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CHRONOLOGICAL HISTORICAL RECORD OF DAMAGING EARTHQUAKES IN GUATEMALA, 1526-1976

[Reference sources listed at end of table. Dashes mean no data. *h* is the depth of focus for the earthquake. Asterisks mark earthquakes plotted in fig 3 Station codes are given in the Glossary]

NONINSTRUMENTAL DATA

	Date	Time (local time)	Place	Reference
1526	July 19 or 20	-----	-----	3
	Damaging earthquake that caused removal of Spanish settlement to Ciudad Vieja.			
1541	September 10*	-----	Ciudad Vieja	1, 3
	Two destructive earthquakes killed approximately 150 Spaniards and at least 600 Indians and Negroes. Two days of rain prior to the earthquakes added damage from avalanches and landslides. The primary Spanish settlement then moved to Antigua.			
1565	February	-----	-----	3
	Series of violent earthquakes caused extensive damage in and near Antigua.			
1575	-----	-----	-----	1, 3
	Several large shocks caused damage in San Salvador and also in Antigua, Guatemala.			
1577	November 30	-----	-----	3
	Earthquake swarm. Largest shock caused much damage in Antigua.			
1586	December 23*	-----	-----	1, 3, 6
	Long earthquake sequence beginning January 16, 1585, and ending with largest shock on above date. Accompanied by eruption of Fuego Volcano. Antigua was destroyed, causing many deaths.			
1607	April*	-----	-----	3, 6
	Many buildings collapsed, killing a number of people in Antigua.			
1651	February 18	13:00	-----	1, 3
	Extensive damage in Antigua.			
1681	July 22	-----	-----	3
	A swarm of earthquakes caused extensive damage in Antigua.			
1684	August	-----	-----	3
	Earthquake swarm caused notable damage in Antigua area.			
1689	February 12	-----	-----	1, 3, 6
	Earthquake swarm caused extensive damage and loss of life in Antigua area. Stronger than shock of 1651.			
1702	August 4*	-----	-----	3, 6
	A strong earthquake caused extensive damage in Antigua.			
1717	September 29 and 30*	19 00 and 9:00	-----	1, 3, 6
	Antigua damaged on September 29, destroyed September 30; loss of life was extensive. Large aftershock on October 3. Earthquakes accompanied by violent eruptions of Fuego.			
1751	March 4	8:00*	-----	1, 3, 6
	Antigua damaged. Cathedral dome destroyed.			

NONINSTRUMENTAL DATA—Continued

	Date	Time (local time)	Place	Reference
1765	April 20*	-----	-----	6
	Fifty killed and many injured; many towns destroyed in the Department of Chiquimula. Earthquake may have originated on the Motagua fault.			
1765	October	-----	-----	1
	The earthquake of "San Rafael" severely damaged many towns in Guatemala.			
1773	July 29	15:45*	-----	1, 3, 6
	This major event was part of an earthquake swarm beginning in May and continuing until December. Very strong shocks occurred on June 11 at 5:00 and 17:00 hours (local time). Large aftershocks occurred on September 7 and December 14. Antigua was completely destroyed, and many deaths resulted. The capital was then moved to Guatemala City. These earthquakes were felt even more strongly in Chimaltenango and Quezaltenango, nearer to the Motagua fault, and thus the Motagua fault may have been the source of these earthquakes.			
1830	April 1	-----	-----	3
	Swarm, similar to that of 1773, destroyed many buildings in Antigua. Major aftershock on April 23.			
1852	May 16	-----	-----	1
	Damage in the vicinity of Quezaltenango.			
1853	February 9*	-----	-----	3
	Major earthquake caused great alarm in Quezaltenango. Also strongly felt in Antigua and Amatitlán.			
1855	January 1-26	-----	-----	3
	Swarm with main events on the 18th and 26th. Damage at Cantel and Zunil.			
1859	December 8	20:15	-----	1, 3
	Major earthquake near El Salvador-Guatemala border. Houses were shattered in Escuintla and Amatitlán. Tsunami at Acajutla, El Salvador.			
1860	December 19*	-----	-----	6
	Extensive damage to churches and homes in Escuintla. Aftershocks continued until December 31.			
1861	August 27	-----	-----	3
	Damage to homes and churches in Conquaco and Jalpatagua.			
1862	December 19*	-----	-----	1, 3
	Antigua, Amatitlán, Escuintla, Tecpan, and neighboring towns were severely damaged. Damage to many churches and ancient constructions. Slight damage to old churches in Guatemala City; astronomical observatory reported tilt of 3'29".			
1863	December 12	-----	-----	6
	The earthquake, centered near Guatemala City, caused changes in flow of springs in the northern part of the city, and earth fractures opened in the areas of Jocotenango and El Bosque, causing much panic throughout the city.			
1870	June 12	15:00	-----	1, 3, 6
	Extensive damage in the regions of Chiquimulilla, Cuilapa, and Ixhuatan. A later quake at 18:23 (local time) caused serious damage in Cuilapa. Aftershocks continued until the 23d.			
1874	September 3 (or possibly 18)	21:00*	-----	1, 3, 6
	Antigua, Chimaltenango, and Patzicia were destroyed and 200 people killed.			

