

M6.8 October 21, 1868 Hayward Fault Earthquake

The Hayward Fault—Is It Due for a Repeat of the Powerful 1868 Earthquake?



<https://pubs.usgs.gov/fs/2008/3019/>

USGS scientists describe the Hayward fault as a tectonic time bomb, due anytime for another magnitude 6.8 to 7.0 earthquake. Because such a quake could cause hundreds of deaths, leave thousands homeless, and devastate the region's economy, the USGS and other organizations are working together with new urgency to help prepare Bay Area communities for this certain future quake.

Earthquake Outlook for the San Francisco Bay Region 2014–2043



<https://pubs.er.usgs.gov/publication/fs20163020>

Using information from recent earthquakes, improved mapping of active faults, and a new model for estimating earthquake probabilities, the 2014 Working Group on California Earthquake Probabilities updated the 30-year earthquake forecast for California. They concluded that there is a 72 percent probability (or likelihood) of at least one earthquake of magnitude 6.7 or greater striking somewhere in the San Francisco Bay region before 2043.

HayWired: Outsmart Disaster



<https://outsmartdisaster.com/>

What if...

A 7.0 earthquake hit the San Francisco Bay Area? Are you, your family, and your business prepared to outsmart disaster?

The HayWired Earthquake Scenario



<https://pubs.er.usgs.gov/publication/sir20175013>

The USGS and its partners developed the HayWired scenario as a tool to enable further actions such as seismic upgrades and retrofits that can change the outcome when the next major earthquake strikes.

The HayWired Scenario: An Urban Earthquake in a Connected World



https://wim.usgs.gov/geonarrative/safrr/haywired_vol1/

This "geonarrative", which includes interactive maps, videos, and other media, examines the earthquake hazards in the HayWired scenario's 11-county study area.

Hayward Fault Scenario Earthquake Animations



<https://earthquake.usgs.gov/learn/topics/shakingsimulations/hayward/>

Computer simulations of earthquake shaking on the Hayward and Rodgers Creek faults.

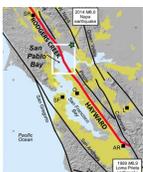
Blue Dot Podcast: The Hayward Fault



<http://myspr.org/post/blue-dot-93-hayward-fault>

Host Dave Schlom is joined by USGS Geophysicist Ken Hudnut as they interview two leading experts on the Hayward Fault: USGS scientists David Schwartz and Tom Brocher. It's a fascinating and frightening discussion of the "ticking seismic time bomb" beneath the East Bay.

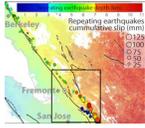
Missing Link Between the Hayward and Rodgers Creek Faults



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5072180/>

The next major earthquake to strike the San Francisco Bay Area will most likely result from rupture of the Hayward or Rodgers Creek faults. New models show that these faults are directly connected at the surface, which enables simultaneous rupture of the Hayward and Rodgers Creek faults, a scenario that could result in a major earthquake.

Direct Connection Between the Hayward and Calaveras Faults Uncovered



https://seismo.berkeley.edu/~burgmann/RESEARCH/research_Hayward_calaveras_EC.html

A new model suggests the Hayward and Calaveras Faults should be treated as a single system with the potential for generating larger earthquakes in the San Francisco Bay Area.

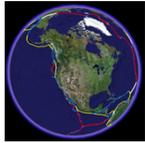
How Close to a Fault do You Live?



<https://bayquakealliance.org/howclose/>

Use our map to find out how close you and your family live to active faults in California.

Virtual Tour of the 1868 Hayward Earthquake in Google Earth™



<https://earthquake.usgs.gov/earthquakes/events/1868calif/virtualtour/>

Interactive self-guided tour of San Francisco Bay Area faults and earthquake history featuring ground-shaking maps, historic photographs, quotes from earthquake survivors, and more.

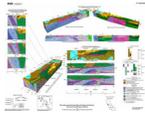
Active Traces of the Hayward Fault



<https://earthquake.usgs.gov/learn/topics/haywardfault/>

Map showing active fault traces within the Hayward Fault Zone, including a virtual tour of the Hayward fault in the east San Francisco Bay Region that can be viewed in Google Earth™

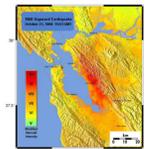
Three-Dimensional Geologic Map of the Hayward Fault Zone



<https://pubs.usgs.gov/sim/3045/>

3D geologic map with descriptions of geologic units and structures, along with a discussion of the methods used to map them.

