

Electronic Supplement to

Significant earthquakes on the Enriquillo fault system, Hispaniola, 1500 – 2010: Implications for seismic hazard

by William H. Bakun, Claudia H. Flores, and Uri S. ten Brink

List of small earthquakes and figures.

This supplement contains a table of small earthquakes reported near the Enriquillo Fault system from the 18th century to early 20th century. Figures S1 – S5 compare the M_I results using the method of Bakun and Wentworth (1999) with the instrumental location of these earthquakes. Figures S6 – S10 compare the results from two sets of MMI assignments, those of C.H. Flores (CHF) and W.H. Bakun (WHB) discussed in the main paper. At the bottom of the page are the accompanying references for both the table and figures.

Tables

Table S1. A list of small earthquakes possibly on the Enriquillo Fault System from the 18th century to 20th century.

Figures

Figure S1. January 12, 2010, **M7.0** Haiti main shock. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. Epicenter is a black star. The Intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms [M_I] contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line.

Figure S2. January 20, 2010 Haiti **M5.9** aftershock. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The epicenter is a black star. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms [M_I] contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line.

Figure S3. February 22, 2010 **M4.7** Haiti aftershock. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The epicenter is a black star. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms [M_I] contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line.

Figure S4. October 28, 1952 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line, here beneath the intensity center. Sykes and Ewing's (1965) epicenter is shown as a black star.

Figure S5. May 12, 2005 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The epicenter is a black star. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line.

Figure S6. November 9, 1701 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line. The epicenter for the January 12, 2010 main shock is shown as a black star. Figure S6a are results from MMI assignments by CHF and figure S6b are the results for MMI assignments by WHB.

Figure S7. October 18, 1751 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line. The rms $[M_I]$ contour corresponding to the 95% confidence contours for location (Bakun and Wentworth, 1999) is a dashed green line. Santo Domingo = SD. The unfilled black triangle in b) is the intensity center if MMI VIII, rather than VII, at Santo Domingo is used. Figure S7a are results from MMI assignments by CHF and figure S7b are the results for MMI assignments by WHB.

Figure S8. November 21, 1751 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line. The epicenter of the 2010 main shock is shown as a black star. Figure S8a are results from MMI assignments by CHF and figure S8b are the results for MMI assignments by WHB.

Figure S9. June 3, 1770 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence contours for location (Bakun and Wentworth, 1999) is a green line. Figure S9a are the results for MMI assignments by CHF and figure S9b are the results for MMI assignments by WHB.

Figure S10. April 8, 1860 earthquake. Black circles are sites with MMI assignments with symbol size increasing with MMI. Black lines are active fault traces. The intensity center is a green filled triangle. Contours of M_I are dashed red lines. The rms $[M_I]$ contour corresponding to the 67% confidence

contours for location (Bakun and Wentworth, 1999) is a green line. Figure S10a are results from MMI assignments by CHF and figure S10b are results for MMI assignments by WHB.

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Electronic Supplement to

Significant earthquakes on the Enriquillo fault system, Hispaniola, 1500 – 2010: Implications for seismic hazardby **William H. Bakun, Claudia H. Flores, and Uri S. ten Brink****Table S1: Small Earthquakes Possibly on the Enriquillo Fault System.**

The following table lists reported earthquakes that have been felt near the Enriquillo Fault System. The columns of data indicate the known date, latitude, longitude, earthquake magnitude and source of information with maximum Magnitude Moment Intensity (MMI). An "NA" is used in the table to indicate that information is not available. Unless written out, the following are town abbreviations used in this table: Cap Haitien (CH), Croix de Bouquets (CB), Gonaives (G), Grand Goave (GG), Jacmel (J), Leogane (LG), Les Cayes (LC), Petit Goave (PG), and Port-au-Prince (PaP). References are listed in the main page.

Date	Lat (°N)	Long (°W)	Magnitude	Source; Max MMI (Location)
1734	NA	NA	< 6.0	Scherer (1914): MMI IV (SD, PaP, CH)
May 15, 1751	NA	NA	< 6.0	Scherer (1914): MMI III (CB)
September 1765	NA	NA	< 6.0	Scherer (1914): MMI III (GG, L)
December 27, 1767	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
October 4, 1768	NA	NA	< 6.0	Scherer (1914): MMI III (PG)
October 10, 1768	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
August 14, 1769	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
January 20, 1770	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
April 12, 1770	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
July 29, 1784	NA	NA	< 6.0	Scherer (1914): MMI VI (CH, L, PG)
November 19, 1825	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
March 31, 1829	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
March 29 - 30, 1830	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
April 14, 1830	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
September 6, 1840	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
April 13, 1841	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
August 18, 1852	NA	NA	< 6.0	Scherer (1914): MMI III (PaP, G)
August 19, 1852	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
November 25, 1852	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
September 11, 1853	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
July 8, 1855	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
August 22, 1863	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
February 17, 1864	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)

