

# Data suggests trees prevent flooding from rain

By **MONICA SAMAYOA AND PRIYANKA RUNWAL**  
Oregon Public Broadcasting

PORTLAND — Shelly Bedell isn't afraid to get down and dirty. On a recent Saturday, she dug into the soil the same way a dog digs a hole to bury its favorite bone. Then Bedell started what she calls "tickling and teasing" the roots of a young tree, so it would be ready to be planted in its forever home.

"You sweep those roots so they're going down, and it can be pretty sloppy," she explained to a new volunteer. "Yeah ... tuck this baby to bed."

Bedell has been volunteering with Friends of Trees since the mid-1990s. It's a nonprofit organization that plants trees where they are needed the most in the Portland area and beyond. On this day, she was teaching new crew leaders how to properly plant trees and the importance of doing it as a community.

"There's a physical good, an ecological good and a climate good, but there's also really a soulful, a soulful goodness that happens," Bedell said.

For Bedell and many others, trees and the act of

planting them are all about a general ecological soulful goodness. They're aesthetically pleasing. They absorb carbon that would otherwise contribute to climate change. They clean our air and water and provide shade on those really hot days.

That's not all. Portland's trees are also playing a role every time it rains: They're helping prevent major flooding and avoid erosion — they are literally holding the region together.

"They are these fantastic marvels of engineering that an engineer cannot build," Portland Bureau of Environmental Services Jennifer Karps said. "They're these systems that work collectively as a forest to help to manage rain, basically."

In Multnomah County, where the region receives about 42 inches of annual rainfall, the benefits of planting trees are paying off. Data suggests tree canopies are preventing millions of gallons of rainfall from flooding the neighborhoods.

Extreme rainfall events are expected to keep occurring more often and lasting longer in the future as fossil fuel burning causes the climate to continue to warm. Trees in urban spaces are dampening some of these



OPB Photo/Monica Samayoa

**Friends of Trees crew leaders Shelly Bedell, left, and Felicia Frizado plant a tree on Portland Audubon property in Northwest Portland.**

negative effects.

## Avoiding runoff

Runoff is rainwater that is bound to wash over impervious surfaces like streets and sidewalks or areas with no vegetation that can't intercept or prevent water from going to our stormwater drains.

Trees intercept the rainfall that would otherwise reach the ground in a flash. In this way, trees act like fine filters. Many of the raindrops that are detained on leaves or branches eventually evaporate once rainfall halts.

est Service, tree canopies in Multnomah County appropriate nearly 4 billion gallons of runoff. That's enough to cover a little over 9,000 football fields 1 foot deep — water that would otherwise be flooding neighborhoods.

The Portland Environmental Services and Parks bureaus and local nonprofits often strategically plant trees for stormwater management benefits. So they think a lot about where to plant trees.

"Between the curb and sidewalk, that's where the tree is going to provide the greatest stormwater management benefit," Karps said. "We're very careful about where we plant the tree with respect to all sorts of other things — intersections, stop signs, other trees, lines of sight."

Since so many partnerships are involved in the process, it's not a coincidence tree canopies are intercepting millions of gallons of rainwater annually.

"They are the smartest financial decision. To plant a tree that is going to work so hard to clean our water systems and to establish our soil and provide all of these community benefits, and it's going to just continue to grow the benefit," Friends of Trees' Whitney Dorer said. "It's the

one thing that doesn't depreciate in value. It actually appreciates."

## High maintenance

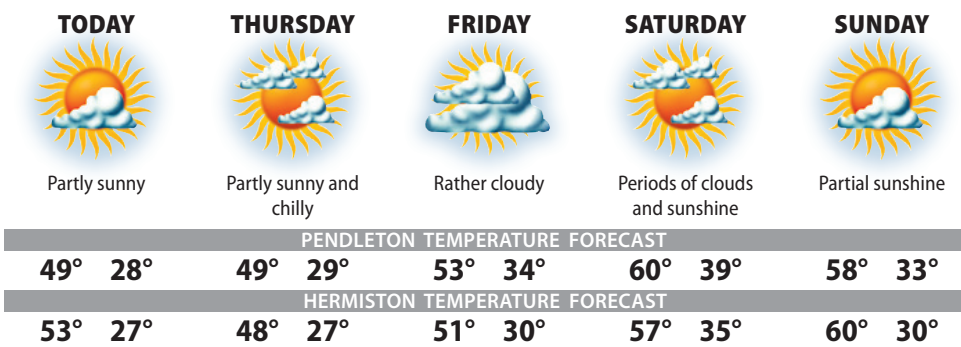
Trees aren't a cost-free part of the city's infrastructure. Maintaining stormwater drains and grates requires picking up leaves, and that takes a lot of work and money. The Portland Bureau of Transportation spends nearly \$7 million a year on street sweeping, including brush clearing and other vegetation-related sweeping and clearing. About \$1 million of that goes toward Leaf Day, which uses specialized equipment to clean residential streets.

