Table 5.20-- MAJOR EARTHQUAKES: 1838 TO 2013

[As of December 31, 2013. Includes all earthquakes with magnitudes of 6.0 or greater, 1838 to 1983, and 5.0 or greater, 1984 to present. Except for the earthquake of April 2, 1868, magnitudes of earthquakes prior to 1929 are conjectural]

1838: December 12 Hawaii 6.0 1841: April 7 Hawaii 6.0 1852: March 28 Mauna Loa, south flank, Hawaii 6.5 April 2 Mauna Loa, south flank, Hawaii 7.5-8.1 1875: November 23 Mauna Loa, south flank, Hawaii 6.5 1887: January 24 Hawaii 6.0 1913: October 25 Hawaii 6.5 1918: November 1 Hawaii 6.5 1918: November 1 Hawaii 6.5 1919: September 14 Hawaii 6.5 1929: October 5 Hualalai, Hawaii 6.5 1933: January 23 North of Pauwela Point, Maui 6.8 1940: June 17 Hawaii 6.5 1941: September 25 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.0 1950: May 29 Mauna Loa, south west rift, Hawaii 6.0 1951: April 22 Kilauea, Hawaii 6.0 1952: May 23 Kona, Hawaii 6.0 1954: March 30 Kilauea, south flank, Hawaii 6.5 1961: September 25 South east of Mauna Loa, Kaoik	Date and time (HST)	Location	Magnitude (Richter scale)
1841: April 7 Hawaii 6.0 1852: March 31 Hawaii 6.0 1868: March 28 Mauna Loa, south flank, Hawaii 6.5-7.0 April 2 Mauna Loa, south flank, Hawaii 7.5-8.1 1871: February 19 Molokai or Maui 6.5 1875: November 23 Hawaii 6.0 1887: January 24 Hawaii 6.0 1913: October 25 Hawaii 6.5 1918: November 1 Hawaii 6.5 1919: September 14 Hawaii 6.5 1929: October 5 Hualalai, Hawaii 6.5 1933: January 23 North of Pauwela Point, Maui 6.8 1940: June 17 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.0 1950: May 29 Mauna Loa, south west rift, Hawaii 6.0 1951: April 22 Kilauea, Hawaii 6.9 1952: May 23 Kona, Hawaii 6.9 1952: May 23 Kona, Hawaii 6.5 1961: September 25 Hawaii 6.9 1952: May 23 Kona, Hawaii 6.5 <			
1852: March 31 Hawaii 6.0 1868: March 28 April 2 Mauna Loa, south flank, Hawaii 6.5-7.0 1871: February 19 Molokai or Maui 7.5-8.1 1875: November 23 Hawaii 6.0 1887: January 24 Hawaii 6.0 1913: October 25 Hawaii 6.5 1918: November 1 Hawaii 6.5 1919: September 14 Hawaii 6.5 1929: October 5 Hawaii, Hawaii 6.5 1938: January 23 North of Pauwela Point, Maui 6.5 1940: June 17 Hawaii 6.0 1940: June 17 Hawaii 6.0 1950: May 29 Mauna Loa, south west rift, Hawaii 6.0 1951: April 22 Kilauea, Hawaii 6.0 1952: May 23 Kona, Hawaii 6.0 1952: May 23 Kona, Hawaii 6.0 1952: May 23 Kona, Hawaii 6.5 1962: June 27 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.5 1975: Nov. 29, 4:47 AM South east of Mauna Loa, Kaoiki fault zone, Hawaii 6	1838: December 12	Hawaii	6.0
1868: March 28 Mauna Loa, south flank, Hawaii 6.5-7.0 April 2 Mauna Loa, south flank, Hawaii 7.5-8.1 1871: February 19 Molokai or Maui 6.5 1887: January 24 Hawaii 6.0 1913: October 25 Hawaii 6.5 1918: November 1 Hawaii 6.5 1919: September 14 Hawaii 6.5 1929: October 5 Haalalai, Hawaii 6.5 1938: January 23 North of Pauwela Point, Maui 6.8 1940: June 17 Hawaii 6.0 1941: September 25 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.0 1950: May 29 Mauna Loa, south west rift, Hawaii 6.2 1951: April 22 Kilauea, Hawaii 6.9 1952: May 23 Kona, Hawaii 6.9 1954: March 30 Kilauea, south flank, Hawaii 6.5 1962: June 27 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.5 1975: Nov. 29, 4:47 AM South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.2 1975: Nov. 29, 4:47 AM South east of Mauna Loa, Kaoiki fault zone	1841: April 7	Hawaii	6.0
