

Environmental effects caused by the Mw 7.7, September 19, 2022, Michoacán (Mexico)

Descriptive table

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This document presents a collection of Earthquake Environmental Effects (EEEs) triggered by the Mw 7.7 Michoacan earthquake occurred on 19 September 2022. Data derive from original field surveys, published reports and papers, and from a search for EEEs posted online in social media and other websites.


For each site where an EEE has been documented, the following information are provided:


- Latitude and longitude;
- Distance from epicenter (km);
- Locality, i.e., geographic place where the EEE occurred;
- EEE type;
- Description of the observed effect;
- Local intensity assessed using the ESI-07 (Environmental Seismic Intensity) scale;
- Photographic documentation;
- Reference

SITE	1
LATITUDE	36.42530127796691
LONGITUDE	-116.29078736897277
DISTANCE FROM EPICENTER	2393
CITY	Devil's Hole, Pahrump, Nevada, USA
EEE TYPE	Hydrogeological anomalies
EEE DESCRIPTION	Anomalous wave of 1.20 m in a 3-m deep, 21-m wide pool of natural water.
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	ND
REFERENCES	<u>Sismo del 19 de septiembre en México, causó "tsunami" del desierto en EE.UU. – Firmas.Mx</u>


SITE	2
LATITUDE	19.26085964238992
LONGITUDE	-99.07559251806984
DISTANCE FROM EPICENTER	459
CITY	Barrio Xaltocan, Xochimilco, Distrito Federal
EEE TYPE	Anomalous waves
EEE DESCRIPTION	Water violently overflows from small basins and watercourses.
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://cdn.jwplayer.com/previews/VrgATd22


SITE	3
LATITUDE	18.626955053066315
LONGITUDE	-103.68532003545504
DISTANCE FROM EPICENTER	60
CITY	Mezcala, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Localized lateral spreading and settlements with height of 0 – 30 cm, and with fissuring parallel to waterfront areas
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://fb.watch/g6outOG1o8/ https://www.lavozdemichoacan.com.mx/pais/sismo-pais/video-pescadores-captan-como-se-partio-la-playa-de-coahuayana-despues-del-temblor/


SITE	4
LATITUDE	18.590682569109195
LONGITUDE	-103.50702714641429
DISTANCE FROM EPICENTER	45
CITY	Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Slope movement, debris blocked the underlying road. Boulders of more than 1 m of diameter detached from slope
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://m.facebook.com/story.php?story_fbid=803764844221336&id=49729693499&eav=AfY16IN79hK7HrtrZ8Dn9AMISdCI0Ie77goxeKlHo7jJE7m32fR8DBcLdfROTx5lbbs&paipv=0&_rdr Milenio Television


SITE	5
LATITUDE	18.60176461697961
LONGITUDE	-103.5037334784092
DISTANCE FROM EPICENTER	46
CITY	Aquila, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	Modest rock falls 10^3 - 10^5 m ³
ESI INTENSITY	VII
GEOMORPHOLOGICAL ASSET	Slope
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://m.facebook.com/story.php?story_fbid=803764844221336&id=49729693499&eav=AfY16IN79hK7HrtrZ8Dn9AMISdCI0Ie77goxeKIHo7jJE7m32fR8DBcLdfROTx5Ibbs&paipv=0&_rdr MILENIO TELEVISION

SITE	6
LATITUDE	18.590133596181445
LONGITUDE	-103.51051110597986
DISTANCE FROM EPICENTER	45
CITY	Aguila, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	rock falls 10 m ³
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://m.facebook.com/story.php?story_fbid=803764844221336&id=49729693499&eav=AfY16IN79hK7HrtrZ8Dn9AMISdCl0le77goxeKlHo7jE7m32fR8DBcLdfROTx5lbbs&paipv=0&_rdr MILENIO TELEVISION


SITE	7
LATITUDE	18.593924668762213
LONGITUDE	-103.49350161004624
DISTANCE FROM EPICENTER	45
CITY	Aguila, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	Modest rock falls 10^3 - 10^5 m ³
ESI INTENSITY	VII
GEOMORPHOLOGICAL ASSET	Slope
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://m.facebook.com/story.php?story_fbid=803764844221336&id=49729693499&eav=AfY16lN79hK7HrtrZ8Dn9AMISdCl0Ie77goxeKlHo7jJE7m32fR8DBcLdfROTx5lbbs&paipv=0&_rdr MILENIO TELEVISION

SITE	8
LATITUDE	18.584010391264528
LONGITUDE	-103.51780969584142
DISTANCE FROM EPICENTER	45
CITY	Aguila, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	Rock falls, estimated volume in the order of 10 ⁵ m ³
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	 <p>The top photograph is a screenshot from a video showing a steep, rocky slope. A person is visible near the base of the slope. The video has a red 'M' logo in the top right corner and a red banner at the bottom with the text 'MILITARES TRATAN ABRIR CAMINO CON MAQUINARIA'. The bottom photograph shows a dirt road completely blocked by a large pile of rocks and debris. Several people and a motorcycle are gathered around the road, looking at the obstruction. The background shows a hilly landscape under a cloudy sky.</p>
REFERENCES	<p>https://m.facebook.com/story.php?story_fbid=803764844221336&id=49729693499&eav=AFY16IN79hK7HrtrZ8Dn9AMISdCI0le77goxeKlHo7jJE7m32fR8DBcLdfROTx5lbbs&paipv=0&_rdr #Michoacán Héroes Mineros Despejan Como Pueden Carretera Tras Derrumbes Por Sismo (changoonga.com) MILENIO TELEVISION</p>

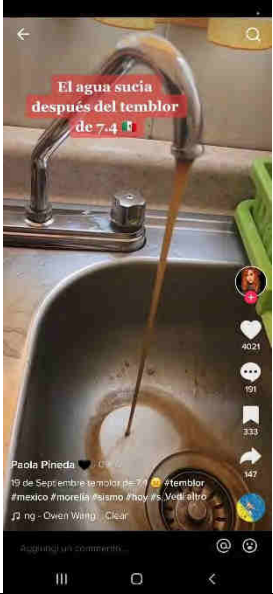
SITE	9
LATITUDE	18.714399317660607
LONGITUDE	-103.28685423055916
DISTANCE FROM EPICENTER	53
CITY	Aquila, Michoacán tramo El Tejon a Tehuantepec
EEE TYPE	Slope movement
EEE DESCRIPTION	Modest rock falls 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/DronesMichoacan https://www.facebook.com/photo/?fbid=636962651123560&set=pcb.636963094456849 (1) Facebook

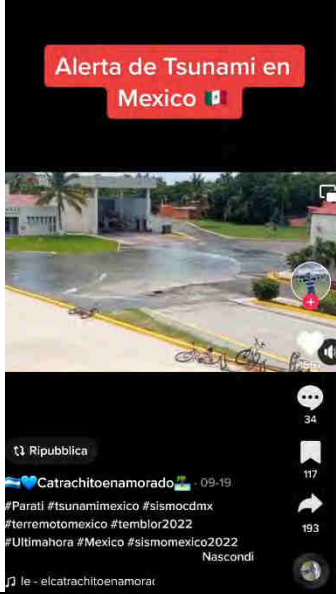
SITE	10
LATITUDE	19.994463558119616
LONGITUDE	-102.19674103101453
DISTANCE FROM EPICENTER	226
CITY	Ojo de Agua, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	dm-width cracks developed in paved roads
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/photo?fbid=643094094047647&set=pcb.643094797380910

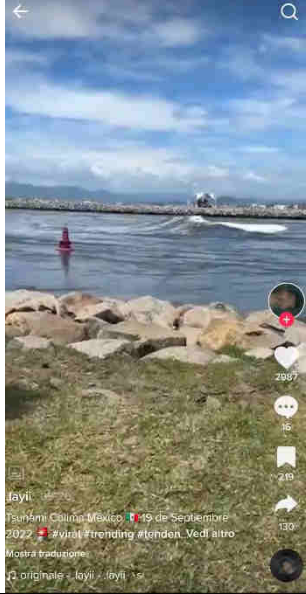
SITE	11
LATITUDE	19.994463558119616
LONGITUDE	-102.19674103101453
DISTANCE FROM EPICENTER	226
CITY	Ojo de Agua, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Slope movement, debris blocked the underlying road. Boulders of more than 1 m of diameter detached from slope
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/photo/?fbid=643094034047653&set=pcb.643094797380910 https://elpais.com/mexico/2022-09-21/el-sendero-de-destruccion-que-dejo-el-temblor-del-19-de-septiembre-en-michoacan.html

SITE	12
LATITUDE	18.757256515626494
LONGITUDE	-103.61427770644785
DISTANCE FROM EPICENTER	67
CITY	Coahuayana, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	rock falls 10 ³ m ³
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/H.AyuntamientoDeCoahuayana/photos/pcb.5373392716043632/5373392106043693


SITE	13
LATITUDE	19.260699686722404
LONGITUDE	-99.07539139963203
DISTANCE FROM EPICENTER	459
CITY	Zona lacustre, Xochimilco, Distrito Federal
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Water violently overflows from small basins and watercourses.
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://fb.watch/g8SGJ2lioG/

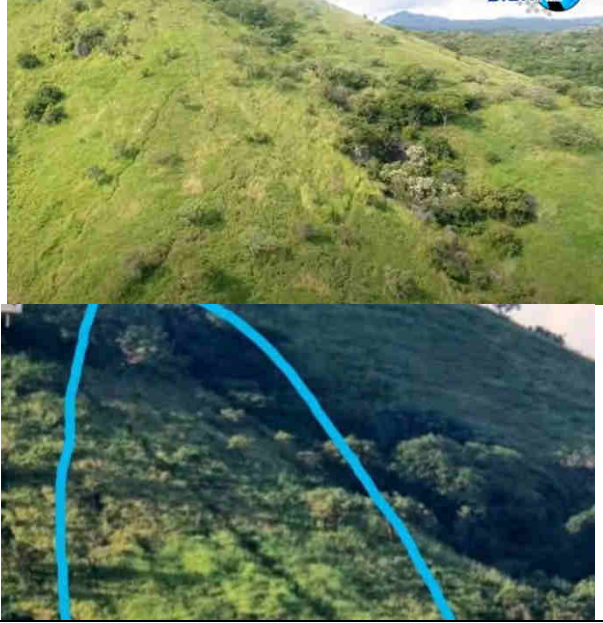
SITE	14
LATITUDE	19.703964823310113
LONGITUDE	-101.19926117221563
DISTANCE FROM EPICENTER	274
CITY	Morelia, Michoacán
EEE TYPE	Hydrogeological anomalies
EEE DESCRIPTION	Variations of chemical-physical: turbidity
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://vm.tiktok.com/ZMF6aFoTb/

SITE	15
LATITUDE	19.059065096736624
LONGITUDE	-104.29697080660077
DISTANCE FROM EPICENTER	140
CITY	Manzanillo, Michoacán
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Runups of up to several m inland
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>#Parati #tsunamimexico #sismocdmx #terremotomexico #temblor2022 #Ultimahora #Mexico #sismomexico2022 (tiktok.com)</p>