As the city and nonprofits continue to work to create more gray and green infrastructures to prevent stormwater runoff, it means more work for Friends of Trees.

Since the group was founded in 1989, Friends of Trees volunteers have planted over 800,000 trees, shrubs and native plants all over the Portland Metro area and beyond. And they aren't done yet.

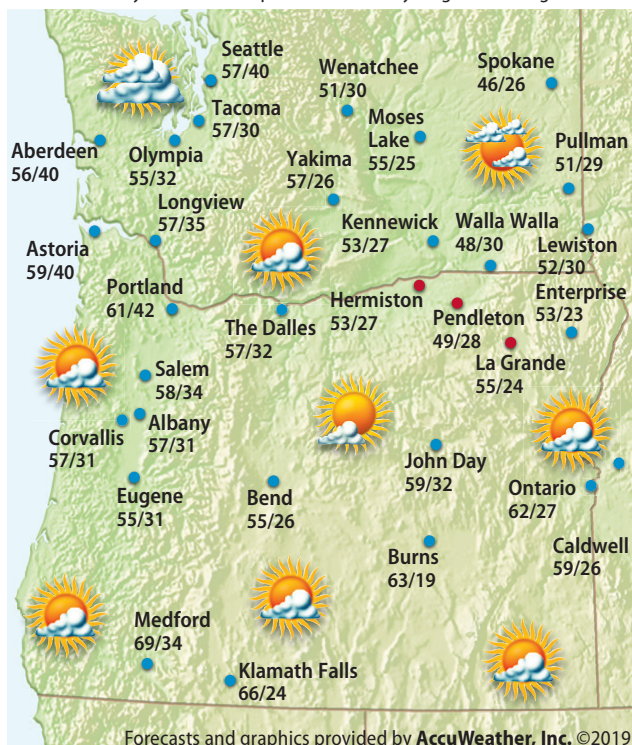
"Friends of Trees is not going anywhere, so we have reached our 30th birthday," Dorer said. "And we are slowly making our way to a million trees."

## Forecast for Pendleton Area



## OREGON FORECAST

Shown is today's weather. Temperatures are today's highs and tonight's lows.



## ALMANAC

PENDLETON through 3 p.m. yest.

TEMP.	HIGH	LOW
Yesterday	62°	31°
Normals	54°	35°
Records	75° (1934)	13° (2003)

## PRECIPITATION

24 hours ending 3 p.m.	0.00"
Month to date	0.00"
Normal month to date	0.19"
Year to date	11.31"
Last year to date	8.25"
Normal year to date	10.18"

## HERMISTON through 3 p.m. yest.

TEMP.	HIGH	LOW
Yesterday	57°	24°
Normals	56°	35°
Records	79° (1934)	13° (2003)

## PRECIPITATION

24 hours ending 3 p.m.	0.00"
Month to date	0.00"
Normal month to date	0.18"
Year to date	4.94"
Last year to date	6.46"
Normal year to date	7.46"

## WINDS (in mph)

	Today	Thu.
Boardman	NE 3-6	E 3-6
Pendleton	NW 4-8	NNW 4-8

## SUN AND MOON

Sunrise today	6:41 a.m.
Sunset tonight	4:35 p.m.
Moonrise today	2:38 p.m.
Moonset today	12:27 a.m.

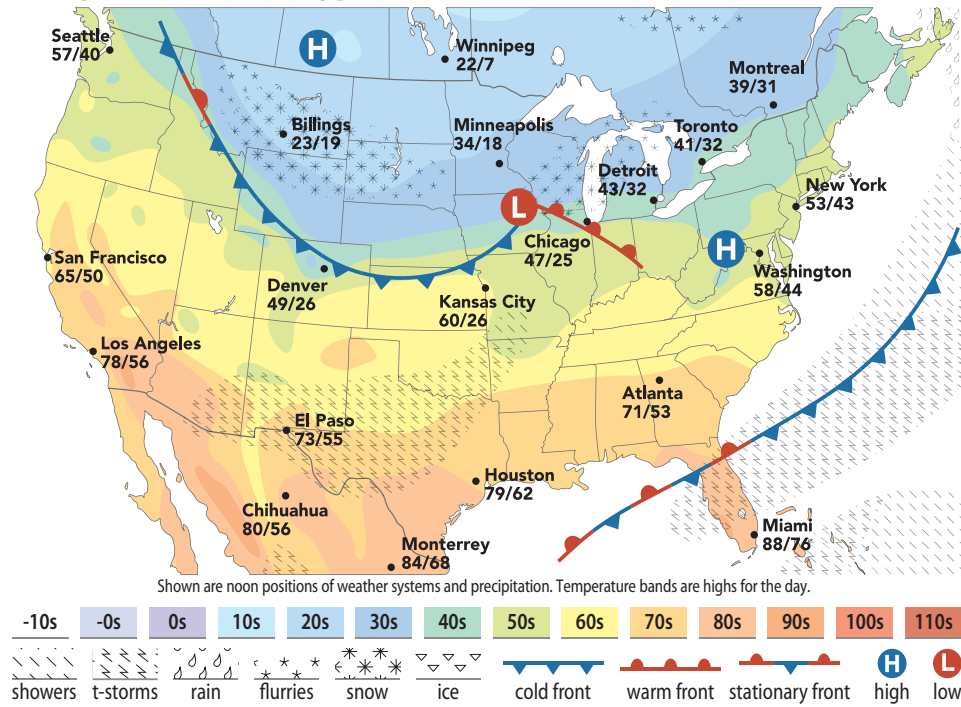
	Full	Last	New	First
	Nov 12	Nov 19	Nov 26	Dec 3

