

Blind fault found to be responsible for 2021 Victorian earthquake in Australia

March 20 2023, by Bob Yirka



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A quartet of seismologists at The Australian National University, in

Canberra, Australia, has found that an earthquake that struck near the town of Woods Point, in Victoria, Australia, back in 2021, was due to a blind fault. In their paper published in *Seismological Research Letters*, Sima Mousavi, Babak Hejrani, Meghan Miller and Michelle Salmon describe their analysis of seismological data collected from multiple schools in the region and what they learned from it.

Victoria is the second smallest state in Australia and is located in the southeastern part of the country. It is also the most densely populated, which means that a lot of people are at risk when an earthquake strikes. The state has a long history of earthquakes, though none have been responsible for heavy damage or loss of life. Still, seismologists are concerned that a large earthquake could occur close to more populous areas due to a blind fault—where a fault exists but there is no evidence of it on the surface.

Such faults tend to be discovered only when they cause earthquakes. Because of such risk, [government officials](#) have worked with local entities to install seismographs in various places across the state, allowing them to track small tremors from blind faults. As part of that program, seismographs have been installed in a number of schools, all of which are manned by teachers or others in the area who know how to work them.

In 2021, a 5.9 magnitude earthquake occurred, with its epicenter near the town of Woods Point. Fortunately, the quake occurred in one of the few sparsely populated parts of Victoria, which meant that nobody was killed and there was very little damage. Most of the damage occurred in Melbourne, the largest city in Victoria, though it was over a hundred miles away.

In this new effort, the researchers collected seismology data from the network of schools and then used it to pinpoint the true nature of the

earthquake. In so doing, they found that the quake was centered over a blind fault—one that had never been identified before. They noted also that there have been over a thousand aftershocks since 2021. They conclude by pointing out that tracking such information is a vital part of [earthquake](#) research for the country, helping to identify future threats.

More information: Sima Mousavi et al, Hypocenter, Fault Plane, and Rupture Characterization of Australian Earthquakes: Application to the September 2021 Mw 5.9 Woods Point Earthquake, *Seismological Research Letters* (2023). [DOI: 10.1785/0220220348](https://doi.org/10.1785/0220220348)

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Citation: Blind fault found to be responsible for 2021 Victorian earthquake in Australia (2023, March 20) retrieved 27 April 2024 from <https://phys.org/news/2023-03-fault-responsible-victorian-earthquake-australia.html>

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