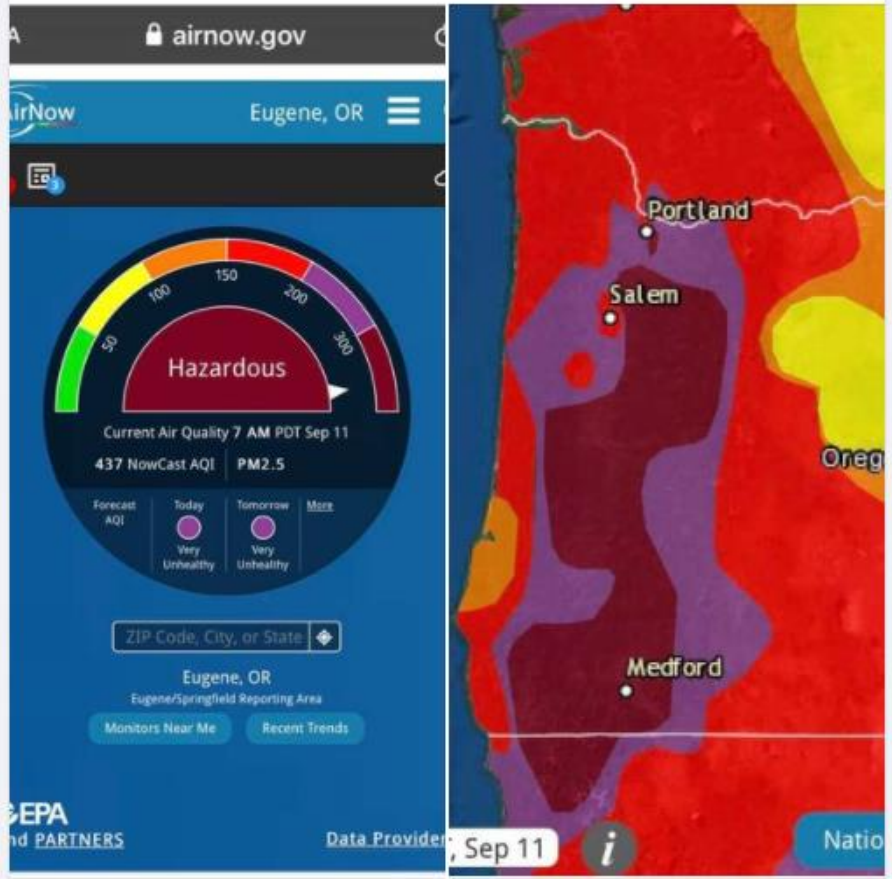
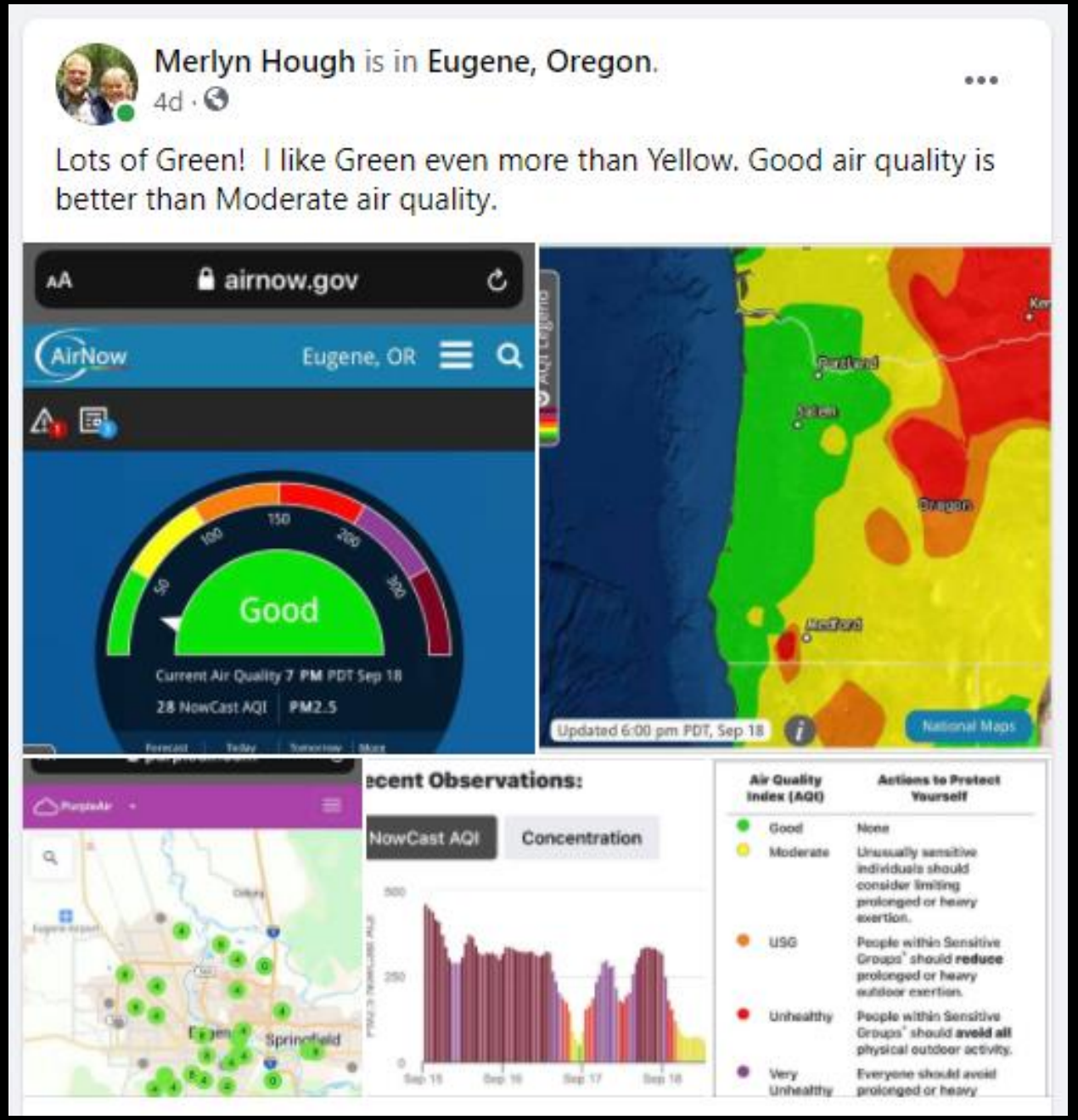
Please continue to follow the cautions and stay safe.