Intensity Maps for the 1868 Hayward Earthquake



<https://pubs.usgs.gov/of/2008/1121/>

Modified Mercalli Intensity maps for the Hayward earthquake plotted in ShakeMap format.

Geometry and Evolution of the Hayward Fault



https://geomaps.wr.usgs.gov/gump/people/ponce/hayward_fault/hf.html

Geophysical data along the Hayward Fault are used to investigate the nature, spatial relationship, and evolution of the Hayward Fault Zone.

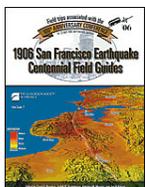
The Hayward Fault: Maps & Tours



https://seismo.berkeley.edu/hayward/hayward_tours.html

You can see the footprints of the Hayward Fault all over the place once you know where and how to look. This tour covers The Hayward Fault at the Campus of the University of California, Berkeley.

2006 Field Guide to the Hayward Fault (13 MB pdf)



https://earthquake.usgs.gov/earthquakes/events/1868calif/pdf/flid007_17e.pdf

A detailed geologic and architectural field guide to 11 stops along the Hayward Fault, including UC Berkeley Campus and Memorial Stadium, Point Pinole, Cragmont School in Berkeley, Oakland City Hall, and old City Hall in Hayward and it includes discussion of the 1868 earthquake. This guide was published by the Geological Society of America in 2006 as part of the 1906 San Francisco Earthquake Centennial Meeting.

Field Guide to the Hayward Fault (29 MB pdf)



<https://pubs.usgs.gov/bul/b2188/b2188ch2.pdf>

Download a 2001 U.S. Geological Survey Field Guide to the Hayward Fault in Downtown Hayward and at the Caldecott Tunnel (between Orinida and Oakland) and to the 1998 Fremont Peak landslide.

Hayward Fault Scenario



<https://www.eeri.org/projects/earthquake-scenarios/hayward-fault-scenario/>

This 1996 report (updated in 2010) by the Earthquake Engineering Research Institute describes what losses are expected to result from magnitude 7 earthquake on the northern end of the Hayward Fault.

Hayward Fault and 1868 Earthquake Virtual Special Issue



<https://www.seismosoc.org/publications/hayward-fault-and-1868-earthquake-virtual-special-issue/>

The Seismological Society of America (SSA) created a special collection of previously published articles focusing on the Hayward earthquake and associated research.

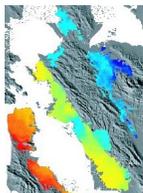
Earthquakes From 1984–2000 Along the Hayward and Calaveras Faults, California



<https://pubs.usgs.gov/of/2004/1083/explanation.html>

Cross-Sections and Maps Showing Double-Difference Relocated Earthquakes.

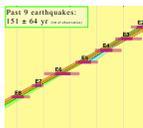
The Accumulation of Interseismic Strain Along the Hayward Fault



https://seismo.berkeley.edu/~burgmann/RESEARCH/research_HF.html

Interseismic surface deformation along the Hayward Fault monitored with Interferometric Synthetic Aperture Radar (InSAR) and the Global Positioning System (GPS).

Paleoseismology and the Hayward Fault



https://earthquake.usgs.gov/learn/topics/hayward_paleo/

A large, widely damaging earthquake will occur on the Hayward fault in the future, but we don't know when. Using the tools of paleoseismology, earthquake geologists have determined that large earthquakes occur roughly every 100 to 200 years on the Hayward fault, and it's been 150 years since the last event.

Chapter on the 1868 Earthquake in the Lawson Report on the 1906 Earthquake



<https://earthquake.usgs.gov/earthquakes/events/1868calif/pdf/Lawson-1868-Chapter-1908.pdf>

Detailed account of the 1868 earthquake and aftermath by Andrew Lawson, including damage photos.

1868 Hayward Earthquake Alliance



<http://1868alliance.org/>

This web site was created in 2008 to help coordinate and promote efforts and activities between organizations throughout the greater San Francisco Bay Area planning to commemorate the 140th anniversary of the earthquake.