2.3 Mag. Earthquake, Rockville, Maryland - 1/2/2024

M 2.3 – 3 km W of Rockville, Maryland

2024-01-02 05:51:04 (UTC) | 39.086°N 77.194°W | 15.3 km depth

Administrative Region

ISO
USA
Region
Maryland
Country
United States

Nearby Places

Rockville, Maryland, United States — Population: 66980
3.5 km (2.2 mi) C

North Potomac, Maryland, United States — Population: 24410
6.2 km (3.8 mi) W

Travilah, Maryland, United States — Population: 12159
6.3 km (3.9 mi) WSW

Gaithersburg, Maryland, United States — Population: 67456
6.4 km (4 mi) N

Annapolis, Maryland, United States — Population: 39474
61.8 km (38.4 mi) E

Distance and direction from epicenter to nearby place.
Nearby place information was automatically generated from GeoNames. The list includes populated places, not necessarily cities. If this information is inaccurate, please consider updating the GeoNames database.

Tectonic Summary

Earthquakes in the Washington - Baltimore Urban Corridor

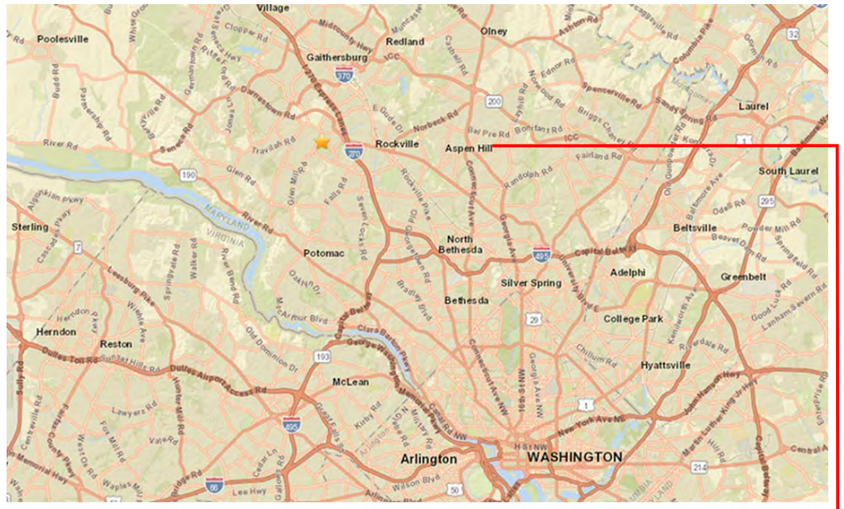
Since at least 1877 people in the urban corridor have felt small earthquakes. They occur about once per decade, although some decades have none and the 1990s had three. None are known to have caused damage since the arrival of European colonists. The corridor is between more seismically active regions to the southwest and northeast, and residents of Washington or Baltimore have felt several earthquakes that caused damage in those other, more active regions.

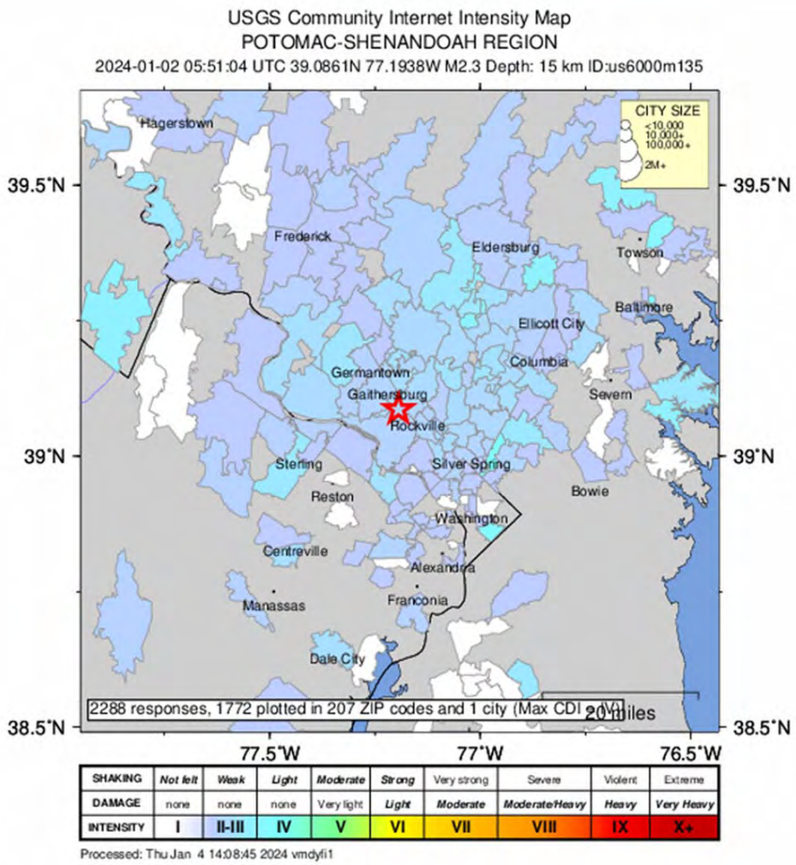
Earthquakes in the central and eastern U.S., although less frequent than in the western U.S., are typically felt over a much broader region. East of the Rockies, an earthquake can be felt over an area as much as ten times larger than a similar magnitude earthquake on the west coast. A magnitude 4.0 eastern U.S. earthquake typically can be felt at many places as far as 100 km (60 mi) from where it occurred, and it infrequently causes damage near its source. A magnitude 5.5 eastern U.S. earthquake usually can be felt as far as 500 km (300 mi) from where it occurred, and sometimes causes damage as far away as 40 km (25 mi).

