

Wooden Earth

Geologist turned photographer Grant Kaye combines his zest for maps and mountains to make a unique art form.

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If you truly love Utah's Little Cottonwood Canyon, then you will recognize that narrow gorge flanked by steep mountains when it is made in a three-dimensional form out of a chunk of wood. Same goes for California's conical Mount Shasta, or the string of Hawaiian volcanoes, or Oregon's sunken Crater Lake. If you know those geographies well, you will have no trouble spotting them in walnut or oak.

Grant Kaye has had this vision since the early 2000s, when he was a young geologist working in digital cartography. "I was fascinated by mountains and shaded relief, like digital elevation models," he says. "I was always thinking, *How awesome would it be to manifest that in reality? Like, to make a map of a volcano, but in 3D form?*"

It would take decades—and a few fortuitous circumstances—for him to get there, but in 2023 Kaye and his friend, a woodworker named Mike Crabb, have created 3D mountain landscapes like nothing you've seen before.

But first, let's backtrack. Born on the then-undeveloped Hawaiian island of Lāna'i, where his dad was a documentary photographer and they lived among the pineapple fields, Kaye used to help his father develop photos in the darkroom. Later, he attended Colorado College, where he majored in geology and started a freeride ski club. During that time, he did an internship with the Hawaiian Volcano Observatory, an agency of the U.S. Geological Survey, where he worked on a project mapping Mauna Loa, an active volcano on the island of Hawaii, and honed his skills in digital cartography. After watching a Matchstick Productions ski movie shot in California's Lake Tahoe area and visiting for spring break, Kaye fell in love with the region and moved there after graduating.

He got a master's from Oregon State and ended up in New Zealand, earning a PhD in geographic information systems (GIS) and living abroad for four years. While there, he met an Australian woman who would become his wife, and the two moved to Truckee, California, near Lake Tahoe, in 2008. Kaye landed a secure job working for the town of Truckee, mapping storm drains. "It was excessively boring," he laughs. "I was in a windowless closet, just like the scene from *Office Space*."

Kaye had inherited some of his dad's old cameras, and he'd always shot images of mountain landscapes and starry skies for fun. But, by

2012, he'd taken a leap, quitting the desk job he didn't love and deciding to give photography a try. He ended up finding his niche in outdoor-photography workshops. He'd take groups to Alaska or Iceland and teach them how to shoot the aurora borealis, or he'd show people in Tahoe how to capture their camper vans under the Milky Way.

Okay, stay with us, but now picture a life-size 16th-century Spanish galleon pirate ship, reproduced by a bunch of misfits heading to Burning Man. "I got asked to make this propane-flame cannon system that shot fireballs out of the top of the mast," Kaye says. Because yes, that is just a skill he is capable of. (He's a very handy guy.)

After Burning Man, that group of friends, including Kaye, began renting a warehouse in Reno, Nevada, about 30 minutes from Truckee, to store the tools they'd used to build the ship. "We were all like, 'We need a place where we can get together and make stuff,'" Kaye recalls. "And teach people how to do the things that we know how to do." With that idea, the Truckee Roundhouse—the mountain town's first official maker's space—was born. The group acquired grant money and local investments to open a community maker's space in late 2016 inside a 3,400-square-foot warehouse near the Truckee airport. These days, it has five workshops for wood, metal, textiles, ceramics, and technology, including high-tech machines like a CNC laser cutter and 3D printers. Members can sign up to use the space and guests can come for classes on everything from sewing to pot throwing.

"In our society, there's an alarming trend of people not being able to make, build, and fix things. We have this throwaway consumer culture: If it's broken, just get a new one," Kaye says. "This space has always been about nurturing community, providing a space for people to come together and safely learn how to use tools and make things to achieve their vision."

When COVID hit in 2020, the pandemic canceled all in-person teaching, and Kaye's photography classes shuttered. He and his wife had a 9-month-old baby at the time. Kaye took care of his son and eventually got a job doing community outreach for a local lumber company, which is still his day job when he's not making maps out of old tree trunks.

Through the Roundhouse, Kaye met Mike Crabb, a master woodworker who works in construction

and also builds custom retail displays for snowboard brands. Crabb had bought a lathe and milled a bunch of wood, which he was drying for years. "It's serendipitous that we met each other," Kaye says. "Mike wandered over to see a picture and I was like, 'This is the guy I want to work with. I'm going to start these pieces and he's going to finish them.'" Together they created Terra Linga (Latin for "wooden earth"), a boutique company that makes custom wooden 3D maps of mountain landscapes that merge science and art. They build all their pieces at the Roundhouse.

Crabb has taken discarded metal cables from a chairlift at nearby Palisades Tahoe ski resort and turned them into the legs of a coffee table with the surface of the table a 3D mountain environment mapped from wood, then cast in glass. "When I met Grant, he was making these maps, and I was like, 'We need something extra. Maybe we'll work it into a coffee table or a mirror.' My whole life has been about making functional art," Crabb says.

For one of their first pieces, the duo made a map for pro snowboarder Jeremy Jones of a descent Jones he'd ridden in the Alaska Range line he named after a friend, Joe Timlin, who died in an avalanche in 2013. (Timlin was also a friend of Crabb's.) Jones has the piece hanging in his home.

Pick a square of a map on Google Earth and two craftsmen can turn it into a custom piece of functional art for your home. Ideally, the wood they're using comes from the same area as the map they're making, like Crater Lake formed from a black locust tree from Oregon. The process of how that piece gets made is time-consuming and complicated. It basically requires a PhD in mapmaking, which, fortunately, Kaye has. The result of the craftsmanship required, the piece will run you between \$2,500 and \$15,000. To make the Hawaiian Islands, Kaye had to merge overland elevation data with underwater data in a complex mapping process. It then took time on a CNC machine to transform a hunk of wood Crabb had milled into a piece of art.

For now, Terra Linga is a passionate side business thing they do in their free time, but Kaye says he hopes to someday be making projects like a board table out of a slab of redwood that shows the surface of Mars for NASA's headquarters. "I'm the world's biggest nerd," he says.