April 20, 1864	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
May 19, 1864	NA	NA	< 6.0	Scherer (1914): MMI VI (J)
May 19, 1864 (3rd felt)	NA	NA	< 6.0	Scherer (1914): MMI VI (J)
August, 1878	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
October, 1886	NA	NA	< 6.0	Scherer (1914): MMI III (PaP, G)
early 1887	NA	NA	< 6.0	Scherer (1914): MMI III (Jeremie)
September 15, 1887	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
September 22, 1887	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
March 28, 1889	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP, PG)
November 6, 1889	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
March 13, 1890	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
July 3, 1890	NA	NA	< 6.0	Scherer (1914): MMI III (J)
late July, 1890	NA	NA	< 6.0	Scherer (1914): MMI III (LC)
August 15, 1890	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
August 15, 1890 (2nd felt)	NA	NA	< 6.0	Scherer (1914): MMI III (PaP)
October 29, 1897	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP)
July 11, 1898	NA	NA	< 6.0	Scherer (1914): MMI IV (PaP); III (CB), Ganthier, (G), Saint Louis de Sud, (LC)
January 5, 1902	NA	NA	< 6.0	Scherer (1914)
August 16, 1903	NA	NA	< 6.0	Scherer (1914)
1905 [Apr 4; Oct 12, 13, 14(two), 15]	NA	NA	< 6.0	Scherer (1914)
1906 [Feb 8; May 19; June 15; July 20; Aug 3; Oct 16]	NA	NA	< 6.0	Scherer (1914)
1907 [Jan 24, 25; Mar 11; Apr 19; Apr 30; May 3, 9; Aug 28]	NA	NA	< 6.0	Scherer (1914)
1908 [Apr 8; May 12, 25; Aug 17; Sep 28; Oct 25, 28]	NA	NA	< 6.0	Scherer (1914)
1909 [Mar 31(three); Apr 1, 2, 6, 10; Aug 2, 17; Oct 31; Nov 11]	NA	NA	< 6.0	Scherer (1914)
1910 [Feb 3, 10; Aug 3, 4]	NA	NA	< 6.0	Scherer (1910)
1922 {Jan 15; Nov 4}	NA	NA	< 6.0	Scherer (1923)
1934 [Nov 10,11]	NA	NA	< 6.0	Baltenweck (1938)
1935 [Nov 1; Dec 27]	NA	NA	< 6.0	Bettembourg (1950)
1936 [Feb 24; July 12]	NA	NA	< 6.0	Bettembourg (1950)
November 17, 1937	NA	NA	< 6.0	Bettembourg (1950)
November 10, 1938	NA	NA	< 6.0	Bettembourg (1950)
November 7, 1939	18.00	72.50	M _S 5.6	Gutenberg and Richter (1954)
March 11, 1939	NA	NA	< 6.0	Bettembourg (1950)
February 8, 1942	NA	NA	< 6.0	Bettembourg (1950)
October 28, 1952	18.51	73.52	M _S 5.9	Bettembourg (1955); International Seismological Centre (2001)
January 25, 1953	NA	NA	< 6.0	Bettembourg (1956)
February, 26, 1953	NA	NA	< 6.0	Bettembourg (1956)
October 8, 1959	NA	NA	< 6.0	Schneider (1963)
November 7, 1965	18.60	71.80	M _b 4.1	International Seismological Centre (2001)

October 29, 1971	18.44	72.93	M _S 4.6	Earthquake Hazards Program (2010)
May 12, 2005	18.45	72.33	m _b 4.3	Earthquake Hazards Program (2010)

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Figure S1

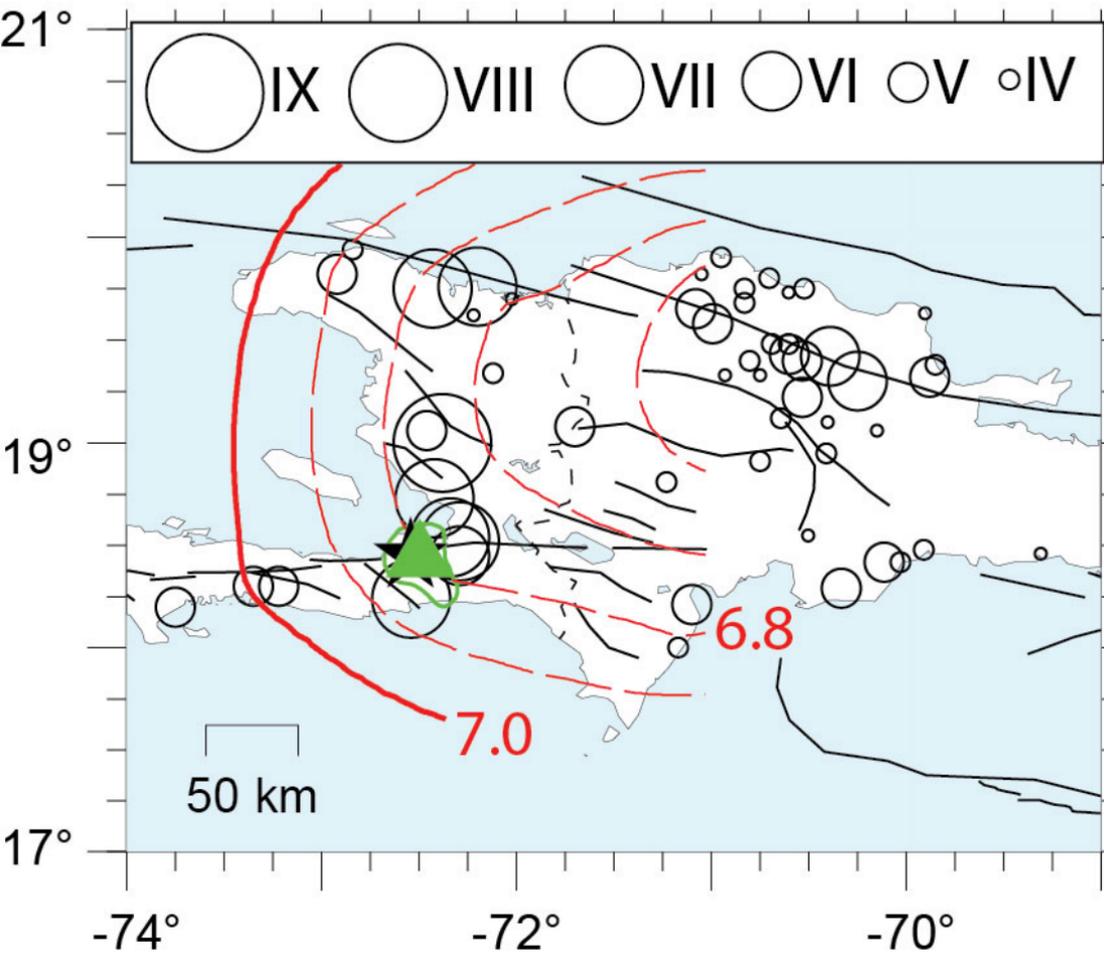
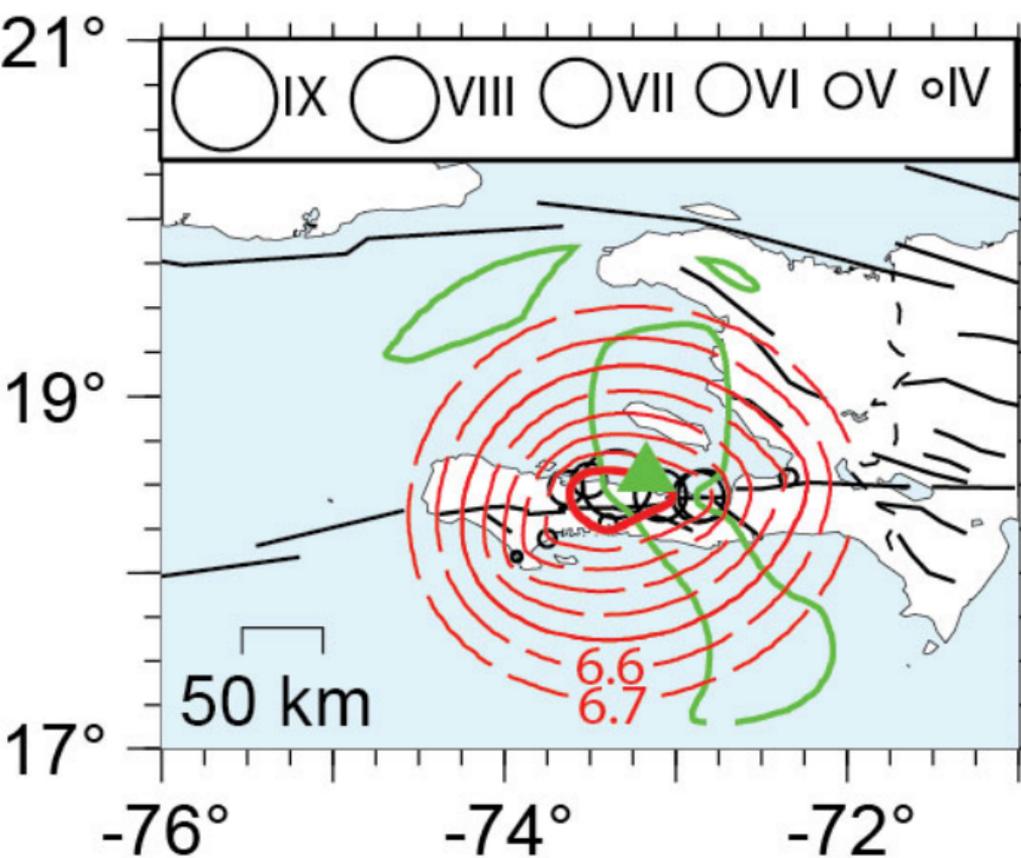