NONINSTRUMENTAL DATA—Continued

	Date	Time (local time)	Place	Reference
1881	August 13	12:30	-----	3
	Earthquake swarm felt in San Marcos; possible damage in Chinigüe.			
1885	November 22	-----	-----	3
	Strong shocks; damage at Amatitlán.			
1885	December 18	17:36	-----	3
	Amatitlán destroyed (intensity=IX, Rossi-Forel). Cracking of ground; new hot springs on shores of Lake Amatitlán. Many fore-shocks and aftershocks into January 1886. Volcano Pacaya increased level of activity.			
1902	April 19	20:20	lat 14.0° N., long 91.0° W. Magnitude 8.3 (PAS)	4, 5, 6
	Destroyed the city of Quezaltenango. Extensive loss of life. Activity continued until September 23, when an earthquake was strongly felt and an eruption of volcano Santa Maria began.			
1912	June 12	12.43 42.0	lat 17.0° N., long 89.0° W. Magnitude 6.8 (PAS)	4
1913	March 9	9:49*	-----	6
	Strong earthquake felt in the central region of Santa Rosa and also in the Departments of Cuiapa and Santa Rosa of Lima. Felt over large parts of the country. Many deaths and much destruction.			
1915	September 7	01:20 48.0 UTC	lat 14.0° N., long 89.0° W. Magnitude 7.9 (PAS)	2, 4, 5
	Heavy damage in Jutiapa. Felt strongly over large areas of Guatemala and El Salvador.			
1917	December 25	22 20*	-----	2, 6, 8
	A series of earthquakes that began on November 17, 1917, and continued into January 1918. December 25 main event had magnitude of 6 plus and maximum Modified Mercalli intensity of VIII-IX. In Guatemala City, cracks opened in the streets, and about 40 percent of the houses were destroyed or seriously damaged. The Colon Theatre collapsed while filled with people; school buildings, churches, asylums, hospitals, sugar mills, the post office, the railway station, and the British and American legation buildings were thrown down, and many occupants were killed or injured. Later destructive earthquakes occurred on December 29 (14h), January 3, 1918 (22:37), and January 24 (19:30). The most destructive of this series was the January 3, 1918, earthquake.			

INSTRUMENTAL DATA

Date	Time UTC	Location		h (km)	Magnitude (Richter)	Station code	Reference
		N. Lat	W. Long				
1919 Apr. 17	20 53 03.0	14.5	91.7	---	7.0	PAS	4
1921 Feb. 4	08 22 44.0	15.0	91.0	120	7.5	PAS	4, 5
1929 Jan. 17 ¹	19 00 ---	---	---	---	---	---	2
1931 Sept. 26	19 50 30.0	15.0	92.0	60	6.0	PAS	4, 5
1931 Sept. 26	20 03 07	15.5	91.5	---	6.25	PAS	4, 5
1932 May 22	22 40 02.0	14.2	90.0	80	6.0	PAS	4, 5
1934 May 19	10 47 37.0	14.8	91.2	120	6.25	PAS	4, 5
1939 Sept. 28	14 58 27.0	15.5	91.5	110	6.25	PAS	4, 5
1939 Dec. 5	08 30 07.0	14.5	91.5	---	6.75	PAS	4, 5
1940 July 27	13 32 30.0	14.2	91.5	90	6.75	PAS	4, 5
1942 Apr. 11	01 25 12.0	14.7	91.5	140	6.5	PAS	4, 5
1942 Aug. 6 ²	23 36 59.0	14.0	91.0	---	8.3	PAS	4, 5, 6
1942 Aug. 8	22 36 34.0	14.2	91.5	---	6.5	PAS	4, 5
1943 Aug. 31	16 10 40.0	14.2	91.5	80	6.75	PAS	4, 5
1943 Sept. 23	15 00 44.0	15.0	91.5	110	6.75	PAS	4, 5
1944 Oct. 2	17 22 00.0	14.5	89.8	160	6.5	PAS	4, 5
1945 Aug. 10 ³	11 20 03	15.4	88.8	---	---	---	2
1945 Oct. 27	11 24 41.0	15.0	91.2	200	6.75	PAS	4, 5
1946 Jan. 5	01 15 11.0	15.0	91.0	210	6.0	PAS	4, 5
1946 June 26	07 53 40	14.7	90.8	90	6.5	PAS	4, 5

