

# New research shakes up what we knew about Idaho's big 2020 earthquake that hit Boise

March 7 2024, by Nicole Blanchard, Idaho Statesman

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New research is shaking up what we know about Idaho earthquakes and the faults that cause them as scientists try to better understand the state's seismic activity.

The magnitude 6.5 earthquake that rattled Boise and other parts of Southern Idaho in March 2020 has for years been attributed to the Sawtooth Fault in Central Idaho. But a paper [published](#) earlier this year in *The Seismic Record* said researchers now believe there's no direct link between the two.

In fact, seismologists said in the paper, the 2020 earthquake near Stanley

and its thousands of aftershocks could be linked to a previously undiscovered [fault](#). Glenn Thackray, an Idaho State University seismologist who discovered the Sawtooth Fault in 2010 and co-authored the recent paper, told the Idaho Statesman in an interview that the newly identified fault is near the Cape Horn and Banner Summit area along Idaho 21.

Thackray said the geology of the area is even more complex than experts previously thought, with faults splitting into multiple fractures.

Researchers dug trenches to study rupture evidence deep in the Earth and used relatively new light detection and ranging, or LiDAR, technology to learn more about the area. The practice uses [laser pulses](#) to measure distance from an aircraft to the ground.

"We now understand (the faults) better because we can actually see the patterns," Thackray said. "We can look through the trees on the LiDAR data, which was collected by an airplane flying back and forth over the landscape."

The research may not have provided definitive answers on the 2020 [earthquake](#), but Thackray told the Statesman it's a vital step toward understanding an under-researched area.

"We are still learning about these faults and how they work and how they link together," Thackray said. "We only know what we know."

**More information:** Christopher B. DuRoss et al, Paleoseismology of the Sawtooth Fault and Implications for Fault Behavior in the Epicentral Region of the 2020 Mw 6.5 Stanley, Idaho, Earthquake, *The Seismic Record* (2024). [DOI: 10.1785/0320230045](https://doi.org/10.1785/0320230045)

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Citation: New research shakes up what we knew about Idaho's big 2020 earthquake that hit Boise (2024, March 7) retrieved 28 April 2024 from <https://phys.org/news/2024-03-knew-idaho-big-earthquake-boise.html>

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