Figure S10

a) MMI assignments by CHF



b) MMI assignments by WHB

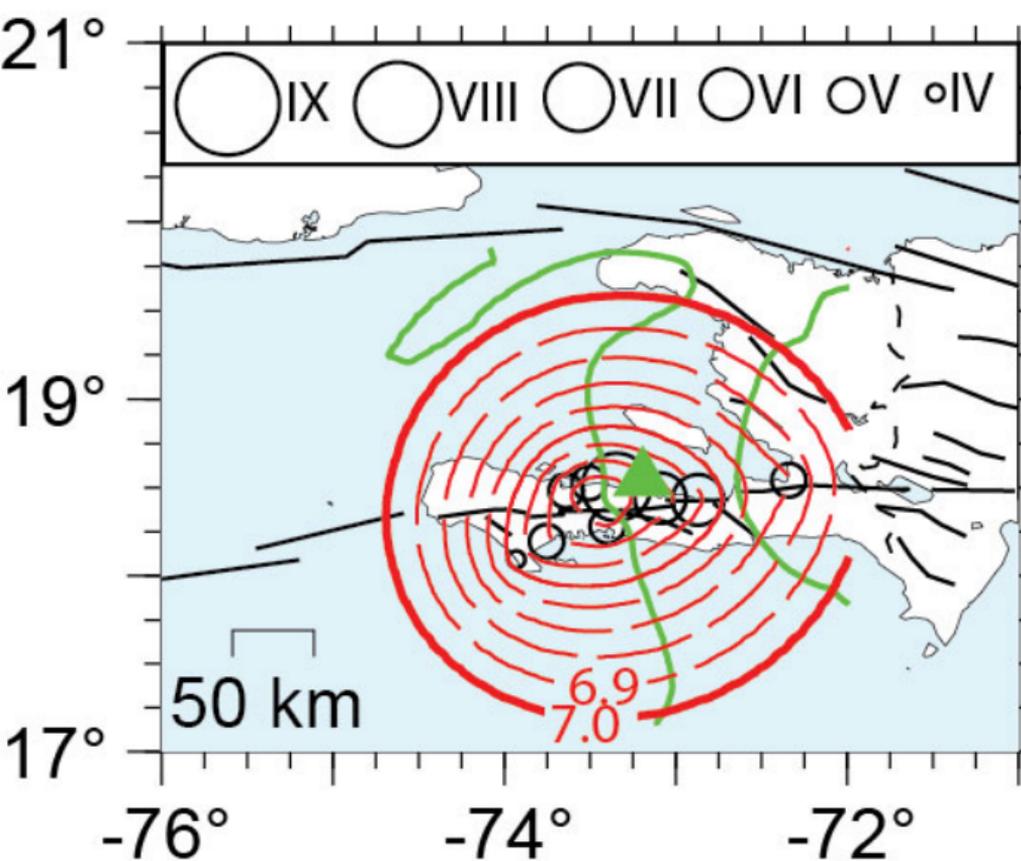


Figure S2