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August 21 Kona, Hawaii 6.9 1952: May 23 Kona, Hawaii 6.0 1954: March 30 Kilauea, south flank, Hawaii 6.5 1961: September 25 Hawaii 5.75-6.0 1962: June 27 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.1 1973: April 26 North of Hilo, Honomu, Hawaii 6.2 1975: Nov. 29, 4:47 AM Kilauea, south flank, Kalapana, Hawaii 7.2 1983: Nov. 16, 6:13 AM South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.7 1984: June 8, 5:34 PM 80 miles south of Honolulu, Oahu 5.3 1986: April 26, 7:19 AM 28 miles north east of Maui 5.1 1987: Feb. 3, 4:22 PM 26 miles south of Kahoolawe 5.0 1989: June 25, 5:27 PM Kilauea, south flank, Kalapana, Hawaii 6.2 1997: June 30, 5:47 AM 12 miles south of Kilauea, offshore, Hawaii 5.2 1999: April 16, 2:56 PM 4 miles north of Pahala, Hawaii 5.6 2000: April 1, 8:18 PM 7 miles south east of Kilauea Summit, Hawaii 5.0 2005: May 13, 12:06 AM 27 miles south of Naalehu near Loihi, Hawaii 5.0 2005: July 15 49 miles north of Hilo, Hawaii 5.2<	1950: May 29	Mauna Loa, south west rift, Hawaii	6.2
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1954: March 30 Kilauea, south flank, Hawaii 6.5 1961: September 25 Hawaii 5.75-6.0 1962: June 27 South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.1 1973: April 26 North of Hilo, Honomu, Hawaii 6.2 1975: Nov. 29, 4:47 AM Kilauea, south flank, Kalapana, Hawaii 7.2 1983: Nov. 16, 6:13 AM South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.7 1984: June 8, 5:34 PM 80 miles south of Honolulu, Oahu 5.3 1986: April 26, 7:19 AM 28 miles north east of Maui 5.1 1987: Feb. 3, 4:22 PM 26 miles south of Kahoolawe 5.0 1989: June 25, 5:27 PM Kilauea, south flank, Kalapana, Hawaii 6.2 1994: Feb. 1, 12:01 AM 12 miles south of Kilauea, offshore, Hawaii 5.2 1997: June 30, 5:47 AM 5 miles west of Kalapana, Hawaii 5.2 1999: April 16, 2:56 PM 4 miles north of Pahala, Hawaii 5.6 2000: April 1, 8:18 PM 7 miles south east of Kilauea Summit, Hawaii 5.0 2005: May 13, 12:06 AM 27 miles south of Naalehu near Loihi, Hawaii 5.0 2005: July 15 49 miles north of Hilo, Hawaii 5.2	August 21	Kona, Hawaii	6.9
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1975: Nov. 29, 4:47 AM Kilauea, south flank, Kalapana, Hawaii 7.2 1983: Nov. 16, 6:13 AM South east of Mauna Loa, Kaoiki fault zone, Hawaii 6.7 1984: June 8, 5:34 PM 80 miles south of Honolulu, Oahu 5.3 1986: April 26, 7:19 AM 28 miles north east of Maui 5.1 1987: Feb. 3, 4:22 PM 26 miles south of Kahoolawe 5.0 1989: June 25, 5:27 PM Kilauea, south flank, Kalapana, Hawaii 6.2 1994: Feb. 1, 12:01 AM 12 miles south of Kilauea, offshore, Hawaii 5.2 1997: June 30, 5:47 AM 5 miles west of Kalapana, Hawaii 5.2 1999: April 16, 2:56 PM 4 miles north of Pahala, Hawaii 5.6 2000: April 1, 8:18 PM 7 miles south east of Kilauea Summit, Hawaii 5.0 2003: August 26, 8:24 PM 6 miles north west of Kaena Point, Oahu 5.0 2005: May 13, 12:06 AM 27 miles south of Naalehu near Loihi, Hawaii 5.0 2005: July 15 49 miles north of Hilo, Hawaii 5.2	1962: June 27	South east of Mauna Loa, Kaoiki fault zone, Hawaii	6.1
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1984: June 8, 5:34 PM 80 miles south of Honolulu, Oahu 5.3 1986: April 26, 7:19 AM 28 miles north east of Maui 5.1 1987: Feb. 3, 4:22 PM 26 miles south of Kahoolawe 5.0 1989: June 25, 5:27 PM Kilauea, south flank, Kalapana, Hawaii 6.2 1994: Feb. 1, 12:01 AM 12 miles south of Kilauea, offshore, Hawaii 5.2 1997: June 30, 5:47 AM 5 miles west of Kalapana, Hawaii 5.2 1999: April 16, 2:56 PM 4 miles north of Pahala, Hawaii 5.6 2000: April 1, 8:18 PM 7 miles south east of Kilauea Summit, Hawaii 5.0 2003: August 26, 8:24 PM 6 miles north west of Kaena Point, Oahu 5.0 2005: May 13, 12:06 AM 27 miles south of Naalehu near Loihi, Hawaii 5.0 2005: July 15 49 miles north of Hilo, Hawaii 5.2	1975: Nov. 29, 4:47 AM	Kilauea, south flank, Kalapana, Hawaii	7.2
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2005: July 15 49 miles north of Hilo, Hawaii 5.2		6 miles north west of Kaena Point, Oahu	5.0
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2005: July 17, 9:15 AM Near seamount Loihi, Hawaii 5.2	•		
	2005: July 17, 9:15 AM	Near seamount Loihi, Hawaii	5.2

