EARTHQUAKE EPICENTERS

1774 TO THE PRESENT

GIS Fault Mapping of Virginia Seismic Zones
Virginia Division of Geology and Mineral Resources
PLATE 1, Version: March 2017

Virginia Department of Mines Minerals and Energy

Earthquake epicenters in Virginia are compiled from a variety of sources. Data for historical events occurring between 1774 and 1978 originate from historical reports, estate journals, newspaper clippings, technical publications, and the National Center for Earthquake Engineering Research (NCEER) catalog. These epicenters have approximate geographical locations with moderate to low certainties. Magnitude values for these events originate primarily from the NCEER catalog. Data for modern earthquakes occurring after the emplacement of a permanent seismic monitoring netword originate primarily from technical publications and seismic catalogs, including the ANSS (Advanced National Seismic System), CERI (Center for Earthquake Research and Information), ISC (International Seismological Centre), ISS (International Seismological Summary), NCEER (National Center for Earthquake Engineering Research), NEIC (National Earthquake Information Center), the VTSO (Virginia Tech Seismological Observatory), and the USGS DYFI (US Geological Survey/Did You Feel It) online database. Modern events have greater location accuracy and more reliable magnitude values.

SCALE 1:500,000

30 15 0 30 MILES

30 15 0 30 KILOMETERS

Earthquake Epicenters

Magnitude

- 0.10 - 1.00
- 1.01 - 3.00
- 3.01 - 4.00
- 4.01 - 5.00
- 5.01 - 5.50
- 5.51 - 5.80
- Seismic Zones

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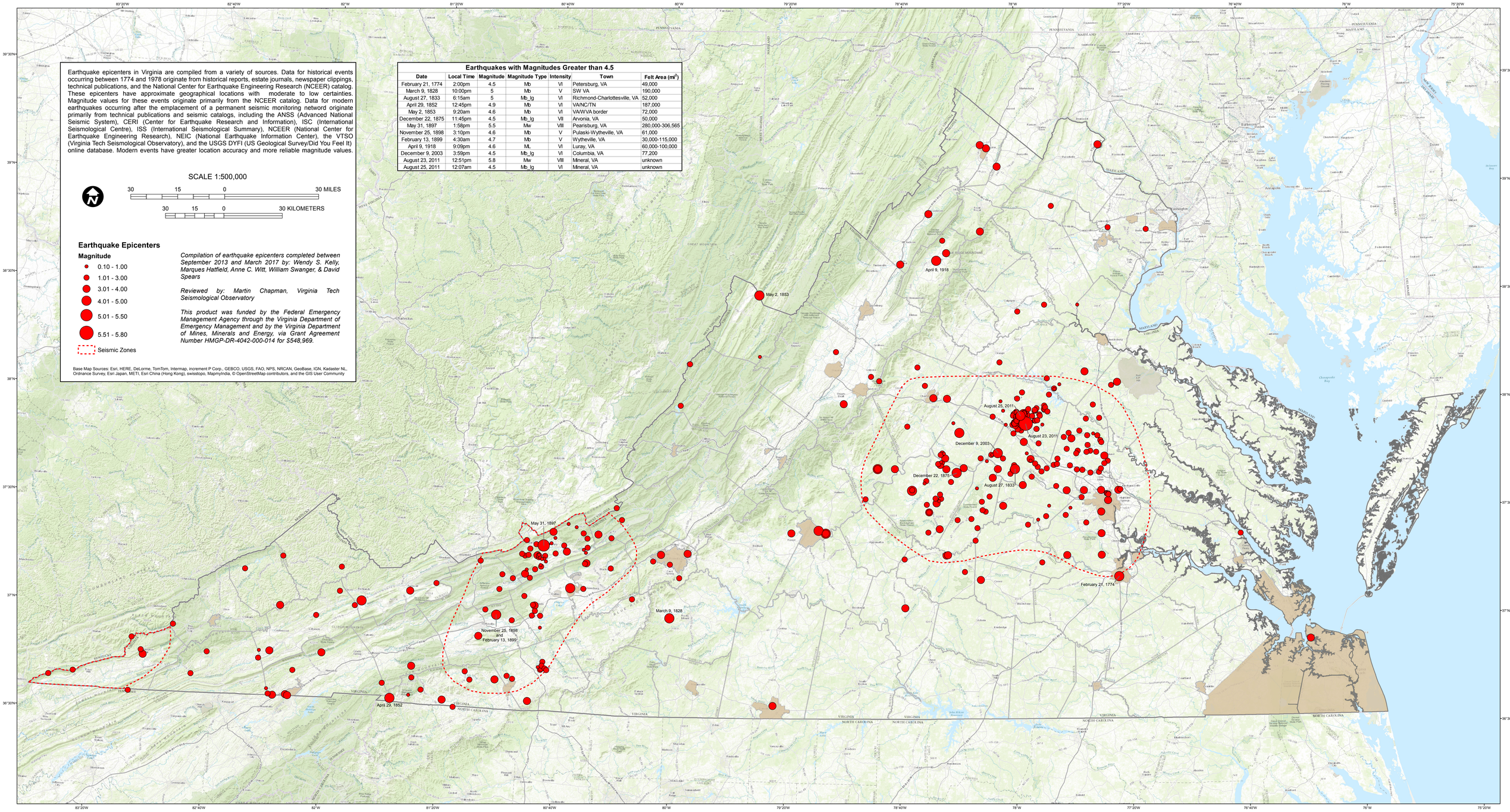
Base Map Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Earthquakes with Magnitudes Greater than 4.5

Date	Local Time	Magnitude	Magnitude Type	Intensity	Town	Felt Area (mi^2)
February 21, 1774	2:00pm	4.5	Mb	VI	Petersburg, VA	49,000
March 9, 1828	10:00pm	5	Mb	V	SW VA	190,000
August 27, 1833	6:15am	5	Mb_lg	VI	Richmond-Charlottesville, VA	52,000
April 29, 1852	12:45pm	4.9	Mb	VI	VA/NC/TN	187,000
May 2, 1853	9:20am	4.6	Mb	VI	VA/WVA border	72,000
December 22, 1875	11:45pm	4.5	Mb_lg	VII	Arvonia, VA	50,000
May 31, 1897	1:58pm	5.5	Mw	VIII	Pearisburg, VA	280,000-306,565
November 25, 1898	3:10pm	4.6	Mb	V	Pulaski-Wytheville, VA	61,000
February 13, 1899	4:30am	4.7	Mb	V	Wytheville, VA	30,000-115,000
April 9, 1918	9:09pm	4.6	ML	VI	Luray, VA	60,000-100,000
December 9, 2003	3:59pm	4.5	Mb_lg	VI	Columbia, VA	77,200
August 23, 2011	12:51pm	5.8	Mw	VIII	Mineral, VA	unknown
August 25, 2011	12:07am	4.5	Mb_lg	VI	Mineral, VA	unknown