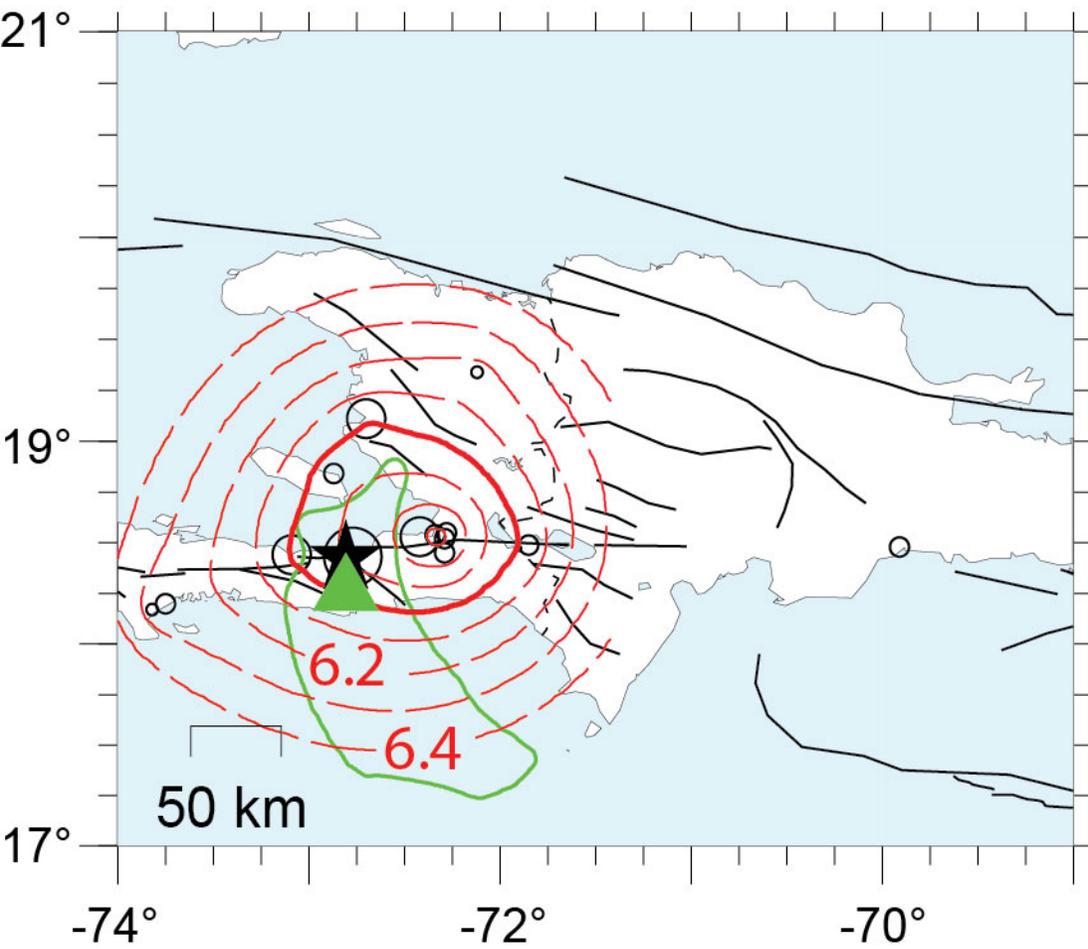


Figure S3

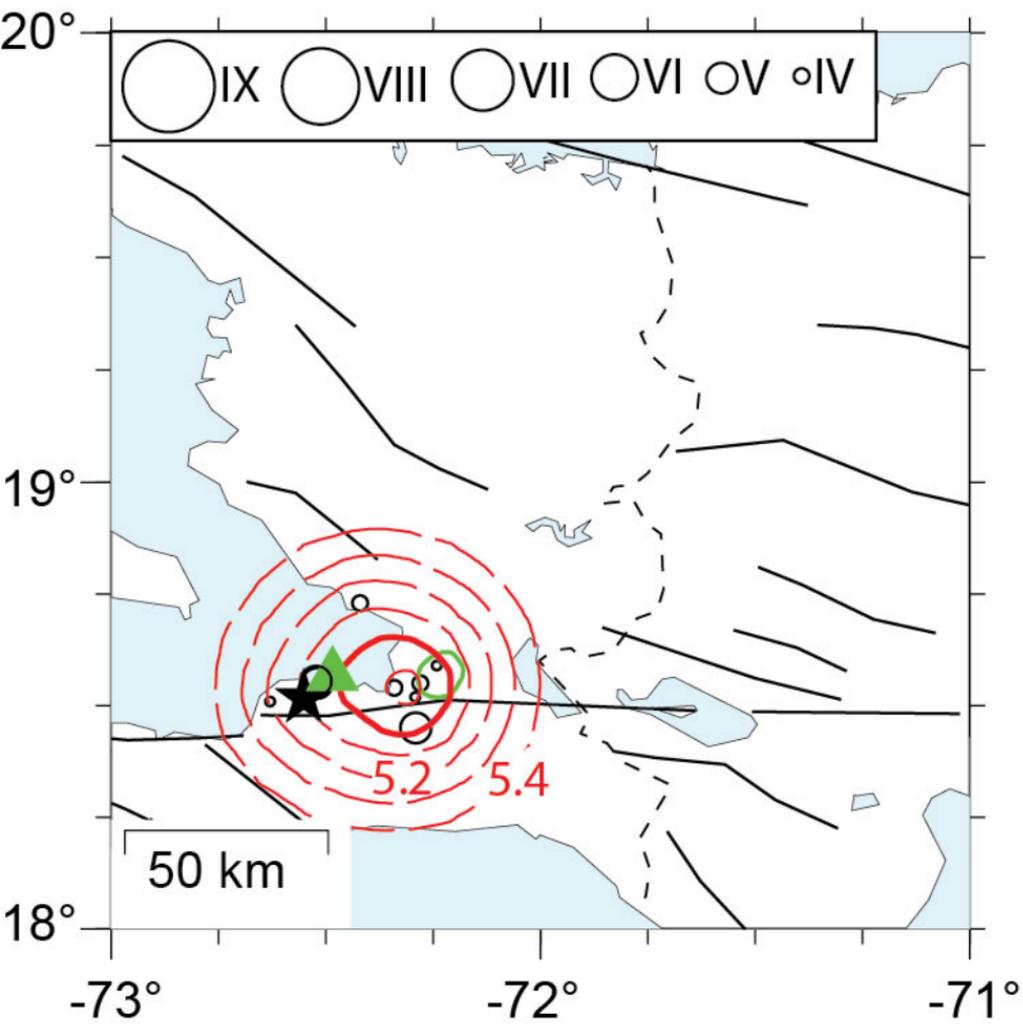


Figure S4

