

Wildfires west of the Cascades: Rare, but large and severe

August 26 2019, by Kiyomi Taguchi

Most of us think of wildfire in Washington state as something that happens east of the mountains. There's a reason for that: more than 99 percent of wildfires in the last 40 years have been east of the Cascade Crest.

But [forest fires](#) are a natural, though rare, occurrence on the west side of the mountains as well. These verdant forests don't immediately seem like burnable material. But, with the right conditions, these areas can also experience wildfires. Years without [fire](#) allow trees and understory brush to grow and accumulate significant biomass, which can produce large, severe wildfires.

Brian Harvey, assistant professor in the UW School of Environmental and Forest Sciences, is studying fires in Washington that burn on the west side of the Cascade Crest. He and his research team are building on evidence that suggests Western Washington has a history of large wildfires, each burning hundreds of thousands of acres. We might not be familiar with them, because most happened centuries ago.

"Being able to understand these systems is really critical to our ability to manage them as a society, and make really smart decisions about how we're going to manage forests," said Harvey. "That's particularly important as the human footprint continues to expand."

Gathering data on west side fires may help determine risks for people who have built homes and communities near wooded areas. It might help

in planning how to protect watersheds, and in thinking about [forest](#) products and recreation that are part of our economy and culture.

The most recent west side fire was the Norse Peak fire in 2017 near the Crystal Mountain ski resort, and it is the focus of Harvey's current work. Although the fire started on the east side, it traveled over the crest of the mountains and burned 25,000 acres just outside Mount Rainier National Park. Harvey and collaborators have found that the same area experienced a large fire in 1890, as well as in 1700 and 1490.

More recently, the Yacolt Burn in 1902 ravaged an estimated 500,000 acres in southwest Washington. "For scale," said Harvey, "that's about 10 times the area of Seattle."

How can researchers begin to understand where fires burned more than 500 years ago? One clue is by measuring the age of the trees. When a stand of trees is killed in a fire, a new generation of seedlings begins to develop. As the trees grow, the similar ages within the stand help indicate how long it's been since a major forest fire, Harvey explained.

Warm, dry weather, an ignition source and warm, dry winds from the east are the main factors that produce west side fires. Although these fires are infrequent, [climate change](#) may cause them to be more prevalent in years to come.

Post-fire, Harvey and collaborators are finding that the Norse Peak area has more biodiversity than it did before. New plants and animals are taking advantage of more light and space created during the [wildfire](#). Harvey sees his own opportunity, too, to study forest ecology and landscape resilience after a rare fire that happened during his lifetime.

Provided by University of Washington

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