SITE	16
LATITUDE	19.061749027114615
LONGITUDE	-104.30516748469411
DISTANCE FROM EPICENTER	141
CITY	Escollera de las Brisas, Manzanillo, Colima, Michoacán
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Runups of up to several m inland
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.tiktok.com/@.layii/video/7145216057270193413


SITE	17
LATITUDE	20.54443268037715
LONGITUDE	-104.03972564084096
DISTANCE FROM EPICENTER	267
CITY	Ameca, Jalisco
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	overflows from small basins and watercourses
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://vm.tiktok.com/ZMF65oS3D/

SITE	18
LATITUDE	18.71868725315544
LONGITUDE	-103.7172537326771
DISTANCE FROM EPICENTER	70
CITY	Manzanillo, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	significant cracks in paved roads, 50 cm of depth
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(1) H. Ayuntamiento de Coahuayana - Post Facebook Daños en 3 mil casas de Michoacán tras sismo; 26 heridos (msn.com)</p>


SITE	19
LATITUDE	19.083169415391964
LONGITUDE	-102.33126536307233
DISTANCE FROM EPICENTER	138
CITY	Apatzingán, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide of 10 ³ m ³
ESI INTENSITY	VIII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://diarioabcdemichoacan.com.mx/lasnoticias/el-cerro-de-el-hungaro-en-apatzingan-sufrio-un-agrietamiento-como-resultado-del-sismo-del-19-de-septiembre/


SITE	20
LATITUDE	18.44816770542783
LONGITUDE	-102.55934626861348
DISTANCE FROM EPICENTER	81
CITY	Las Playitas, Tumbiscatío, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.reforma.com/aplicacioneslibre/preacceso/articulo/default.aspx?__rval=1&urlredirect=https://www.reforma.com/michoacan-3-mil-casas-danadas-y-zonas-de-desastre-por-sismo/ar2473211?referer=--7d616165662f3a3a6262623b727a7a7279703b767a783a--


SITE	21
LATITUDE	19.113147305800634
LONGITUDE	-104.3394952569998
DISTANCE FROM EPICENTER	147
CITY	Manzanillo, Michoacán
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Runups of up to several m inland
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.elfinanciero.com.mx/nacional/2022/09/19/sismo-de-77-en-mexico-provoca-levantamiento-del-mar-en-manzanillo-colima/

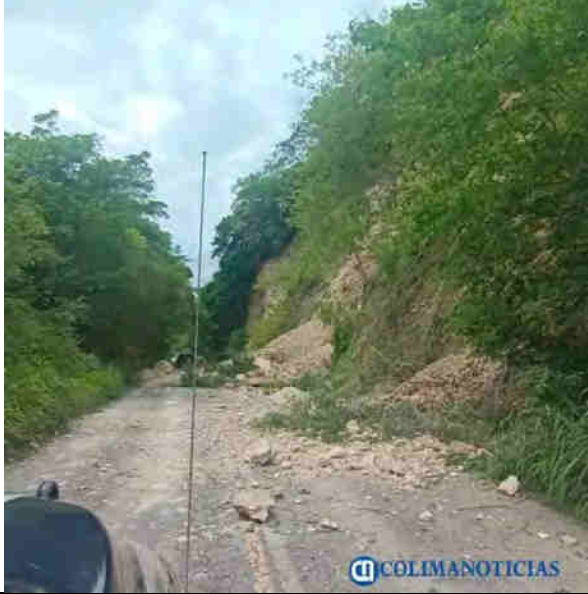
SITE	22
LATITUDE	18.915756200648477
LONGITUDE	-103.84970942522264
DISTANCE FROM EPICENTER	95
CITY	Carretera de Colima, Laguna de Cuyutlan, Colima
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide of 10 - 10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://twitter.com/AndrBertuccell3/status/1571935838698876930?s=20&t=lhUSxqAdeb83-6cUH6Oaw


SITE	23
LATITUDE	26.05646908498151
LONGITUDE	-98.3085769748133
DISTANCE FROM EPICENTER	1008
CITY	Reynosa, Tamaulipas
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Overflows in pools and small ponds
ESI INTENSITY	V
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.elsoldetampico.com.mx/local/regional/el-temblor-se-sintio-en-tamaulipas-hay-quienes-afirman-que-si-video-8914228.html


SITE	24
LATITUDE	22.540352942129687
LONGITUDE	-105.7371211538358
DISTANCE FROM EPICENTER	540
CITY	Teacapán, Sinaloa
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Overflows in pools and small ponds
ESI INTENSITY	V
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://lagaceta.me/noticias/detalle/en-sinaloa-tambien-se-sintio-el-sismo-de-74-grados-video/


SITE	25
LATITUDE	17.661363454827047
LONGITUDE	-101.6078221879194
DISTANCE FROM EPICENTER	189
CITY	Ixtapa, Guerrero
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	https://www.youtube.com/watch?v=yCWJmP4RfKY


SITE	26
LATITUDE	18.71722264268297
LONGITUDE	-103.71627500458622
DISTANCE FROM EPICENTER	69
CITY	La Zapotera, Colima
EEE TYPE	Ground cracks
EEE DESCRIPTION	significant cracks in paved roads
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p><u>Sufre daños por sismo puente que une a Michoacán y Colima (quadratin.com.mx)</u></p>

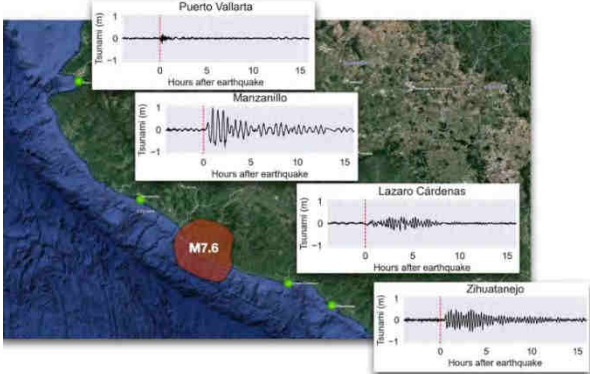

SITE	27
LATITUDE	19.317430467307585
LONGITUDE	-103.84160220346493
DISTANCE FROM EPICENTER	133
CITY	Villa de Alvarez - Minatitlàn road, Juluapan, Colima
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<u>Derrumbes en carretera a Minatitlàn, bardas caídas e incendio en vivienda, principales daños en la Villa Colima Noticias</u>


SITE	28
LATITUDE	18.945603974066128
LONGITUDE	-103.90488717870942
DISTANCE FROM EPICENTER	102
CITY	Guadalajara-Manzanillo highway, Tecomán, Colima
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide 10^3 - 10^5 m ³
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p><u>Sismo de 7.7 grados en Colima deja un muerto, daños y marea elevada en Manzanillo IMÁGENES FUERTES El Heraldo de México (heraldodemexico.com.mx)</u></p>








SITE	29
LATITUDE	20.649853210965244
LONGITUDE	-105.24444062841832
DISTANCE FROM EPICENTER	336
CITY	Puerto Vallarta, Jalisco
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) Prof. Diego Melgar  su Twitter: "Next day update on the tsunami: Manzanillo took the biggest hit and small waves are still going, all other sites are almost back to background levels. None of the sites are on top of the EQ, so I'd expect a survey will reveal bigger tsunami amplitudes there https://t.co/kZyXFIWYav" / Twitter</p>


SITE	30
LATITUDE	19.097058207192227
LONGITUDE	-104.32993637529403
DISTANCE FROM EPICENTER	145
CITY	Manzanillo, Colima
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of more than 1 m
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) Prof. Diego Melgar  su Twitter: "<u>Next day update on the tsunami: Manzanillo took the biggest hit and small waves are still going, all other sites are almost back to background levels. None of the sites are on top of the EQ, so I'd expect a survey will reveal bigger tsunami amplitudes there</u> https://t.co/kZyXFIWYav" / <u>Twitter</u></p>

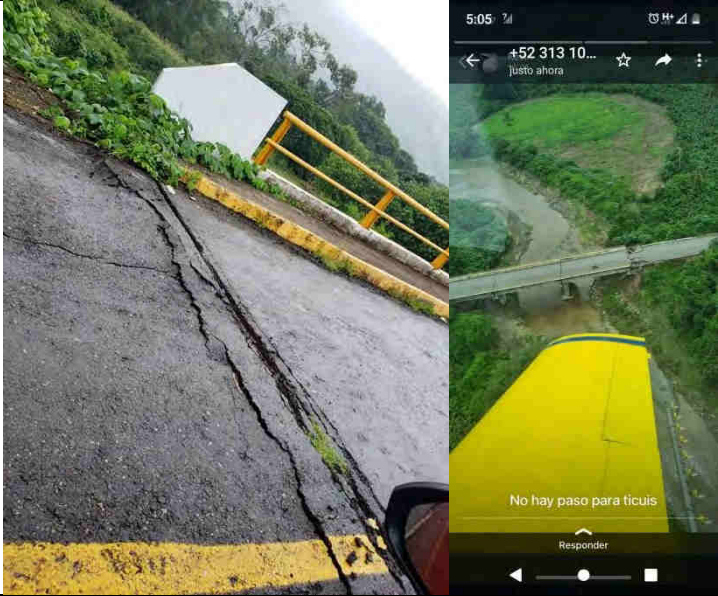
SITE	31
LATITUDE	17.931431047004516
LONGITUDE	-102.15896749820328
DISTANCE FROM EPICENTER	125
CITY	Lazaro Cardenas, Michoacán
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) Prof. Diego Melgar  su Twitter: "Next day update on the tsunami: Manzanillo took the biggest hit and small waves are still going, all other sites are almost back to background levels. None of the sites are on top of the EQ, so I'd expect a survey will reveal bigger tsunami amplitudes there https://t.co/kZyXFIWYav" / Twitter</p>


SITE	32
LATITUDE	17.638609114840968
LONGITUDE	-101.55327118250321
DISTANCE FROM EPICENTER	196
CITY	Zihuatanejo, Guerrero
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) Prof. Diego Melgar  su Twitter: "Next day update on the tsunami: Manzanillo took the biggest hit and small waves are still going, all other sites are almost back to background levels. None of the sites are on top of the EQ, so I'd expect a survey will reveal bigger tsunami amplitudes there https://t.co/kZyXFIWYav" / Twitter</p>

SITE	33
LATITUDE	19.704217655368538
LONGITUDE	-103.46865708428385
DISTANCE FROM EPICENTER	163
CITY	Guzman, Jalisco
EEE TYPE	Tree shaking
EEE DESCRIPTION	Tree limbs shake moderately to strongly Very few tree tops and dead limbs break and fall
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	Webcams de México su Twitter: "#Sismo #19deSeptiembre2022 en Ciudad Guzmán #Jalisco" / Twitter

SITE	34
LATITUDE	20.35045149327325
LONGITUDE	-103.6739012514974
DISTANCE FROM EPICENTER	237
CITY	Atotonilco el Bajo, Jalisco
EEE TYPE	Tree shaking
EEE DESCRIPTION	Tree limbs shake moderately to strongly Very few tree tops and dead limbs break and fall
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) Роберто Кардоса       su Twitter: "Dicen que es Atotonilco el Bajo, Jalisco. #sismo #terremoto #earthquake #temblor #19DeSeptiembre #Jalisco #Atotonilco #awesome #México #Mexico https://t.co/11r880tqs" / Twitter</p>