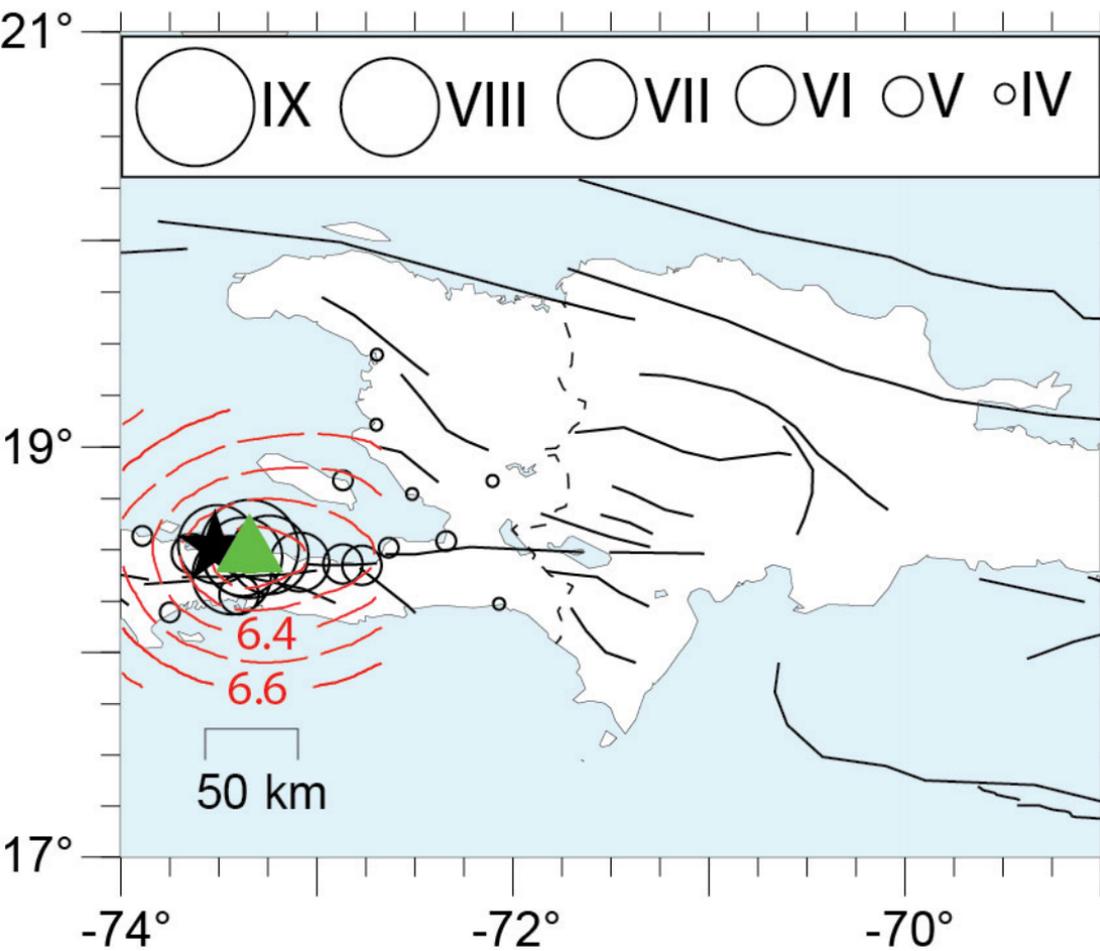


Figure S5

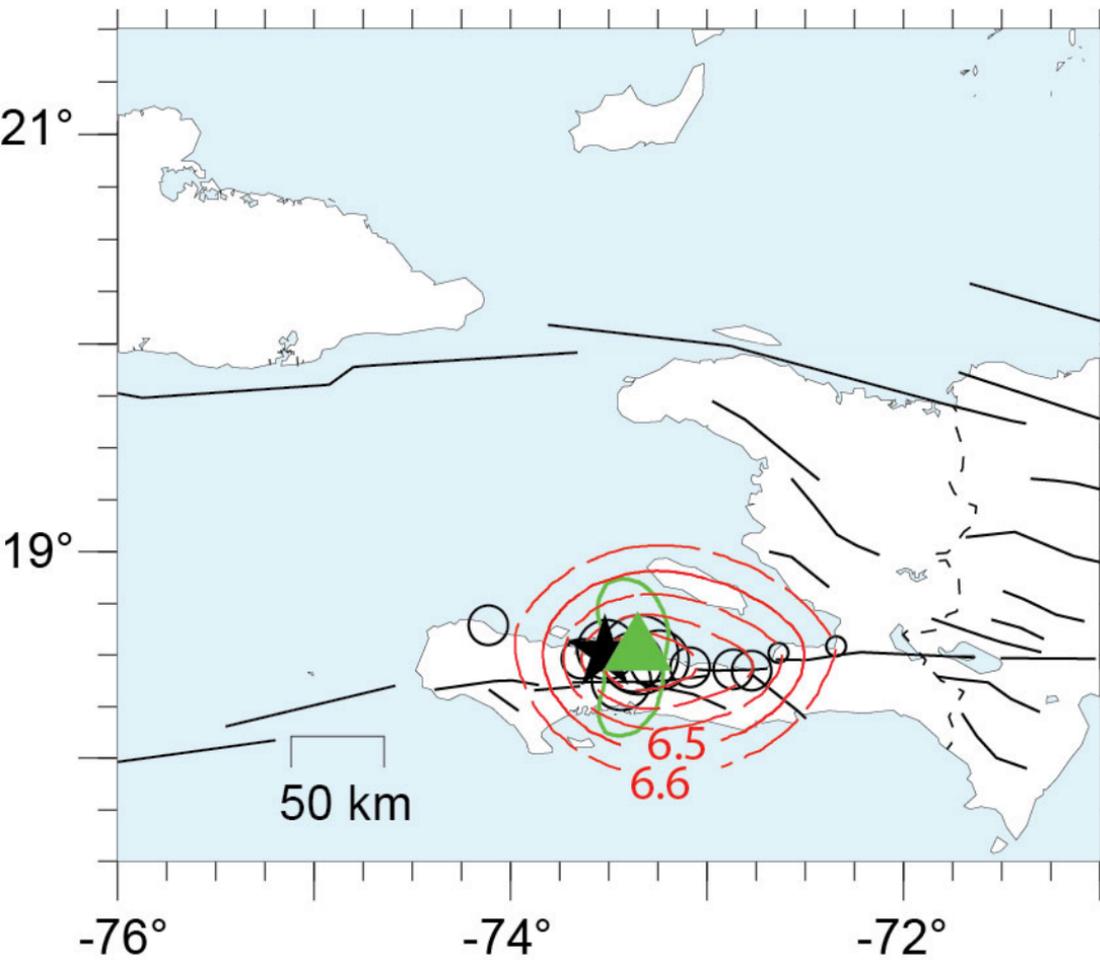
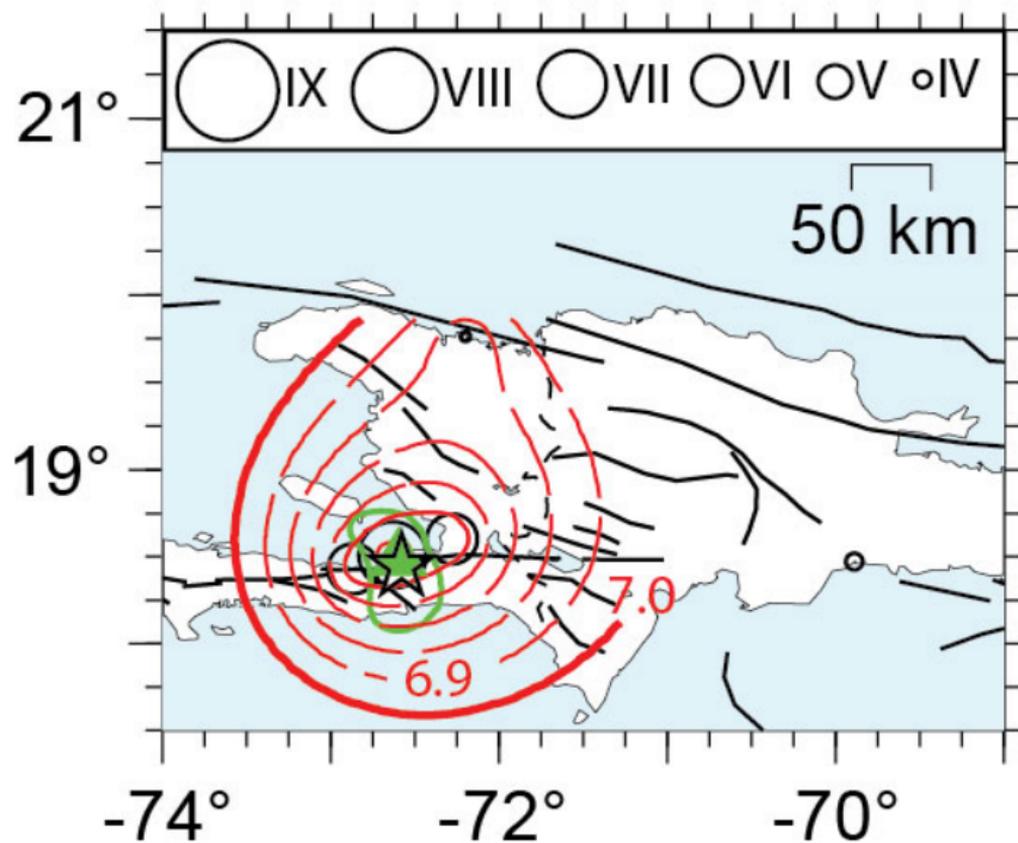