10 1 Comment 2 Shares

Air quality has dramatically improved in most parts of western Oregon in recent days.

But fires continue, areas close to the fires continue to be impacted, and diurnal air movements still bring residual smoke into many areas overnight.



Cleanup efforts are beginning, which require many other cautions.

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WILDFIRE ASH CLEANUP

Protect Yourself From Ash

Protect yourself from harmful ash when you clean up after a wildfire. Cleanup work can expose you to ash and other products of the fire that may irritate your eyes, nose, or skin and cause coughing and other health effects. Ash inhaled deeply into lungs may cause asthma attacks and make it difficult to breathe.

- Avoid direct contact with ash. If you get ash on your skin, in your eyes, or in your mouth, wash it off as soon as you can.
- Children should not be nearby during ash cleanup. Do not allow children to play in the ash. Clean ash off all children's toys before use. Clean ash off pets and other animals. Keep pets away from contaminated sites.
- Do not consume any food, beverages, or mediations exposed to smoke, ash, heat, pressure or chemicals.

Recommended Actions

DO NOT USE LEAF BLOWERS: Leaf blowers move fine particles around and return them to the air, creating additional health concerns. Dot not use them for ash cleanup under any circumstance.

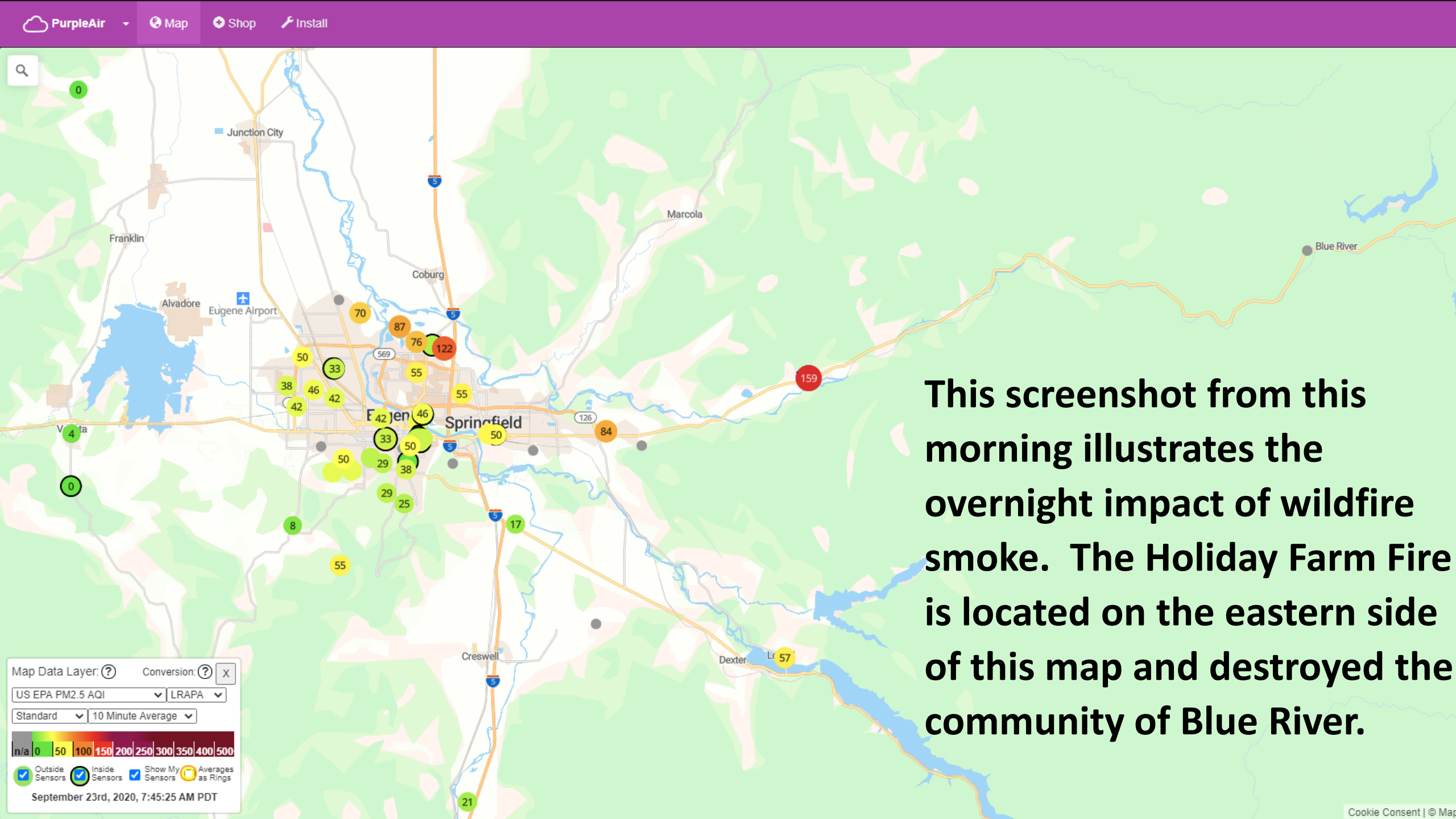
Alternatives to leaf blowers include: Sweep gently with a push broom, then hose lightly with water. Take care to conserve water. Ash can be bagged and put into trash cans. Using a shop vacuum equipped with a high-efficiency particulate filter (HEPA) and a disposable filter bag.