SITE	35
LATITUDE	17.95789505507067
LONGITUDE	-102.19482791163014
DISTANCE FROM EPICENTER	120
CITY	Siglo XXI highway, Lázaro Cárdenas, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Stone of > 1 m diameter detached from slope and move away for long distance
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>Daños en 3 mil casas de Michoacán tras sismo; 26 heridos (msn.com)</p> <p>(1) Facebook</p>

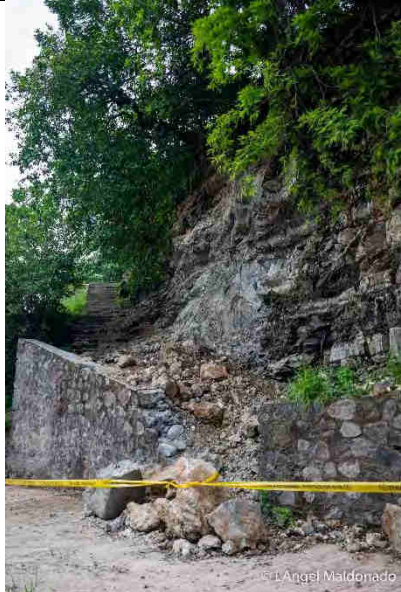
SITE	36
LATITUDE	18.673228219770984
LONGITUDE	-103.67655945815727
DISTANCE FROM EPICENTER	63
CITY	Puente Ticuiz, Coahuayana, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of Cm width in paved roads
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	 <p>The photographic documentation consists of two images. The left image shows a close-up of a paved road with a significant longitudinal crack. A yellow and white guardrail is visible on the right side of the road, and a white structure is partially visible in the background. The right image is a screenshot of a WhatsApp message. The message is from a contact with the number +52 313 10... and is timestamped 'justo ahora'. The message content shows a view of a road with a bridge and a yellow structure, with the text 'No hay paso para ticuis' overlaid. Below the message is a 'Responder' button.</p>
REFERENCES	<p>(1) Facebook <u>Daños en 3 mil casas de Michoacán tras sismo; 26 heridos (msn.com)</u></p>

SITE	37
LATITUDE	18.598579199090704
LONGITUDE	-103.5115552405543
DISTANCE FROM EPICENTER	46
CITY	La Nuez, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Modest rock falls 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>(3) La Voz de Michoacán su Twitter: "  #AlertaVialAquila  ¡ESTRAGOS DEL SISMO!  Carretera totalmente bloqueada por impresionante derrumbe a la altura del lugar conocido como "La Nuez", rumbo a Aquila. En el lugar se encuentra personal militar que impide el paso incluso a los peatones como medida preventiva. https://t.co/FuaSCrj5wy" / Twitter</p>


SITE	38
LATITUDE	18.72676314962233
LONGITUDE	-103.68714002513603
DISTANCE FROM EPICENTER	68
CITY	Caminos en Coahuayana, San Vicente, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Ground cracks of 30-100 cm width and 100 – hundreds m long
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	(1) Facebook


SITE	39
LATITUDE	18.755315983409115
LONGITUDE	-103.65970647834992
DISTANCE FROM EPICENTER	69
CITY	Coahuayana, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	wide cracks developed in paved roads
ESI INTENSITY	IX
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	(1) Facebook


SITE	40
LATITUDE	18.822175140739848
LONGITUDE	-99.66881835363269
DISTANCE FROM EPICENTER	388
CITY	Ixtapan de la Sal, Estado de México
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide
ESI INTENSITY	VII
PHOTOGRAPIC DOCUMENTATION	
REFERENCES	<p>Edomex: Socavón deja a 60 mil personas sin agua y afecta a automovilistas El Heraldo de México (heraldodemexico.com.mx)</p>


SITE	41
LATITUDE	18.935916382989877
LONGITUDE	-103.96507925763008
DISTANCE FROM EPICENTER	105
CITY	Ciudad de Armeria, Colima
EEE TYPE	Slope movement
EEE DESCRIPTION	landslide of 10 m ³
ESI INTENSITY	VI
PHOTOGRAPIC DOCUMENTATION	 <p>A photograph showing a landslide site. The image depicts a steep, rocky slope with a stone retaining wall. A yellow caution tape is stretched across the foreground. The background shows dense green foliage. A small watermark '© Angel Maldonado' is visible in the bottom right corner of the photo.</p>
REFERENCES	(1) Facebook


SITE	42
LATITUDE	19.257828508691464
LONGITUDE	-103.72202998258113
DISTANCE FROM EPICENTER	122
CITY	Colima, Río Colima, Colima
EEE TYPE	Slope movement
EEE DESCRIPTION	Riverbank collapse, mobilized volume in the order of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPIC DOCUMENTATION	 <p>The photographic documentation consists of three vertically stacked images. The top image shows a river with a collapsed bank on the right side, with a red 'F' watermark. The middle image shows a close-up of a collapsed concrete structure, possibly a bridge or retaining wall, with debris and a red 'F' watermark. The bottom image shows a river with a collapsed structure and debris, with a red 'AF' watermark.</p>
REFERENCES	(1) Facebook

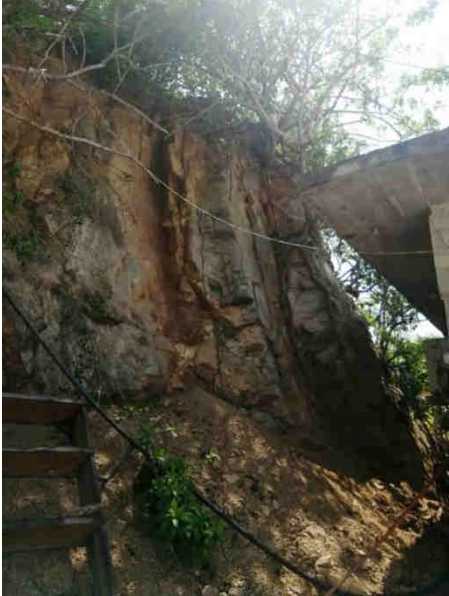
SITE	43
LATITUDE	19.43899214446162
LONGITUDE	-102.05057813760828
DISTANCE FROM EPICENTER	186
CITY	Uruapan, Michoacán
EEE TYPE	Slope movement
EEE DESCRIPTION	Landslide 10 ³ -10 ⁵ m ³
ESI INTENSITY	VIII
PHOTOGRAPIC DOCUMENTATION	 <p>TikTok @illlovedlatinboyle sep/19/22 Derrumbe de cerro en Uruapan Mich a causa del sismo de 7.4 en Michoacan</p>
REFERENCES	https://vm.tiktok.com/ZMFPeAwRY/


SITE NUMBER	44
LATITUDE	18.730000
LONGITUDE	-103.726389
DISTANCE FROM EPICENTER	71
CITY	San Miguel bridge, Tecomán – Coalcomán road, Tecomán, Colima
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Sand volcanoes with a diameter of 40 to 60 cm. Liquefaction and sand volcanoes extend for a length exceeding 30 meters in length.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	45
LATITUDE	18.6530556
LONGITUDE	-103.70055555555555
DISTANCE FROM EPICENTER	63
CITY	Mezcala, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracks up to 18 m long. 30 to 50 cm wide. Depth up to 53 cm. In the cracks one sees a difference in strata; beach sand on the surface and more compact material at depths
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

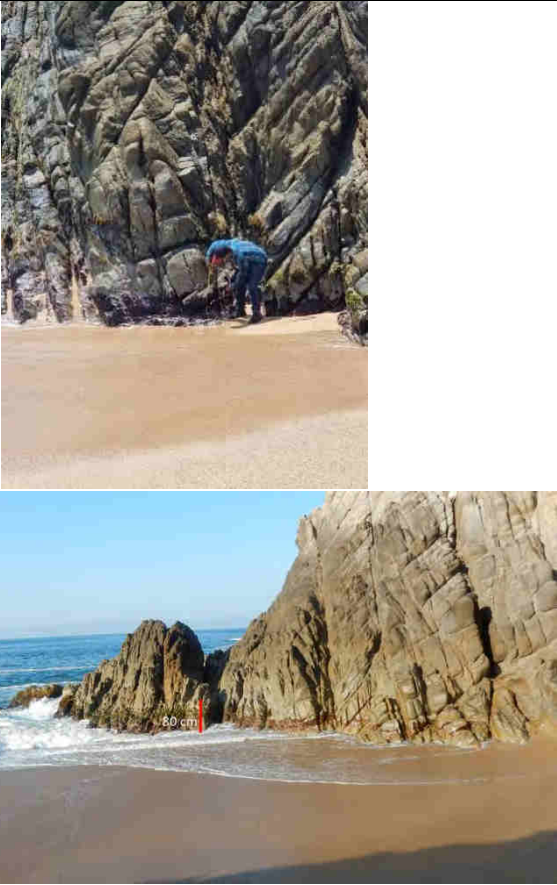
SITE NUMBER	46
LATITUDE	18.172543
LONGITUDE	-102.951718
DISTANCE FROM EPICENTER	37
CITY	Aguila, Michoacán
EEE TYPE	Hydrogeological anomalies
EEE DESCRIPTION	Spring that appeared with the 1985 earthquake, a few days after the earthquake of September 19, 2022, showed turbidity in the water and then completely dried up. Small spring run dry
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	 <p> Latitude: 18.172543 Longitude: -102.951718 Elevation: 39.3615 m Precision: 6.2 m Tiempo: 19-09-2022 13:09 Nota: El Tangue se cae </p>
REFERENCES	

SITE NUMBER	47
LATITUDE	18.6855556
LONGITUDE	-103.7175
DISTANCE FROM EPICENTER	67
CITY	Boca de Apiza, Coahuayana, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of cm width in paved floor
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	48
LATITUDE	18.3475
LONGITUDE	-103.50944444444444
DISTANCE FROM EPICENTER	26
CITY	Faro de Bucerias, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Detachment of small blocks from a rock wall; sub-vertical strata
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	49
LATITUDE	18.2822222
LONGITUDE	-103.35833333333333
DISTANCE FROM EPICENTER	9
CITY	Colola - Faro de Bucerias road, Aquila, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of cm width in paved floor
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	50
LATITUDE	18.3516667
LONGITUDE	-103.51194444444444
DISTANCE FROM EPICENTER	27
CITY	Faro de Bucerias, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide in prone area
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	51
LATITUDE	18.3516667
LONGITUDE	-103.51194444444444
DISTANCE FROM EPICENTER	27
CITY	Faro de Bucerias, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Tectonic uplift of 60 cm indicated by a fresh rock stratum at the base and a layer of organisms exposed to desiccation from the earthquake
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