Figure S6

a) MMI assignments by CHF



b) MMI assignments by WHB

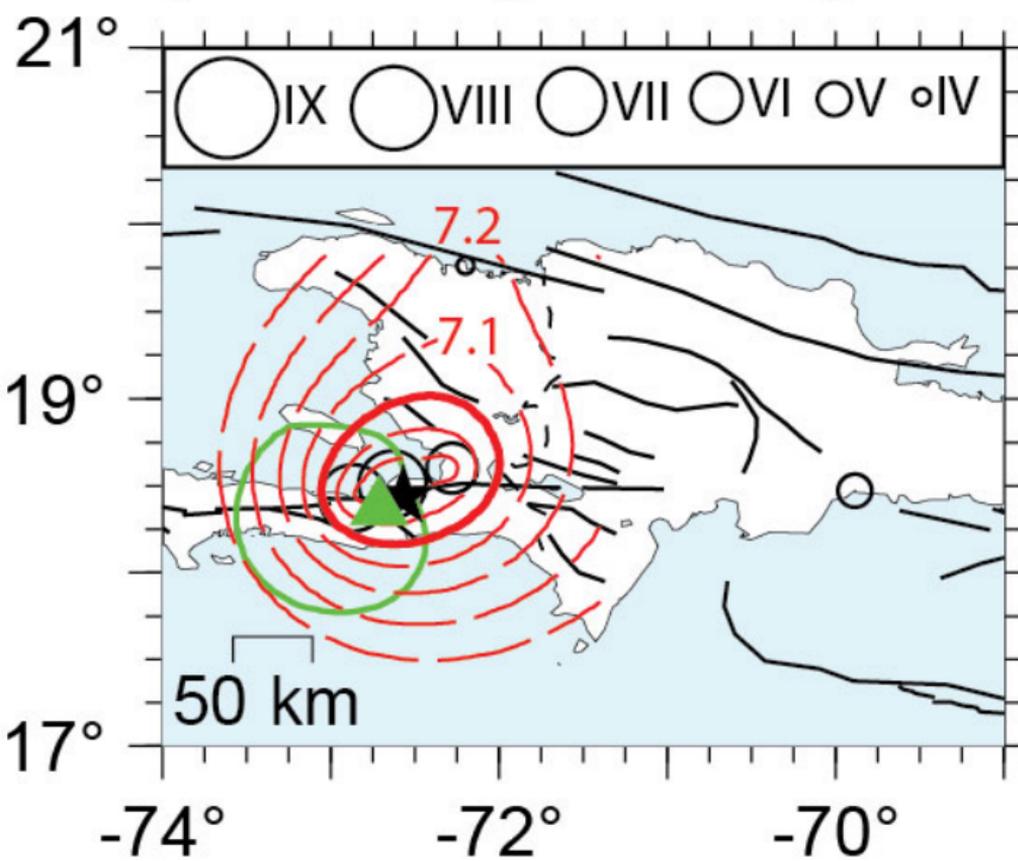
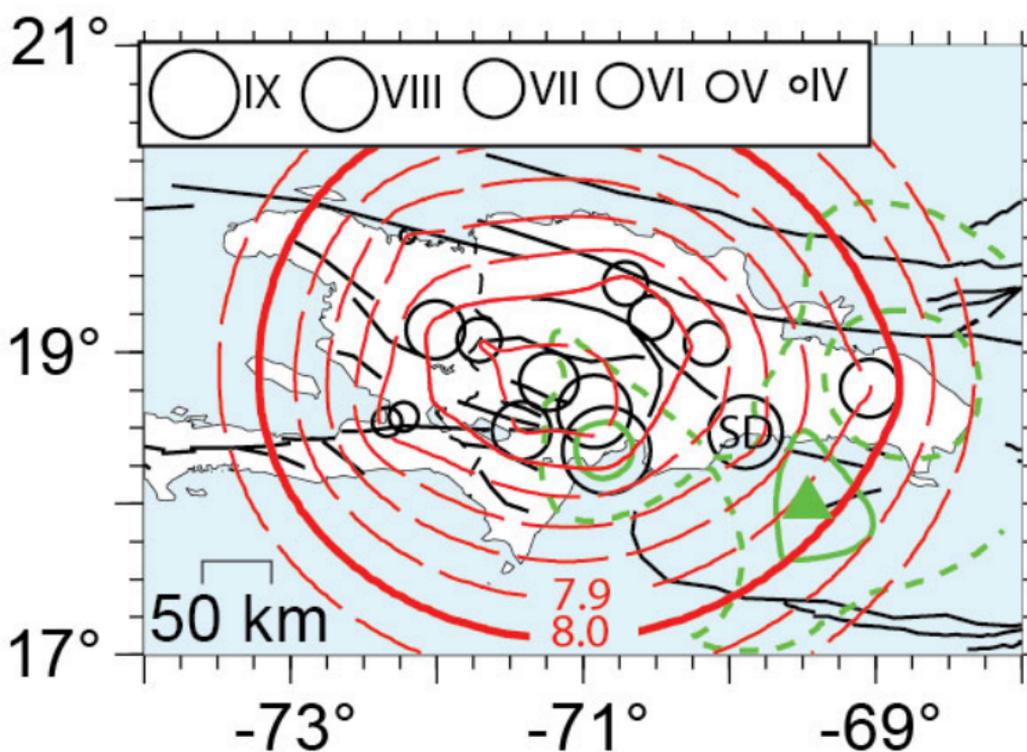