Cleanup: Avoid stirring up or sifting through ash as much as you can. Avoid actions that kick ash particles up into the air, such as vigorous dry sweeping. Before sweeping indoor and outdoor hard surfaces, mist them with water to keep dust down. Follow with wet mopping. Use a damp cloth or wet mop on lightly dusted areas. When you wet down ash, use as little water as you can.

Vacuum: Use a high-efficiency particulate air (HEPA)-type vacuum to clean dusty surfaces. Don't use a typical household vacuum or a shop vacuum without a HEPA filter. They will send the collected dust or ash out into the air. Don't use leaf blowers or do anything else that will put ash into the air.

Disposal: Collected ash may be disposed of in the regular trash. Ash should be stored in plastic bags or other containers to prevent it from being stirred up. If you suspect hazardous waste, including asbestos, is present, contact your local hazardous waste authorities regarding appropriate disposal. Do not wash ash into storm drains.

For more information visit: LRAPA.org/324/Ash-Cleanup
Or call: 541-736-1056


PurpleAir
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Shop
Install
Junction City
Franklin
Coburg
Marcola
Blue River
Alvadore
Eugene Airport
Springfield
Creswell
Dexter
Map Data Layer:
Conversion:
US EPA PM2.5 AQI
LRAPA
Standard
10 Minute Average
n/a 0 50 100 150 200 250 300 350 400 500
Outside Sensors
Inside Sensors
Show My Sensors
Averages as Rings
September 23rd, 2020, 7:45:25 AM PDT
This screenshot from this morning illustrates the overnight impact of wildfire smoke. The Holiday Farm Fire is located on the eastern side of this map and destroyed the community of Blue River.

For updates, some of my favorite websites are:

- airnow.gov
- fire.airnow.gov
- fire.airfire.org
- purpleair.com

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