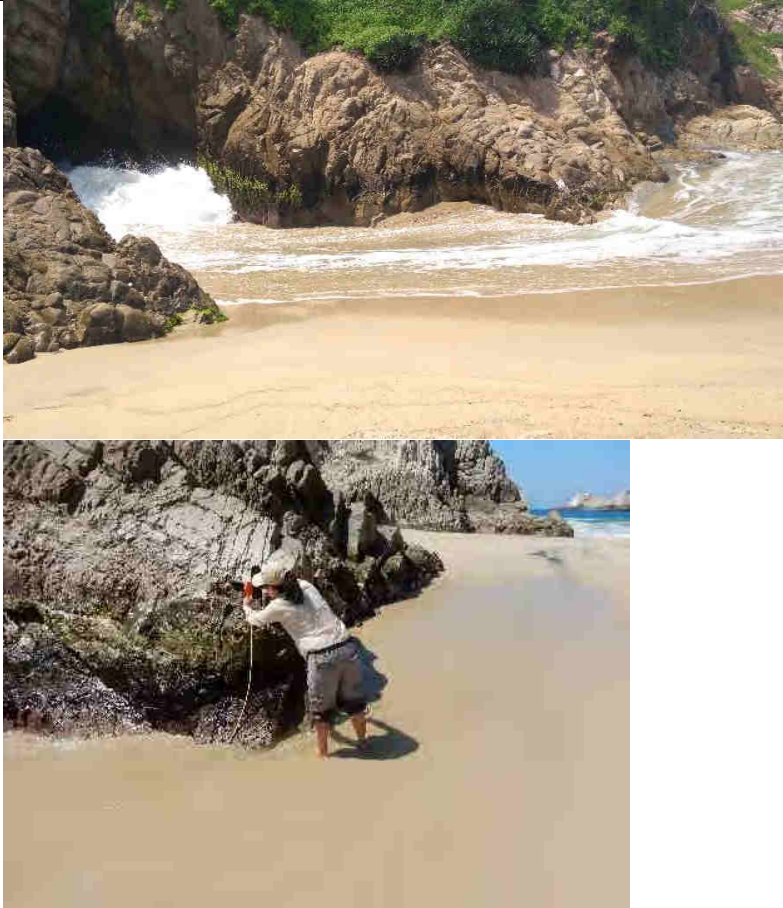
SITE NUMBER	52
LATITUDE	18.2680556
LONGITUDE	-103.3475
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide in prone area
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	53
LATITUDE	18.2680556
LONGITUDE	-103.35
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of 5 – 10 cm width and 0 – 700 length
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

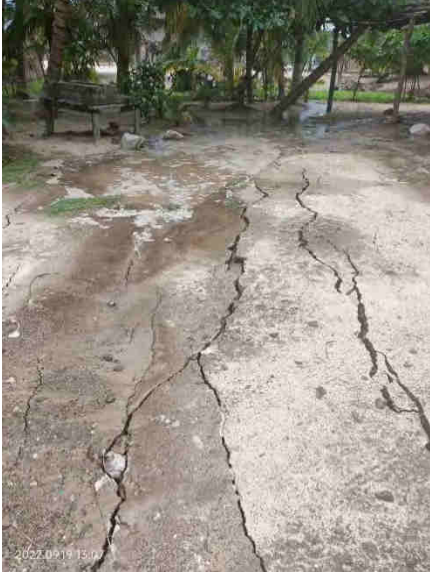
SITE NUMBER	54
LATITUDE	18.2727778
LONGITUDE	-103.34944444444444
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of 30 – 100 cm width and 0 – 200 length
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	55
LATITUDE	18.2686111
LONGITUDE	-103.35249999999999
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks of cm width in paved floor
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	 A photograph showing a paved floor with a prominent, irregular crack running from the foreground towards the background. The crack is approximately 1-2 cm wide. In the background, there are wooden posts, a blue tarp, and some plastic bottles on the floor.
REFERENCES	


SITE NUMBER	56
LATITUDE	18.2683333
LONGITUDE	-103.35194444444444
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of > 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

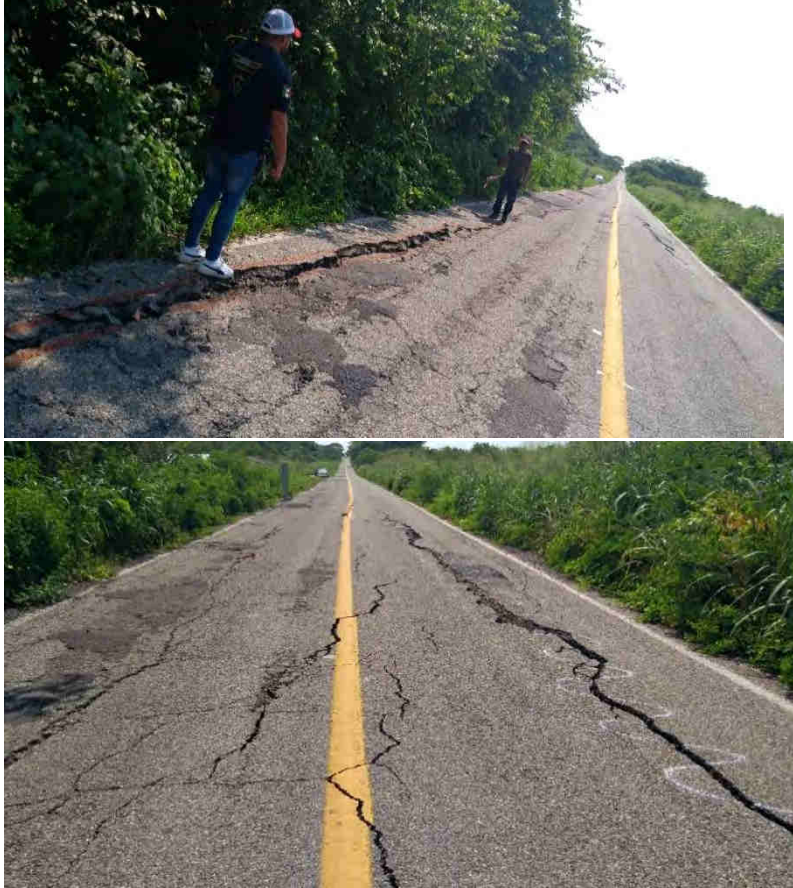
SITE NUMBER	57
LATITUDE	18.267457
LONGITUDE	-103.35083333333333
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Tectonic Uplift
EEE DESCRIPTION	The elevation reaches in this zone 50-73 cm; with the earthquake, the level (6 months later, green due to the cover of new algae), remained white due to the organisms killed by desiccation.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	58
LATITUDE	18.2769444
LONGITUDE	-103.34777777777778
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Tsunamis and runups of up to several m
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	59
LATITUDE	18.2686111
LONGITUDE	-103.34805555555555
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of > 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	60
LATITUDE	18.2780556
LONGITUDE	-103.35222222222221
DISTANCE FROM EPICENTER	8
CITY	Paso la Noria bridge, Maruata, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	significant cracks in paved floor
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	 <p>Few (4) days later</p>
REFERENCES	https://www.facebook.com/photo/?fbid=10159915500089647&set=pcb.650089466642986

SITE NUMBER	61
LATITUDE	18.2875
LONGITUDE	-103.38583333333334
DISTANCE FROM EPICENTER	11
CITY	Faro de Bucerias – Maruata road, Maruata, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of > 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	62
LATITUDE	18.2825
LONGITUDE	-103.35833333333333
DISTANCE FROM EPICENTER	9
CITY	Colola – Maruata road, Aquila, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Significant cracks of dm width in paved floor
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	63
LATITUDE	18.2911111
LONGITUDE	-103.40416666666667
DISTANCE FROM EPICENTER	13
CITY	Colola, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of > 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	64
LATITUDE	18.2341667
LONGITUDE	-103.17750000000001
DISTANCE FROM EPICENTER	12
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	65
LATITUDE	18.5647222
LONGITUDE	-103.64305555555556
DISTANCE FROM EPICENTER	52
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	66
LATITUDE	18.5636111
LONGITUDE	-103.64
DISTANCE FROM EPICENTER	51
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	67
LATITUDE	18.5641667
LONGITUDE	-103.64861111111112
DISTANCE FROM EPICENTER	52
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	68
LATITUDE	18.6841667
LONGITUDE	-103.64833333333334
DISTANCE FROM EPICENTER	62
CITY	Tecomán - Lazaro Cárdenas road, Coahuayana, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of tens m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	69
LATITUDE	18.5647222
LONGITUDE	-103.64888888888889
DISTANCE FROM EPICENTER	52
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, few blocks detached from the slope
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	70
LATITUDE	18.5666667
LONGITUDE	-103.65361111111112
DISTANCE FROM EPICENTER	53
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	71
LATITUDE	18.5969444
LONGITUDE	-103.67861111111111
DISTANCE FROM EPICENTER	57
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of tens of m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	72
LATITUDE	18.5661111
LONGITUDE	-103.65361111111112
DISTANCE FROM EPICENTER	53
CITY	Tecomán - Lazaro Cárdenas road, Aquila
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	73
LATITUDE	18.6008333
LONGITUDE	-103.67944444444444
DISTANCE FROM EPICENTER	57
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	74
LATITUDE	18.6102778
LONGITUDE	-103.67805555555556
SATELITE IMAGE	58
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	75
LATITUDE	18.6313889
LONGITUDE	-103.66666666666667
DISTANCE FROM EPICENTER	59
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	76
LATITUDE	18.5672222
LONGITUDE	-103.65333333333334
DISTANCE FROM EPICENTER	53
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	77
LATITUDE	18.2333333
LONGITUDE	-103.17888888888889
SATELITE IMAGE	12
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