INSTRUMENTAL DATA—Continued

Date	Time UTC	Location		h (km)	Magnitude (Richter)	Station code	Reference
		N. Lat	W. Long				
1948 July 16 ⁴	07 12 28	14.6	91.2	---	6.25	PAS	2
	07 19 39	14.3	91.2	---	6.75		
1949 July 8	12 40 47.0	14.0	91.5	100	6.0	PAS	4, 5
1950 Feb. 17	03 47 16.0	13.9	90.8	---	6.25-6.50	PAS	4, 5
1950 Oct. 23 ⁶	16 13 20.0	14.5	91.5	---	7.1	PAS	2, 4, 5
1950 Oct. 23	17 47 51.0	14.5	92.0	---	6.5	PAS	5
1950 Oct. 23	23 38 43.0	14.3	91.7	---	6.1	PAS	5
1950 Oct. 24	00 52 03.0	15.0	92.0	---	6.2	PAS	5
1950 Oct. 24	05 50 15.0	14.5	92.0	---	6.0	BRK	5
1950 Oct. 28	22 15 47.0	14.3	91.7	64	6.2	TAC	5
1950 Nov. 5	16 35 20.0	14.5	92.0	---	6.25	PAS	5
1951 Jan. middle of month ⁸							
1951 July 25	18 42 19.0	14.5	90.5	64	6.25	PAS	5
1953 Aug. 24	13 21 02.0	14.1	91.4	96	6.5	PAS	5
1953 Nov. 17 ⁷	13 29 52.0	13.8	91.8	---	7.25-7.50	PAS	5
1954 Oct. 21	06 51 44.0	13.9	90.6	---	6.5	PAS	5
1955 Aug. 28	20 13 30.0	14.0	91.0	60	6.75	PAS	5
1955 Sept. 3	12 36 21.0	13.8	90.8	64	6.50-6.75	PAS	5
1957 July 8	15 30 33.0	14.5	91.0	150	6.0	BRK	5
1959 Feb. 20	18 16 20.0	15.9	90.6	48	6.5	PAS	5
1959 Mar. 9	22 03 03.0	15.1	91.0	171	6.3	TAC	5
1960 Apr. 13 ⁸	12 37 43.0	15.5	92.0	30	6.0	PAS	5, 7
1960 Aug. 20	00 19 35.2	14.5	91.5	115	6.0	PAS	5
1961 June 17	15 07 33.7	14.2	92.0	85	6.0	PAS	5
1961 Sept. 1	18 50 35.4	13.6	92.5	37	6.5	PAS	5
1965 Aug. 5 ⁹	19 05 07.7	14.8	91.0	59	4.0 m _b	CGS	5, 7
1966 Aug. 18 ¹⁰	10 33 17.7	14.6	91.7	85	6.0	PAS	2, 5
					5.9-6.2	BRK	
					6.0-6.25	PAL	
					5.9 m _b	CGS	
1969 Apr. 21	02 19 07.1	14.1	91 0	82	6.0	PAS	5
					6.25	BRK	
					5.5 m _b	CGS	
1971 Oct. 12 ¹¹	09 44 59.3	15.8	91.2	36	6.0	BRK	2, 5
					5.7 M _s	ERL	
					5.7 m _b	ERL	
1972 Jan. 22 ¹²	13 08 50.3	14.0	91.0	102	6.0	PAS	2, 5
					5.5 m _b	ERL	
1973 June 7 ¹³	18 32 42.9	14.3	92.0	78	6.2	PAS	2, 5
					5.5 m _b	ERL	
1974 Dec. 31 ¹⁴	20 21 09.0	14.1	91.8	39	6.0	BRK	2, 5
					6.1 M _s	CGS	
					5.7 m _b	CGS	

¹ Considerable damage in Puerto Barrios.

² Felt strongly throughout the central region of Guatemala; alarmed a large part of the population and caused considerable damage.

³ Numerous earth cracks near Quirigua and significant (moderate) damage in Quirigua. Felt in Departments of Chiquimula, Zacapa, and part of Izabal.

⁴ People were tossed from their beds in Guatemala City.

⁵ Near the coast of Guatemala. Damage in San Marcos area.

⁶ A series of strong earthquakes in the region of Ixhuatan in the Department of Santa Rosa that caused considerable damage in the area.

⁷ Near the coast of Guatemala.

⁸ Guatemala-Mexico border, one killed, 14 injured, and damage to the San Marcos area; also damage at Huehuetenango.

⁹ One killed and four injured at a hydroelectric project when several workers were buried under dirt.

¹⁰ Felt at San Salvador.

¹¹ Mexico-Guatemala region.

¹² Felt (intensity V) at San Salvador, El Salvador.

¹³ Felt in Guatemala City area.

References:

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- (6) Vassaux (1969).
- (7) U.S. Earthquakes (1960, 1965).
- (8) Claudio Urrutia E. (1976, written commun).