Figure S7

a) MMI assignments by CHF



b) MMI assignments by WHB

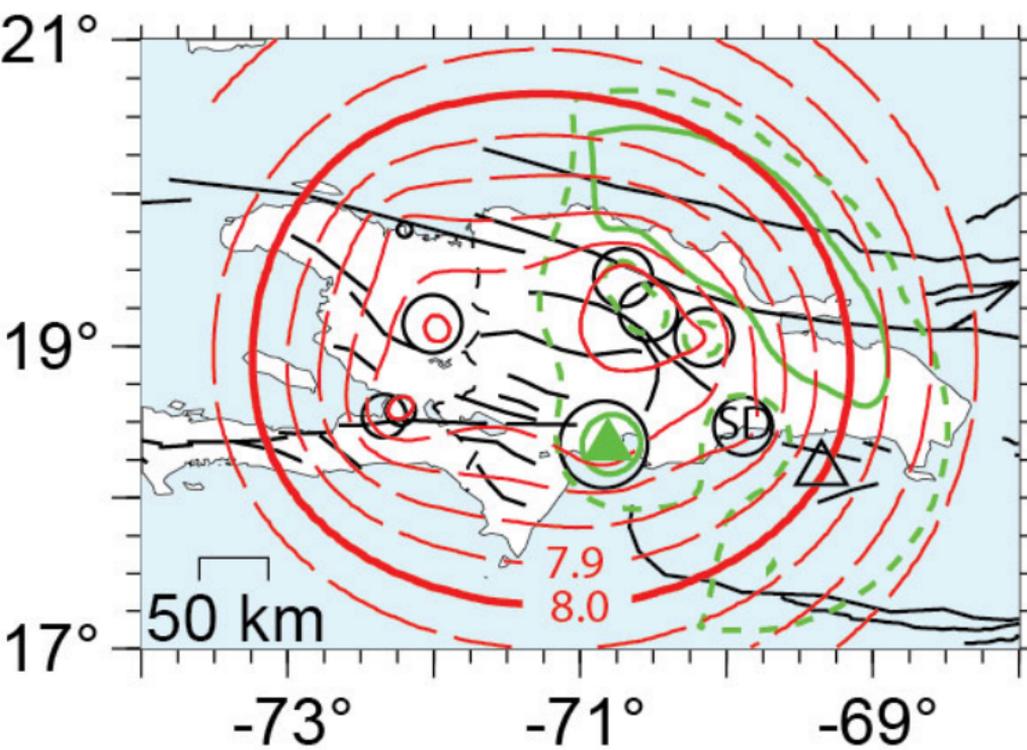
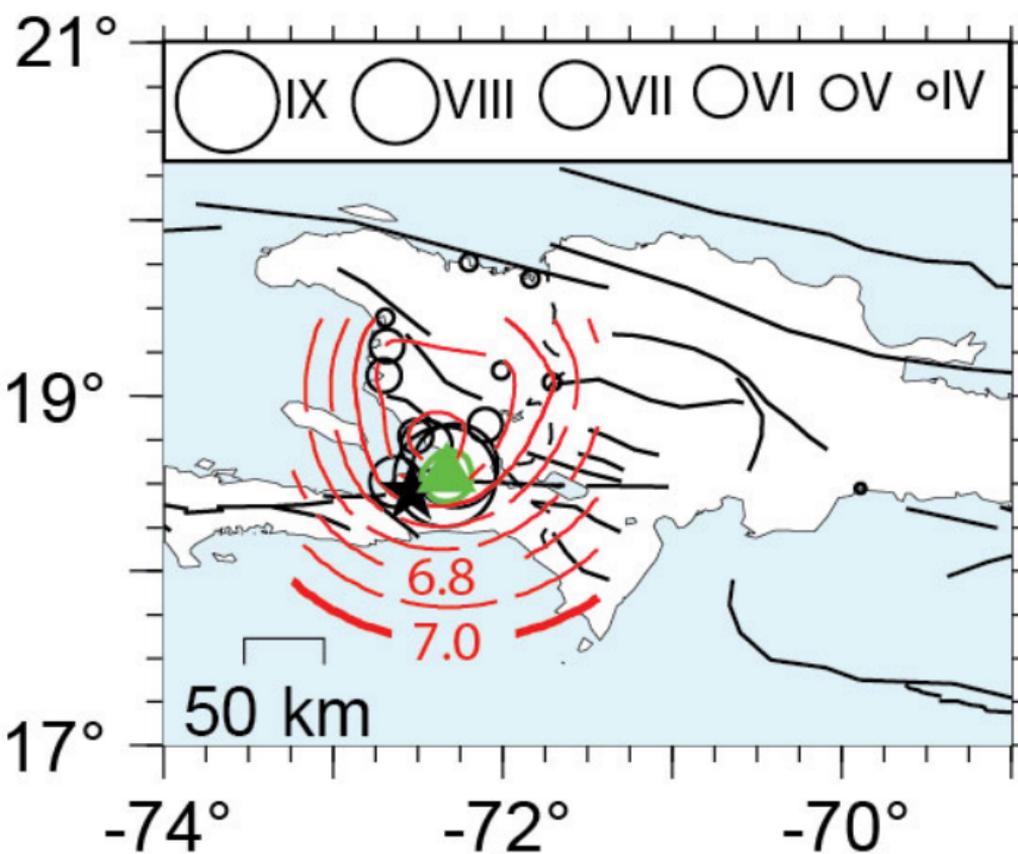