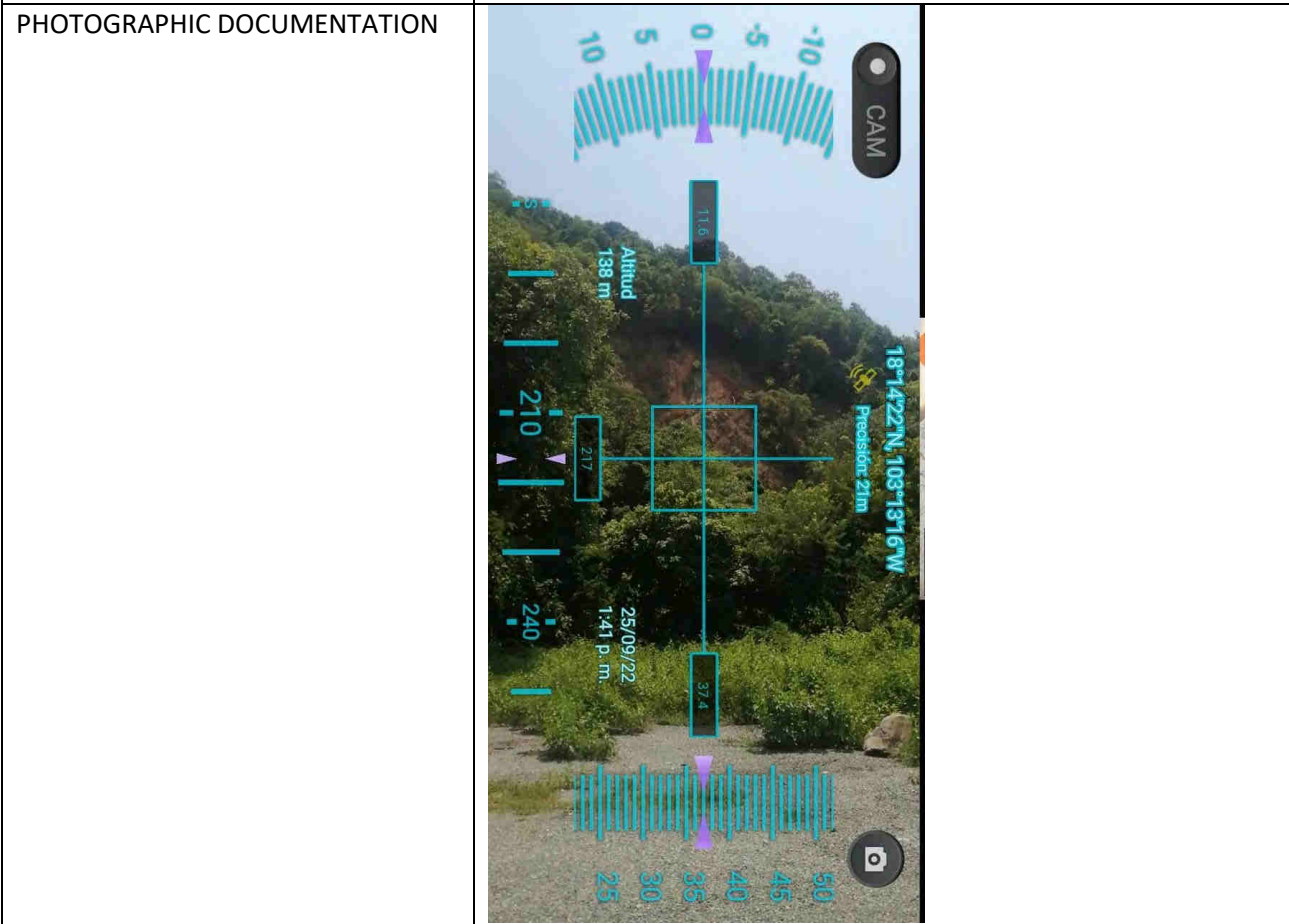
SITE NUMBER	78
LATITUDE	18.2341667
LONGITUDE	-103.17722222222223
DISTANCE FROM EPICENTER	12
CITY	Tecomán - Lazaro CárdeMnas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	79
LATITUDE	18.2352778
LONGITUDE	-103.18555555555555
DISTANCE FROM EPICENTER	11
CITY	Tecomán - Lazaro Cárdenas road, Chocola, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	80
LATITUDE	18.2397222
LONGITUDE	-103.21083333333334
DISTANCE FROM EPICENTER	8
CITY	Tecomán - Lazaro Cárdenas road, El Naranjito, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	81
LATITUDE	18.2377778
LONGITUDE	-103.22111111111111
DISTANCE FROM EPICENTER	7
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, , volume of tens of m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	82
LATITUDE	18.2338889
LONGITUDE	-103.22111111111111
DISTANCE FROM EPICENTER	7
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI



REFERENCES	
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SITE NUMBER	83
LATITUDE	18.235
LONGITUDE	-103.18527777777778
DISTANCE FROM EPICENTER	11
CITY	Tecomán - Lazaro Cárdenas road, Chocola, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	84
LATITUDE	18.2391667
LONGITUDE	-103.22055555555556
DISTANCE FROM EPICENTER	7
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of tens of m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

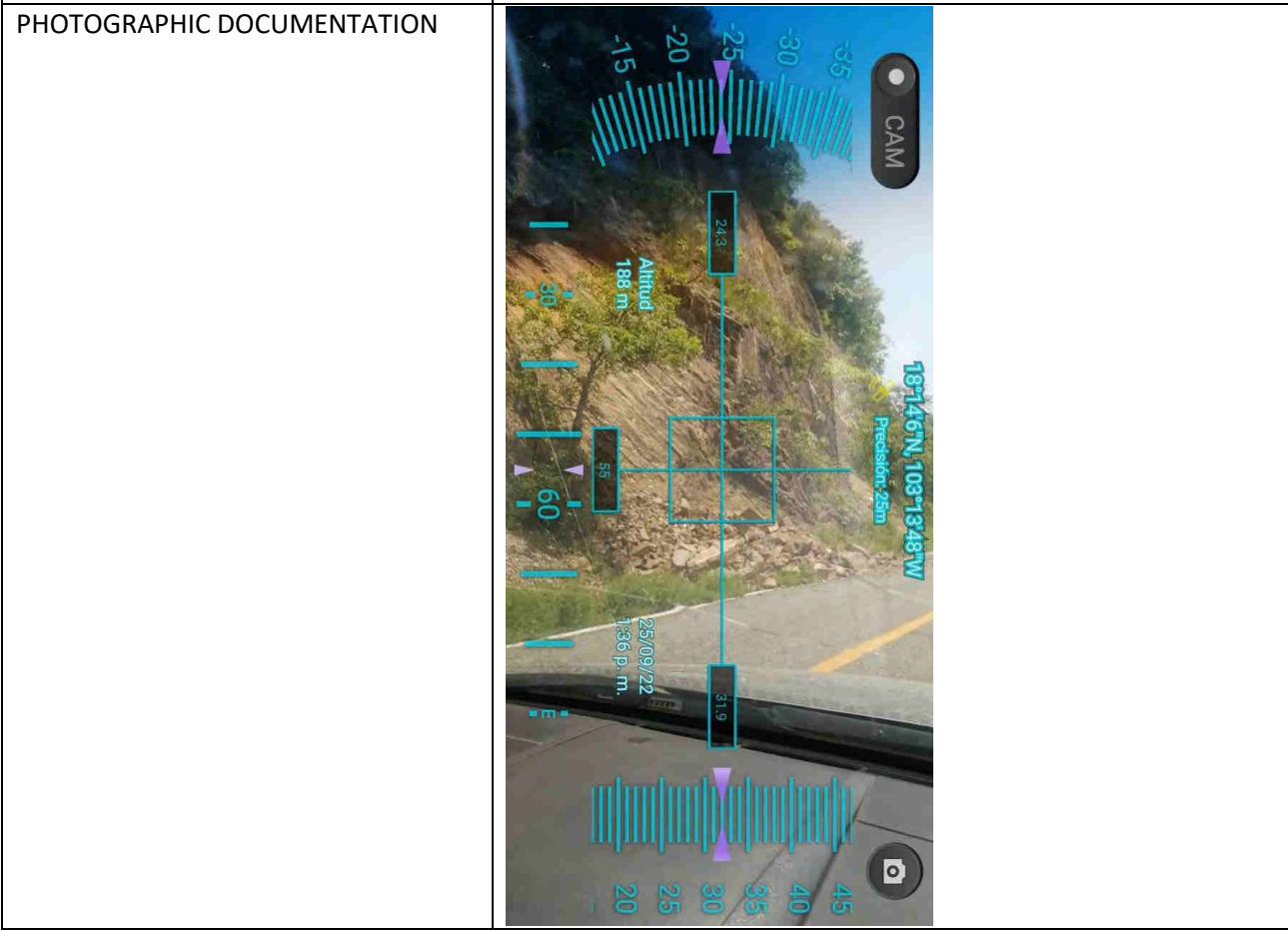
SITE NUMBER	85
LATITUDE	18.24
LONGITUDE	-103.21083333333334
DISTANCE FROM EPICENTER	8
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	86
LATITUDE	18.2397222
LONGITUDE	-103.21055555555556
DISTANCE FROM EPICENTER	8
CITY	Tecomán - Lazaro Cárdenas road, El Naranjito, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	87
LATITUDE	18.2361111
LONGITUDE	-103.21444444444445
DISTANCE FROM EPICENTER	8
CITY	Tecomán - Lazaro Cárdenas road, El Naranjito, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered landslide, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	88
LATITUDE	18.2688889
LONGITUDE	-103.31277777777777
DISTANCE FROM EPICENTER	4
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	89
LATITUDE	18.235
LONGITUDE	-103.23
DISTANCE FROM EPICENTER	6
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI



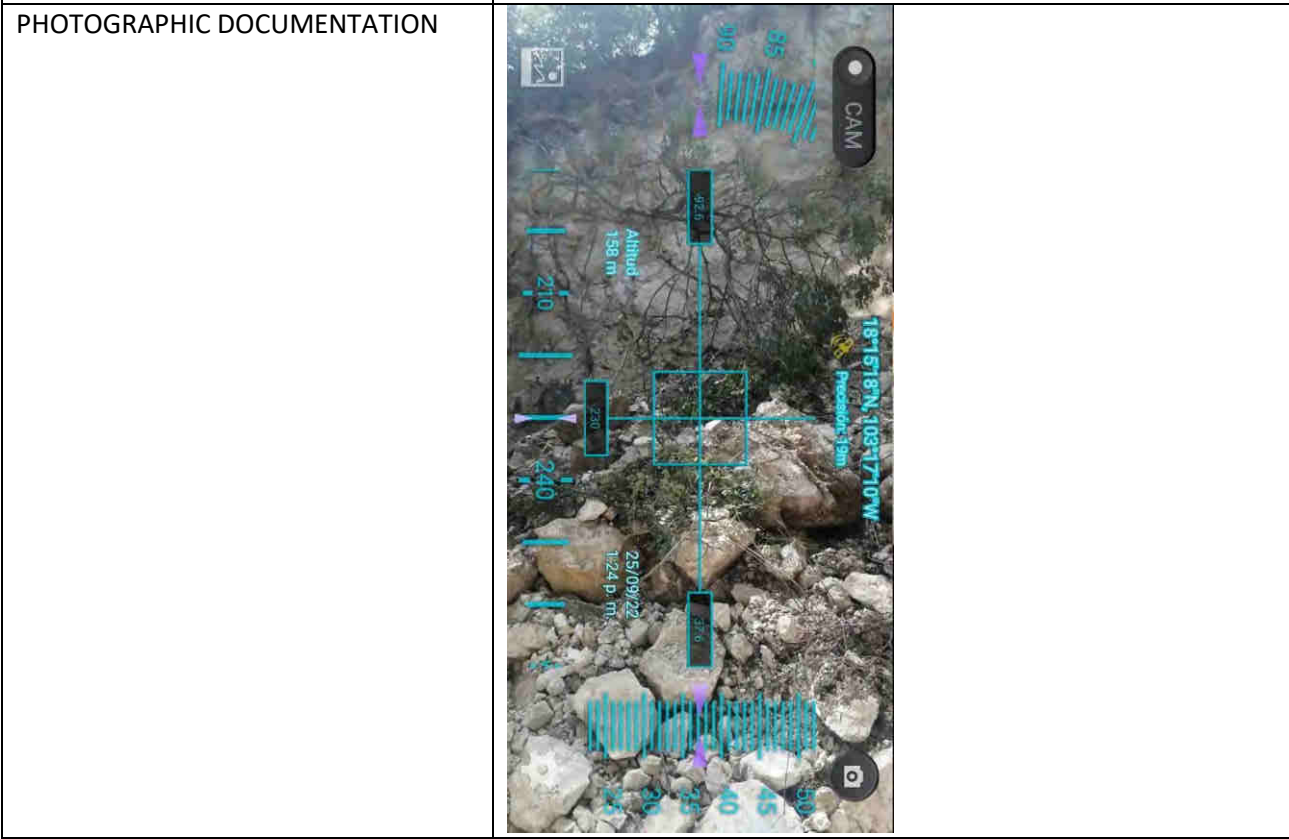
REFERENCES	
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SITE NUMBER	90
LATITUDE	18.2352778
LONGITUDE	-103.22861111111111
DISTANCE FROM EPICENTER	7
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	91
LATITUDE	18.2380556
LONGITUDE	-103.21388888888889
DISTANCE FROM EPICENTER	8
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán,
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	92
LATITUDE	18.235
LONGITUDE	-103.23027777777779
DISTANCE FROM EPICENTER	6
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	93
LATITUDE	18.255
LONGITUDE	-103.28611111111111
DISTANCE FROM EPICENTER	2
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI





