

Mother Jones

Can we move our forests in time to save them?

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I drove to Oregon because I wanted to see the future. Our rapidly changing climate vexes me, keeps me up at night—perhaps you’ve felt this, too—and recently I’d become particularly preoccupied with trees. In California, where I live, climate change helped kill nearly [62 million trees](#) in 2016 alone, and last year, [4.2 million acres](#) of our state burned. I wanted to know what was in store for our forests and, because we humans rely on them for so much—for clean air, for carbon sequestration, for biodiversity, for habitat, for lumber and money, for joy—what was in store for us.

I’d read about a group of scientists who were not only studying the calamities befalling our forests but also working to help the trees migrate in advance of coming doom. So in May, I headed to a 3-and-a-half-acre stand of roughly 1,000 Douglas firs at a US Forest Service nursery outside of Medford. The grove was situated in a wide valley in the southwestern corner of the state, nestled between the Cascades to the east and the Coast Range to the west. Brad St. Clair, a Forest Service scientist who has studied the genetic adaptation of trees for more than two decades, met me by the road. He’s short and rugged, as if built for adventuring and tending to the lives of trees, and he arrived in a souped-up Sprinter van loaded with an armory of outdoor gear. In 2009, he and his team planted this and eight other stands of firs after they’d gathered seeds from 60 tree populations all over Washington, Oregon, and California and grown them into seedlings in a greenhouse. The seeds were sourced from as high as 5,400 feet in the Sierras and as low as the coast, from Mendocino County, California, all the way north to Central Washington, and were planted in intermixed clusters at each of the nine sites to see how they would fare in a hotter, drier climate than the ones they’d come from. In other words, to see if they’d make it in the future.

Douglas fir, a tall, narrow-trunked evergreen often dragged indoors for Christmas, is a favorite of foresters and logging companies because of its combination of strength, fast growth, and pliability. It can also withstand a change in climate of about 4 degrees Fahrenheit without much trouble. But global average temperatures have already risen by almost 3 degrees since the 1900s, and all models predict average temperatures to blow through the 4-degree threshold in the next several decades, perhaps rising above 7 degrees by the end of the century.

In the wide, flat expanse of the nursery, the firs were rimmed by fallow land on all sides. St. Clair instructed me to put on safety glasses, and then ducked down, pushed aside the outermost branches, and slipped into the trees. I followed him. Within two steps, there we were in a veritable, dense forest, as if an enchanted wardrobe had been pulled open to reveal a world transformed. On the periphery it had been hot, but here, as we moved through the dapple, it was cool and fragrant with pine.

A sign mounted on a PVC pipe marked the provenance of the cluster of trees we stood beneath. They came, St. Clair explained, from the Oregon Siskiyou, a dry zone at only slightly higher elevation than where we were today. This is why they were doing so well: Their native climate wasn’t so different from Medford’s. As we moved on, the trees, while still lush and full, grew shorter. Because this next batch was from up in the Cascades, he pointed out, at an elevation far higher than where we stood, the trees were somewhat stunted in this new habitat and couldn’t grow as tall. We kept

walking, and after a while the trees grew taller again, looming three times my height before breaking into sky. These trees also came from climates that were dry like Medford, and so found here a happy home—at least for now.

We ducked and trudged through the lower thickets of the healthy trees until we suddenly emerged from the woods onto what I can only describe as an arboreal apocalypse—an open tangle of dead branches, brown and brittle, like an upright graveyard. These ill-fated trees, St. Clair said, had come from the Oregon coast, where it is far wetter. While they'd done okay in the first three years of the study, they just couldn't make it in the long term. "As the climate warms," St. Clair said, looking around and pointing up to a dead fir with his walking stick, "you're going to see more of this."

Source: <https://www.motherjones.com/environment/2021/10/trees-forests-assisted-migration-fire-climate-joshua-redwoods-sequoia/>