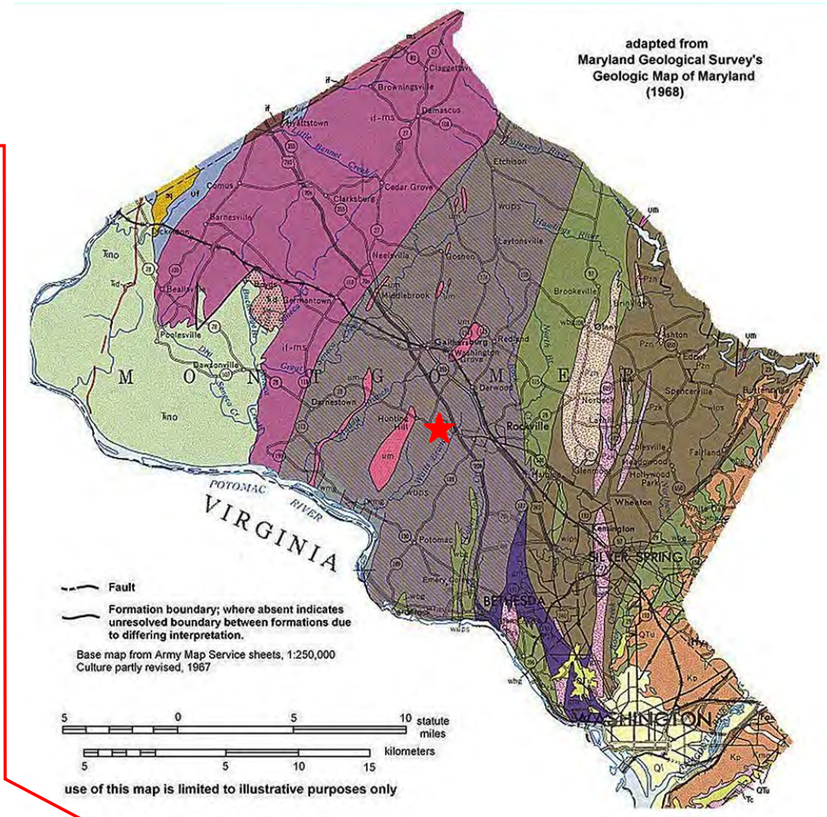
Faults

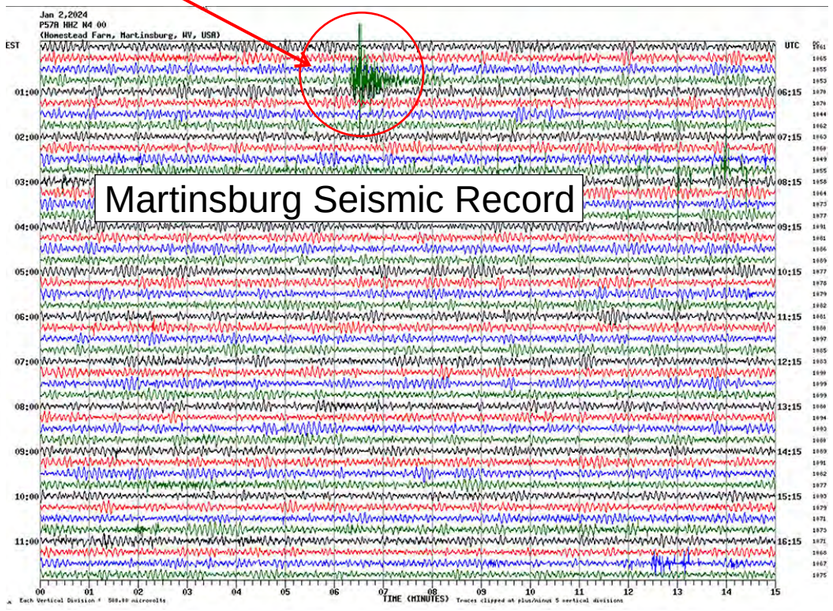
Earthquakes everywhere occur on faults within bedrock, usually miles deep. Most bedrock beneath the Washington-Baltimore urban corridor was assembled as continents collided to form a supercontinent about 500-300 million years ago, raising the Appalachian Mountains. Most of the rest of the bedrock formed when the supercontinent rifted apart about 200 million years ago to form what are now the northeastern U.S., the Atlantic Ocean, and Europe.

At well-studied plate boundaries like the San Andreas fault system in California, often scientists can determine the name of the specific fault that is responsible for an earthquake. In contrast, east of the Rocky Mountains this is rarely the case. The Washington - Baltimore urban corridor is far from the nearest plate boundaries, which are in the center of the Atlantic Ocean and in the Caribbean Sea. The urban corridor is laced with known faults but numerous smaller or deeply buried faults remain undetected. Even the known faults are poorly located at earthquake depths. Accordingly, few, if any, earthquakes in the urban corridor can be linked to named faults. It is difficult to determine if a known fault is still active and could slip and cause an earthquake. As in most other areas east of the Rockies, the best guide to earthquake hazards in the Washington - Baltimore urban corridor is the earthquakes themselves.









Small (2.3 Mag.), deep (15 Km) quake reported in Charles Town and Falling Waters, WV.