REFERENCES	
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SITE NUMBER	94
LATITUDE	18.213611
LONGITUDE	-103.122222
DISTANCE FROM EPICENTER	18
CITY	Tecomán - Lazaro Cárdenas road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	95
LATITUDE	18.5641667
LONGITUDE	-103.64861111111112
DISTANCE FROM EPICENTER	52
CITY	Coahuayana-Mirador Aquila road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of $10-10^3 \text{ m}^3$
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	<p>The photograph shows a road with a slope movement monitoring system overlaid. The system includes a central crosshair, a vertical scale on the left (0-15), a vertical scale on the right (15-40), and various data points like 'Altitud 147 m', '18°56'14"N, 103°63'55"W', and '11:26 a.m.'.</p>
REFERENCES	


SITE NUMBER	96
LATITUDE	18.233056
LONGITUDE	-103.179278
DISTANCE FROM EPICENTER	12
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	97
LATITUDE	18.233111
LONGITUDE	-103.179222
DISTANCE FROM EPICENTER	12
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).

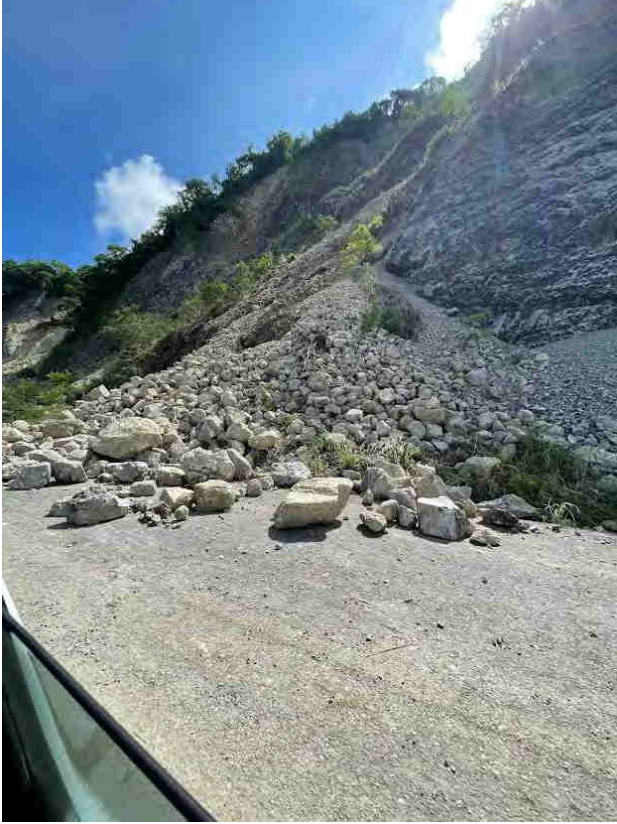
SITE NUMBER	98
LATITUDE	18.235528
LONGITUDE	-103.185778
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	99
LATITUDE	18.229528
LONGITUDE	-103.186806
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	100
LATITUDE	18.229361
LONGITUDE	-103.186972
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^5 - 10^6 m ³
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	101
LATITUDE	18.227806
LONGITUDE	-103.194361
DISTANCE FROM EPICENTER	10
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	102
LATITUDE	18.609472
LONGITUDE	-103.484222
DISTANCE FROM EPICENTER	46
CITY	Tepalcatepec – Aquila road, Colonia La Ine, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	103
LATITUDE	18.609778
LONGITUDE	-103.484111
DISTANCE FROM EPICENTER	46
CITY	Tepalcatepec – Aquila road, Colonia La Ine, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	104
LATITUDE	18.668472
LONGITUDE	-103.420889
DISTANCE FROM EPICENTER	49
CITY	Tepalcatepec – Aquila road, Huitzontla, Chinicuilá, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^3 - 10^5 m ³
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	105
LATITUDE	18.668472
LONGITUDE	-103.420889
DISTANCE FROM EPICENTER	49
CITY	Tepalcatepec – Aquila Road, Huitzontla, Chinicuila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10^5 - 10^6 m ³
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	106
LATITUDE	18.235361
LONGITUDE	-103.228889
DISTANCE FROM EPICENTER	6
CITY	Zihuatanejo – Manzanillo road, El Naranjito, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	107
LATITUDE	18.235333
LONGITUDE	-103.185500
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	108
LATITUDE	18.233222
LONGITUDE	-103.179167
DISTANCE FROM EPICENTER	12
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide and rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).

SITE NUMBER	109
LATITUDE	18.2180556
LONGITUDE	103.16777777777779
DISTANCE FROM EPICENTER	13
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	110
LATITUDE	18.235389
LONGITUDE	-103.185694
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	landslides of 10 ³ -10 ⁵ m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).

SITE NUMBER	111
LATITUDE	18.235333
LONGITUDE	-103.185472
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	landslides of 10 ³ -10 ⁵ m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	112
LATITUDE	18.229417
LONGITUDE	-103.186861
DISTANCE FROM EPICENTER	11
CITY	Zihuatanejo – Manzanillo road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	rockfall of 10-10 ³ m ³
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).


SITE NUMBER	113
LATITUDE	18.268603
LONGITUDE	-103.3475832
DISTANCE FROM EPICENTER	7
CITY	Maruata, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	The elevation reaches in this zone up to 0.94 - 1.70m; The rocks next to the "morro" were normally covered with water before the earthquake, with the earthquake the level, (6 months later, green color), was white due to the organisms that died due to desiccation. The uplift is evident in the color of the rock and in the color of the exposed algae.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

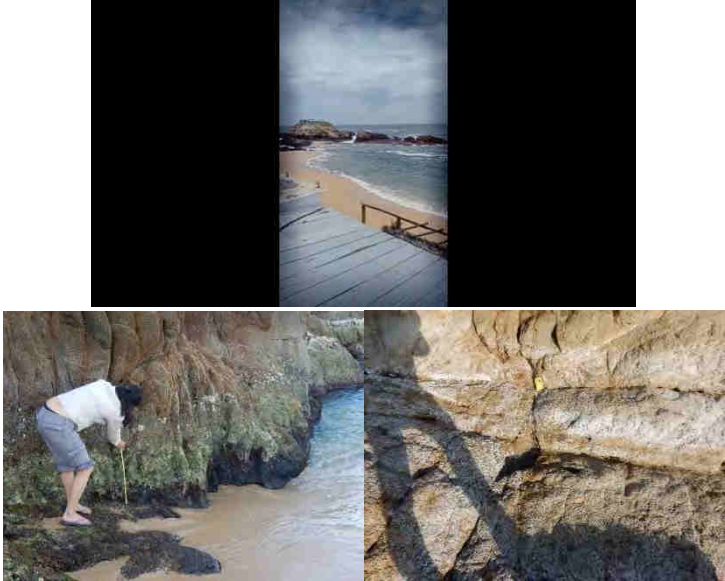
SITE NUMBER	114
LATITUDE	18.725
LONGITUDE	-103.7227777777778
DISTANCE FROM EPICENTER	70
CITY	San Miguel bridge, Tecomán – Coalcomán road, Manzanillo – Zihuatanejo, Colima
EEE TYPE	Ground cracks
EEE DESCRIPTION	Coseismic dm fractures on paved road on a bridge
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	115
LATITUDE	18.6383333
LONGITUDE	-103.66711111111111
DISTANCE FROM EPICENTER	59
CITY	Puente La Zorrillera, Coahuayana – San Telmo road, Coahuayana, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of 0 – 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	116
LATITUDE	18.6697222
LONGITUDE	-103.6816666666667
DISTANCE FROM EPICENTER	63
CITY	Ticuiz II bridge, Coahuayana – Ticuiz road, Coahuayana,, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Wide cracks in paved floor
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	First photo: local resident


SITE NUMBER	117
LATITUDE	18.6048611
LONGITUDE	-103.48380555555556
DISTANCE FROM EPICENTER	45
CITY	Tepalcatepec – Aquila road, Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	landslides of 10^5 - 10^6 m ³
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN).

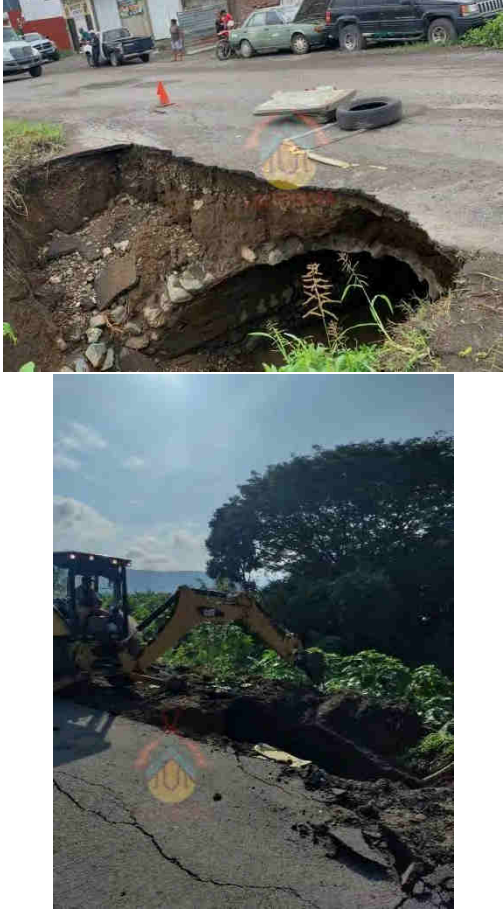
SITE NUMBER	118
LATITUDE	18.685374619093988
LONGITUDE	-103.73377952381449
DISTANCE FROM EPICENTER	68
CITY	Boca de Apiza, Coahuayana, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Liquefaction, >30 cm localized lateral spreading
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	119
LATITUDE	18.347096
LONGITUDE	-103.511218
DISTANCE FROM EPICENTER	26
CITY	Faro de Bucerias, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Tectonic uplift of 58 - 62 cm indicated by a fresh rock stratum at the base and layer of organisms exposed to desiccation from the earthquake
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	 <p>The photographic documentation consists of two images. The top image shows a view from a wooden deck overlooking a beach and the ocean under a cloudy sky. The bottom image shows a person in a white shirt and blue shorts measuring a rock stratum near a stream, with a close-up of the rock layers on the right.</p>
REFERENCES	Testimony and courtesy of lady inhabitant of El Faro de Bucerias