Figure S8

a) MMI assignments by CHF



b) MMI assignments by WHB

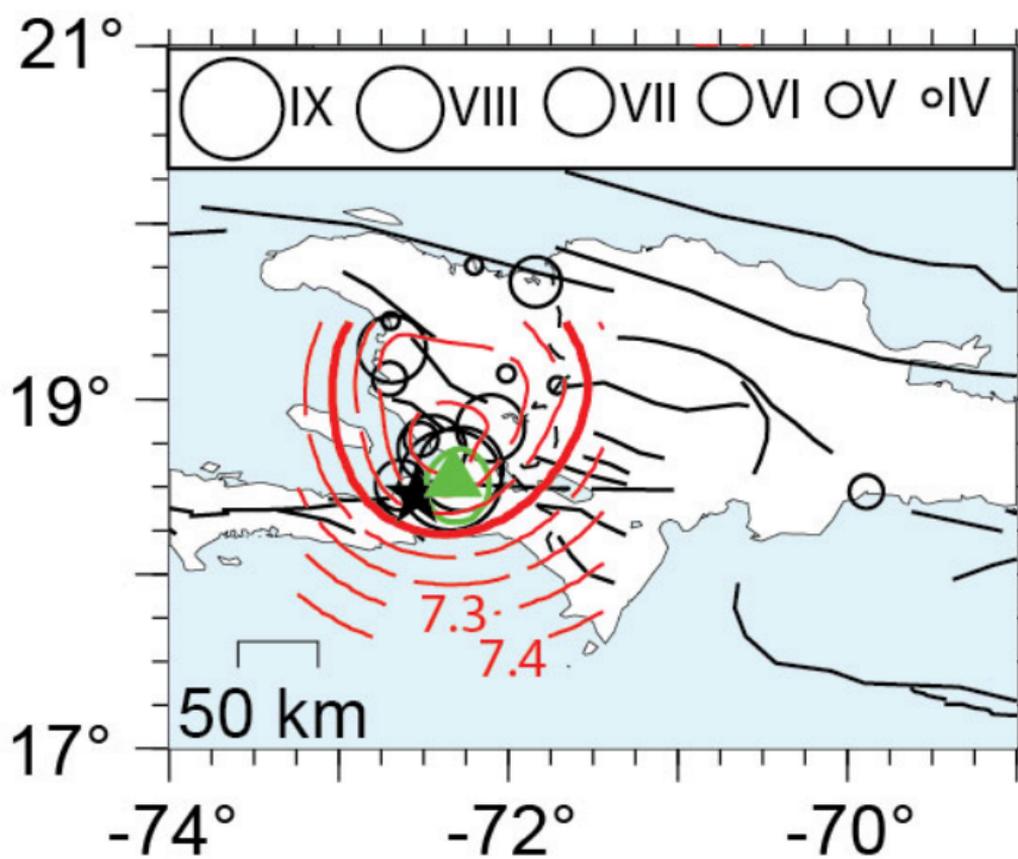
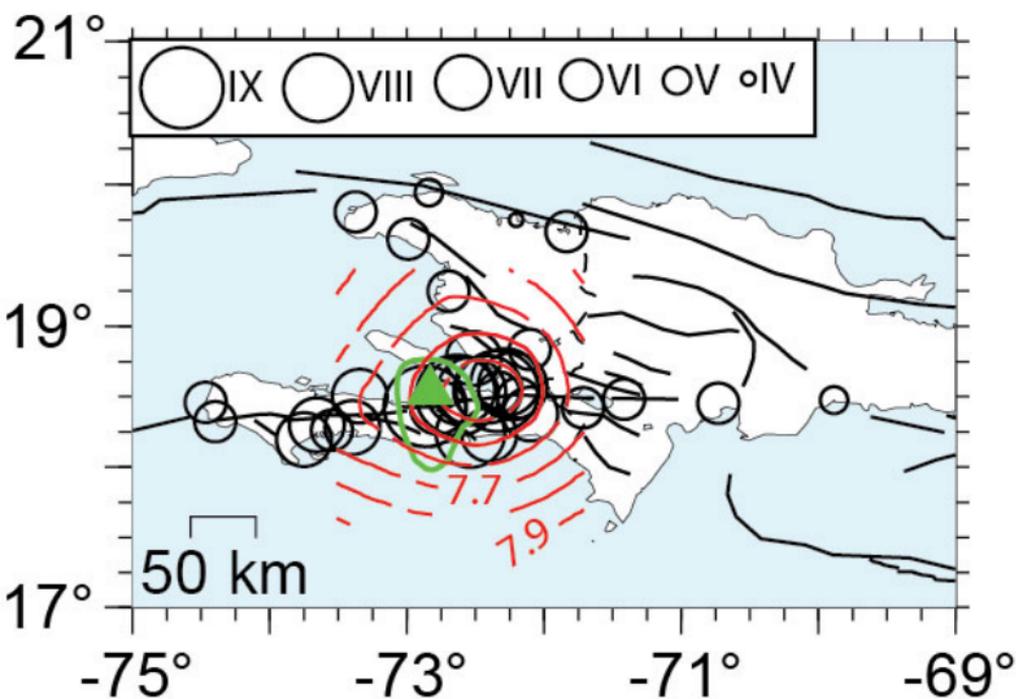


Figure S9

a) MMI assignments by CHF



b) MMI assignments by WHB

