

Magnitude-5.8 Earthquake Strikes U.S. National Capital Area

ScienceDaily (Aug. 24, 2011) — A magnitude 5.8 earthquake struck the National Capital Area on Tuesday, August 23, at 1:51p.m. (EDT), causing moderate shaking and potentially significant damage, and was felt throughout Northern Virginia and neighboring areas. No casualties are expected.

The earthquake occurred near Louisa and Mineral, Va., approximately 100 miles southwest of Washington, DC. It was a shallow earthquake, and shaking was recorded all along the Appalachians, from Georgia to New England.

There have been several aftershocks.

The information provided by the USGS is part of a government-wide response effort, in coordination with the Department of the Interior, the Department of Homeland Security, and the White House.

The earthquake occurred in the Central Virginia Seismic Zone, which has produced earthquakes in the past. The most notable was an earthquake that occurred in 1875 that scientists believe was about a magnitude 4.5.

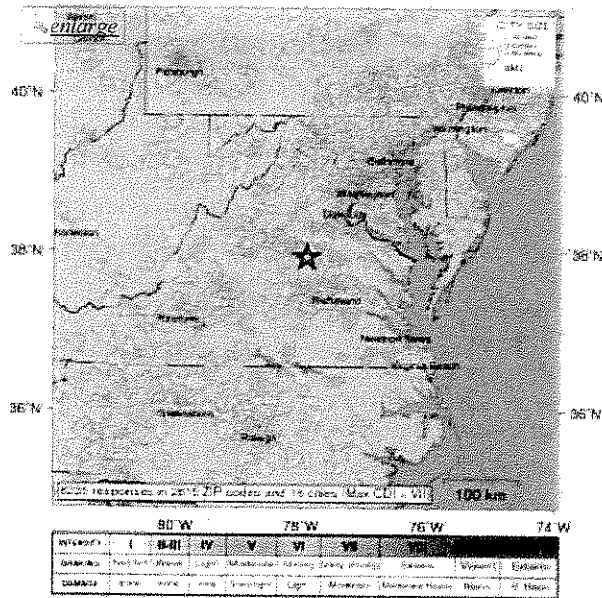
This earthquake is almost as strong as the strongest recorded earthquake in Virginia, a magnitude 5.9, which occurred in May 1897 in Giles County, Va. The strongest recorded earthquake to strike the East Coast was the 1886 Charleston, S.C., earthquake, which was about a magnitude 7.3.

Those who felt the earthquake can go online and report their observations on the USGS *Did You Feel It?* website (<http://earthquake.usgs.gov/eqcenter/dyfi/>). Over 10,000 reports of felt shaking have already been received from more than 3400 zip codes all over the eastern United States.

The earthquake was felt so widely because it was a shallow earthquake, and geologic conditions in the eastern U.S. allow the effects of earthquakes to propagate and spread much more efficiently than in the western United States.

Western rock is relatively young, which means it absorbs a lot of the shaking caused by earthquakes. Thus, western earthquakes result in intense shaking close to the epicenter, but fade more quickly the farther the earthquakes travel.

In the eastern United States, on the other hand, the rock is far older, and so earthquakes can have a much larger and more widespread impact. Earthquake energy can therefore spread farther and have a greater impact.



USGS Community Intensity Map showing a 5.8 earthquake in Virginia, August 23, 2011. (Credit: USGS)

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1. When did "the Virginia Quake" occur?
2. Where did the earthquake specifically occur?
3. When was the largest earthquake to previously occur in this area?
4. Why was the earthquake felt so widely?
5. Compare and contrast earthquakes in the eastern U.S. versus the western U.S.