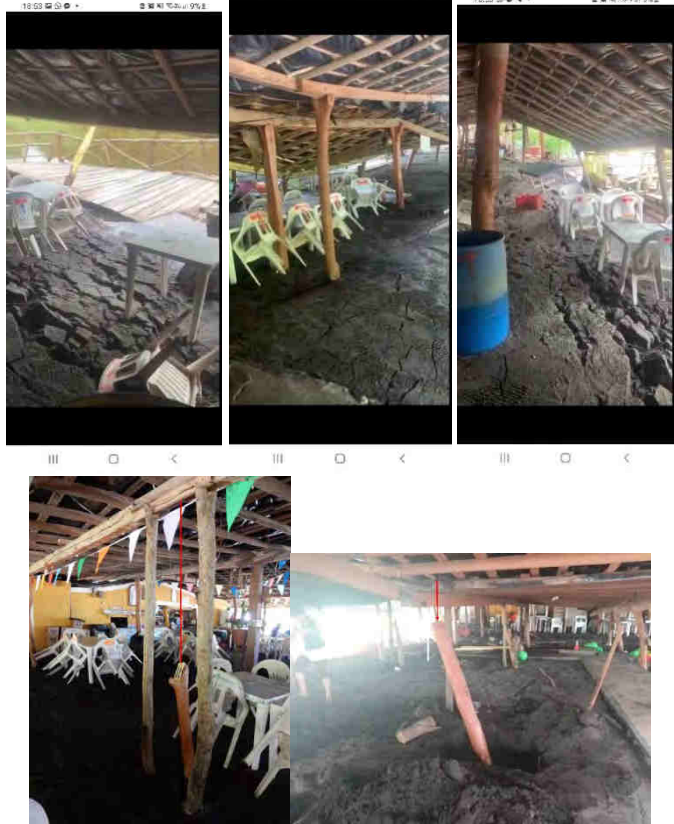
SITE NUMBER	120
LATITUDE	19.391827
LONGITUDE	-103.819687
DISTANCE FROM EPICENTER	139
CITY	Zacualpan spring, Zacualpan, Colima
EEE TYPE	Hydrogeological anomalies
EEE DESCRIPTION	variations of chemical-physical: turbidity
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	ND
REFERENCES	<u>Colima. Tras sismo, piden racionar agua ante problemas de suministro (eluniversal.com.mx)</u> <u>https://www.facebook.com/Ciapacov1/posts/pfbid02YeDHizmHa4UANpqST5785r6P9hy9NyroKDdahQhviJmnbEwAeU7PmFKxcYYBcmSI</u>


SITE NUMBER	121
LATITUDE	18.96502
LONGITUDE	-103.09393
DISTANCE FROM EPICENTER	83
CITY	El Aguacate, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Rockfall of 10-10 ³ m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/ScopMich/posts/pfbid028QZyeTa4X_XMZFYifBCjc8RNRXPK6gfqquUWk9ywKXQCovLCEuw4UUtKh4bfvBdcl


SITE NUMBER	122
LATITUDE	19.04568
LONGITUDE	-102.08593
DISTANCE FROM EPICENTER	155
CITY	Nueva Italia, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/watch/?ref=saved&v=1182513378992132

SITE NUMBER	123
LATITUDE	18.75289
LONGITUDE	-103.6612
DISTANCE FROM EPICENTER	69
CITY	Coahuayana Viejo, Coahuayana, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	>30 cm localized lateral spreading and settlements with fissuring parallel to waterfront areas
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/luciernaganoticias/posts/pfbid08r1vk8xp7Jxwm48c7Dk5XqGnqWmGZYjgBbVLFkBPq5XfPVEjNsz9RTHj jB5ks5JKI


SITE NUMBER	124
LATITUDE	18.27213
LONGITUDE	-103.34664
DISTANCE FROM EPICENTER	7
CITY	Maruata, Aquila, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	wide cracks developed in paved roads
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	https://www.facebook.com/photo?fbid=10220035825999814&set=pcb.10220035870760933

SITE NUMBER	125
LATITUDE	18.8609
LONGITUDE	-103.96
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Localized lateral spreading and settlements with height of > 30 cm, and with fissuring parallel to waterfront areas. At the time of the earthquake, the structure of the ramada sank approximately 1.5 m.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	<p>https://www.facebook.com/guadalupe.dechavez.79/posts/pfbid07kM58kK72ntWT2gCjkUvpDSPq551jNkQM2sSVcXfHJFocKa1Kn8bfcX1JrUBkXYjI</p> <p><u>Directly in field.</u> Photo of the sunken structure, courtesy of the ramada owner.</p>

SITE NUMBER	126
LATITUDE	19.35321
LONGITUDE	-103.86038
DISTANCE FROM EPICENTER	137
CITY	Comala - Campo 4 road, Comala, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	landslides of 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	http://meridianocolima.mx/reporta-comala-solo-danos-materiales-ninguna-victima-mortal-por-el-sismo/?fbclid=IwAR2mkUBM3pOvN2LHZ9lhZ6We4cfLabdN9Lf82BBElo_mMm--OEqX_I3QtZQ

SITE NUMBER	127
LATITUDE	19.34533
LONGITUDE	-103.78555
DISTANCE FROM EPICENTER	133
CITY	Comala - La Caja road, Comala, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	http://meridianocolima.mx/reporta-comala-solo-danos-materiales-ninguna-victima-mortal-por-el-sismo/?fbclid=IwAR2mkUBM3pOvN2LHZ9lhZ6We4cfLabdN9Lf82BBElo_mMm--OEqX_l3QtZQ


SITE NUMBER	128
LATITUDE	19.31898
LONGITUDE	-103.75953
DISTANCE FROM EPICENTER	129
CITY	Comala - La Becerra, Comala, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Scattered rockfall, volume of few m ³
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	ND
REFERENCES	http://meridianocolima.mx/reporta-comala-solo-danos-materiales-ninguna-victima-mortal-por-el-sismo/?fbclid=IwAR2mkUBM3pOvN2LHZ9lhZ6We4cfLabdN9Lf82BBElo_mMm--OEqX_l3QtZQ


SITE NUMBER	129
LATITUDE	19.054057
LONGITUDE	-104.316662
DISTANCE FROM EPICENTER	141
CITY	Public square Jardín Álvaro Obregón, Manzanillo, Colima
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Cracking and lateral spreading of 0 – 30 cm of heave and fissuring parallel to waterfront area
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)


SITE NUMBER	130
LATITUDE	16.80
LONGITUDE	-99.90
DISTANCE FROM EPICENTER	394
CITY	Acapulco, Guerrero
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)

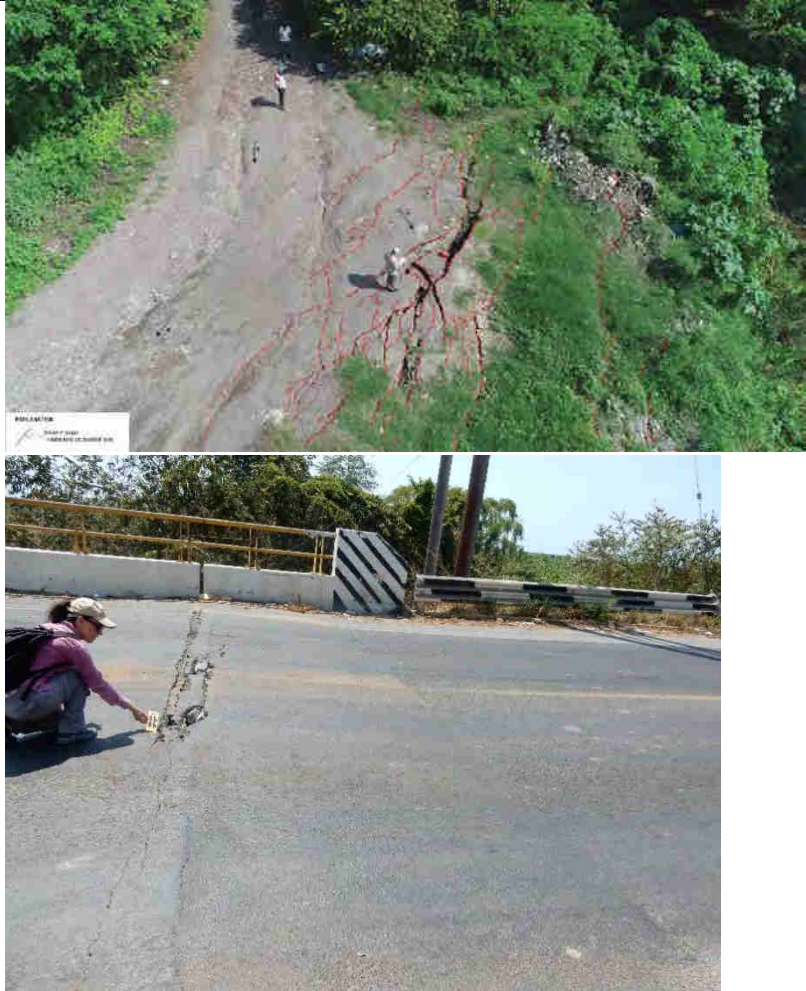
SITE NUMBER	131
LATITUDE	16.80
LONGITUDE	-99.90
DISTANCE FROM EPICENTER	1404
CITY	Isla Santa Cruz, Islas Galápagos, Ecuador
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	Anomalous waves of 0 – several tens of cm
ESI INTENSITY	V
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)






SITE NUMBER	132
LATITUDE	-0.40
LONGITUDE	-90.30
DISTANCE FROM EPICENTER	2535
CITY	Isla Baltra, Islas Galápagos, Ecuador
EEE TYPE	Anomalous waves and tsunamis
EEE DESCRIPTION	seiches of 0 – few cm in closed basins
ESI INTENSITY	IV
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)

SITE NUMBER	133
LATITUDE	18.9488
LONGITUDE	-103.1099
DISTANCE FROM EPICENTER	81
CITY	Coalcomán-Villa Victoria road, Coalcomán de Vázquez Pallares, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Stone of > 1 m diameter detached from slope and move away for long distance
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)


SITE NUMBER	134
LATITUDE	19.2377
LONGITUDE	-103.7740
DISTANCE FROM EPICENTER	122
CITY	Colima, Colima
EEE TYPE	Slope movement
EEE DESCRIPTION	Landslide 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)


SITE NUMBER	135
LATITUDE	18.9347
LONGITUDE	-103.9432
DISTANCE FROM EPICENTER	103
CITY	Colima-Tecomán road, Puente Armería, Colima
EEE TYPE	Ground cracks
EEE DESCRIPTION	Dm cracks in paved roads
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	AQUILA, MICHOACÁN, MEXICO SEPTEMBER 19, 2022, Mw 7.6 EARTHQUAKE PRELIMINARY VIRTUAL RECONNAISSANCE REPORT (PVRR)