Continued on next page.

Table 5.20-- MAJOR EARTHQUAKES: 1838 TO 2013 -- Con.

Date and time (HST)	Location	Magnitude (Richter scale)
2006: October 15, 7:07:49 AM	Just offshore of Kiholo Bay, Hawaii	6.7
2006: October 15, 7:14:12 AM	6 miles west of Mahukona, Hawaii	6.0
2006: November 23, 9:20:10 AM	Just offshore of Kiholo Bay, Hawaii	5.1
2007: August 13, 7:38 PM	Kilauea, south flank, Hawaii	5.4
2009: April 14, 12:44 PM	9 miles south of Volcano, Hawaii	5.0
2013: June 4, 2:12 PM	34 miles southeast of Pahala, Hawaii	5.3

Source: Augustine S. Furumoto, N. Norby Nielsen, and William R. Phillips, *A Study of Past Earthquakes, Isoseismic Zones of Intensity and Recommended Zones for Structural Design for Hawaii* (University of Hawaii, Center for Engineering Research, Engineering Bulletin, June 15, 1972); information supplied by Wm. Mansfield Adams and Augustine S. Furumoto, Institute of Geophysics, University of Hawaii; Hawaii Institute of Geophysics, records; U.S. Geological Survey, National Earthquake Information Service; U.S. Geological Survey, Hawaiian Volcano Observatory, records; and U.S. Geological Survey, Earthquake Hazards Program, http://earthquake.usgs.gov/eqcenter/eqinthenews/ and records.