## NATIONAL EXTREMES

Yesterday's National Extremes: (for the 48 contiguous states)

High 92° in Palm Springs, Calif. Low 3° in Rolla, N.D.

## NATIONAL WEATHER TODAY



## Oregonian elected national FFA secretary

EO Media Group

INDIANAPOLIS — Kourtney Lehman, an agricultural business management major at Oregon State University, was elected national FFA secretary during the organization's annual convention here last weekend.

Lehman is a 2017 Baker High School graduate who served as president of the Oregon FFA state officer team in 2017-18.

She said in a telephone interview with the *Baker City Herald* that she is looking forward to the year ahead.

"It's an incredible experience that I never thought I would get to have," she said of her election to national office. "I'm looking forward to sharing my love for agriculture and my love for service."

She is joined on the

2019-20 officer team by students from Montana, Virginia, Puerto Rico, New Mexico and Ohio.

Kolesen McCoy, an agribusiness and applied economics major at Ohio State, was elected national president.

Lyle Logemann, an agricultural education major at Eastern New Mexico University, was elected western region vice president.

Tess Seibel, a nursing major at James Madison University, was elected eastern region vice president.

Mamie Hertel, a financial engineering major at Montana State University, was elected central region vice president.



Lehman

Yomar Roman, an office administration major at Universidad de Puerto Rico, was elected southern region vice president.

Also during the convention another Oregonian left national office. Shea Booster, of Bend, was the 2016-17 state FFA president and the 2018-19 western region vice president.

According to the FFA, each officer will travel more than 100,000 miles to meet with FFA members and teachers, corporate sponsors, government and education officials, state FFA leaders and the general public.

The team will lead personal growth and leadership training conferences for FFA members throughout the country and help set policies that will guide the future of FFA and promote agricultural literacy.

## BRIEFLY

### Pipeline protesters blocking shipment at Port of Vancouver

VANCOUVER, Wash. — Protesters at the Port of Vancouver, Washington, are blocking a shipment of pipeline meant for the Trans Mountain Pipeline Expansion project.

KOIN reported that Tuesday morning at least five people climbed up and chained themselves on the dock where the shipment is to be loaded off of.

Other "kayaktivists" were in the surrounding water, rallying behind the climbers to stop this project they say "is jeopardizing a livable future for everyone on this planet."

Local law enforcement and the U.S. Coast Guard were monitoring the situation.

The Trans Mountain Pipeline carries crude oil from the Alberta tar sands to the British Columbia coast for export. The expansion project would add a second parallel line that would nearly triple the system's capacity.

### At least 3 horses found dead on Creswell property

CRESWELL — Court documents say at least three dead horses were found on the property near Creswell where 61 horses were seized last week.

The *Register-Guard* reported a newly filed search warrant affidavit made available Monday in Lane County Circuit Court found some of the horses that were seized at the DeLeonardo Training Center were eating their own feces and wooden posts.

The affidavit says additional deceased horses are expected to be found on the property. Gwentyth Davies has been arrested and

cited in lieu of custody for felony second-degree animal neglect.

Since then, owners of the horses, which Davies boarded on her property, have come forward, frustrated that Lane County is holding their animals as criminal evidence instead of returning them to their rightful owners. The Oregon Humane Society said the process to identify the owners and return the horses could take weeks or months.

### 2 children killed in townhouse fire in Lynnwood, Washington

LYNNWOOD, Wash. — Authorities say two children died and a third was taken to the hospital after a fire engulfed a townhouse in Lynnwood, Washington.

KOMO reported two adults and an 11-year-old boy, who were also inside the townhome when the fire started Sunday afternoon, were able to get out.

Dispatchers received several calls around 2:40 p.m. of flames coming from the complex. Leslie Hynes, with South Snohomish County Fire, said firefighters could see a large column of smoke as they approached and arrived to find flames coming from both floors of a two-story townhome.

South County Fire of Snohomish County said Monday a 15-year-old girl and a 7-year-old boy found dead were siblings who were at the house visiting a relative.

Hynes says the 11-year-old boy who survived was taken to a hospital for treatment of smoke inhalation. Neither of the adults inside was injured.

An investigation continues.

— Associated Press

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