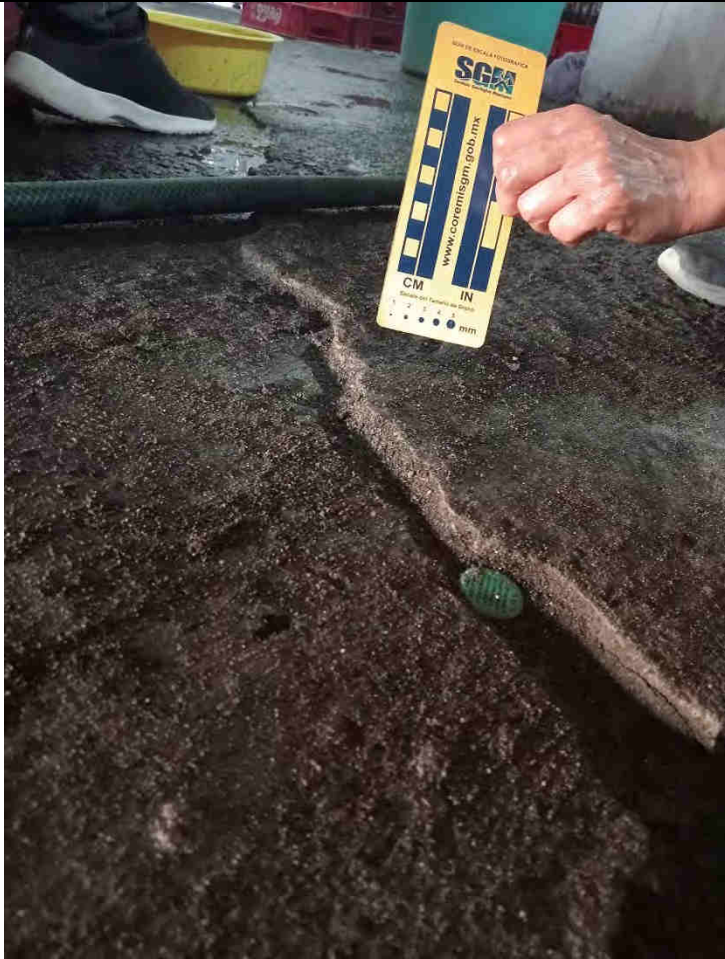
SITE NUMBER	136
LATITUDE	18.7177684
LONGITUDE	-103.716589
DISTANCE FROM EPICENTER	69
CITY	La Zapotera, Colima
EEE TYPE	Lateral spreading and ground cracks
EEE DESCRIPTION	Lateral spread and fractures up to 67 cm wide and several meters in length. Ground crack also on the pavement road.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	 <p>The top photograph shows a dirt road with a large, branching crack that has been marked with red spray paint. A person is visible in the distance on the road. The bottom photograph shows a person kneeling on a paved road, measuring a crack in the pavement. A guardrail and trees are visible in the background.</p>
REFERENCES	Geotechnical Extreme Events Reconnaissance (GEER) Association, report.

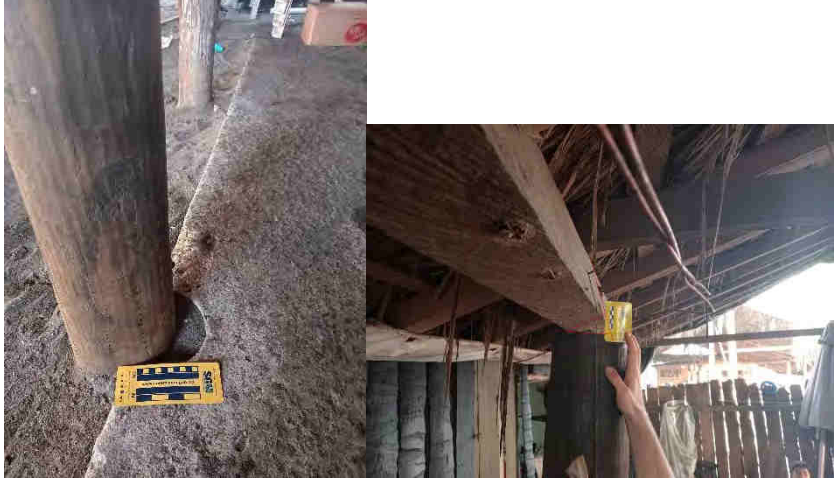
SITE NUMBER	137
LATITUDE	18.717472
LONGITUDE	-103.716876
DISTANCE FROM EPICENTER	69
CITY	La Zapotera, Colima
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Mud ejection, formation of sand volcanoes and lateral spread a few meters away from the river
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	    

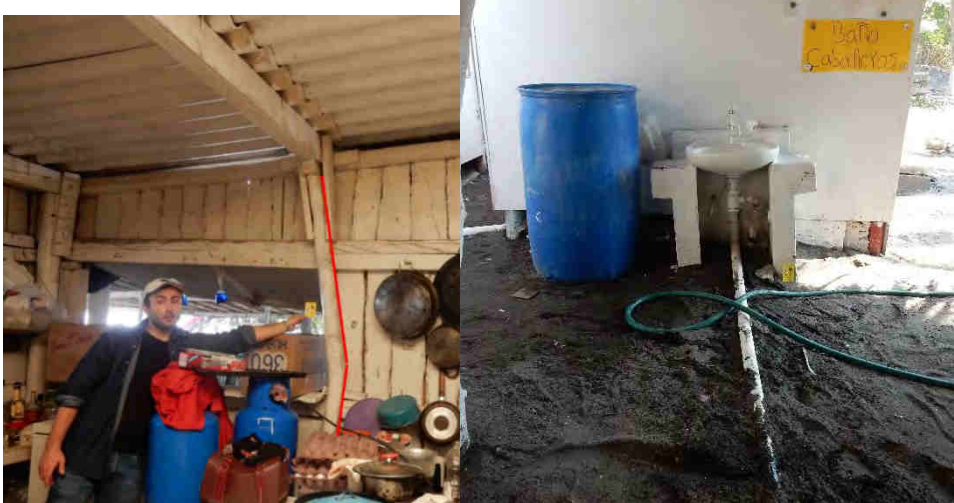
REFERENCES	Geotechnical Extreme Events Reconnaissance (GEER) Association. 2022. Geological and geotechnical engineering reconnaissance of the september 19, 2022, Michoacan earthquake, Mexico. GEER - 078 doi:10.18118/G6B95P
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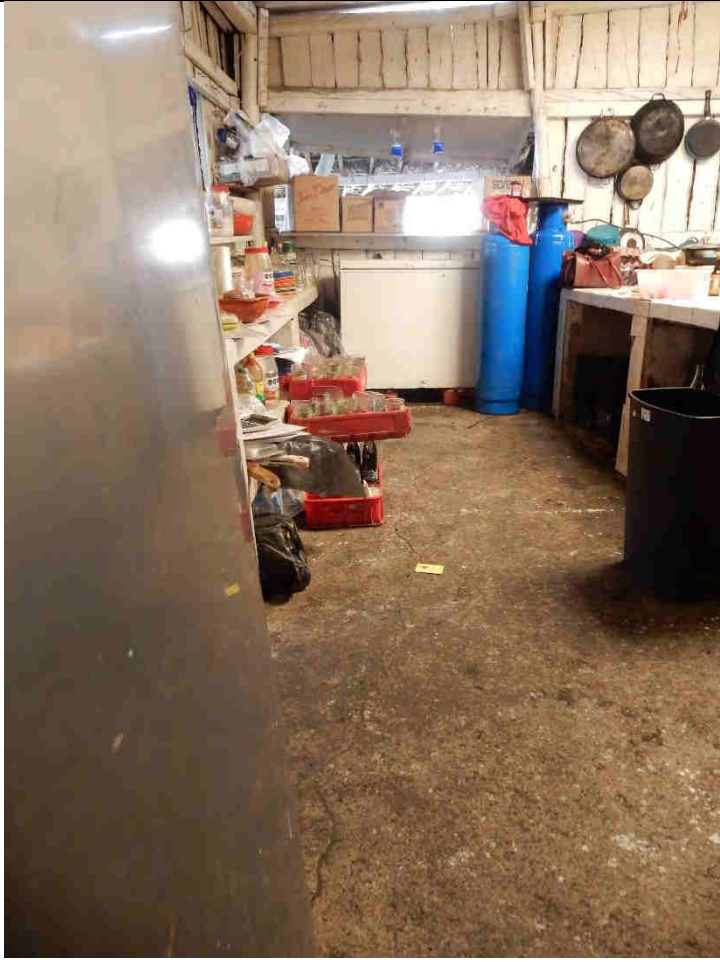
SITE NUMBER	138
LATITUDE	18.41615
LONGITUDE	-103.532373
DISTANCE FROM EPICENTER	32
CITY	Ixtapilla
EEE TYPE	Liquefaction processes.
EEE DESCRIPTION	Sand volcanoes in a riverbed levee near Ixtapilla, Michoacan. "The sand was ejected from points along a linear natural levee and buried nearby vegetation. There were over a dozen sand boils total, all with similar volumes of ejecta (<1 cubic meter). Fissures were evident near the sand boils but no ejecta from the fissures was observed" (Geer report, 2022).
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Geotechnical Extreme Events Reconnaissance (GEER) Association. 2022. Geological and geotechnical engineering reconnaissance of the september 19, 2022, Michoacan earthquake, Mexico. GEER - 078 doi:10.18118/G6B95P


SITE NUMBER	139
LATITUDE	18.589306
LONGITUDE	-103.508933
DISTANCE FROM EPICENTER	45
CITY	Aquila, Michoacán
EEE TYPE	Slope movements
EEE DESCRIPTION	Landslide 10^3 - 10^5 m ³
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Courtesy of Ing. Antonio de J. Mendoza C. (SSN)

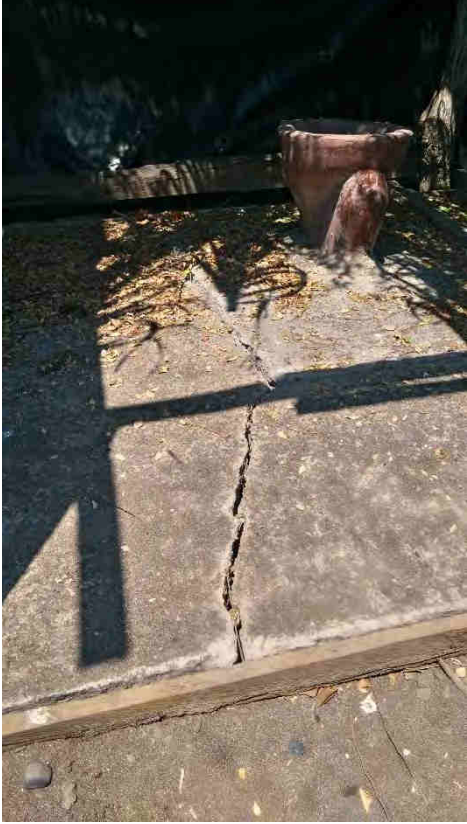
SITE NUMBER	140
LATITUDE	18.859297621
LONGITUDE	-103.96419881
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in natural soil (beach sand) and pavement. The cracks reach up to 2 meters in length and up to 3 cm in width.
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	141
LATITUDE	18.859297
LONGITUDE	-103.964198
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Liquefaction in beach sand caused the movement of the structure supported by wooden posts. These moved 7-8 cm laterally and 4-5 cm vertically.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	142
LATITUDE	18.8596505
LONGITUDE	-103.964273
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Liquefaction process produced ejection of water and sand and caused the destabilization of structures such as palm and wood constructions, concrete, swimming pools.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	143
LATITUDE	18.8596505
LONGITUDE	-103.964273
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in natural soil (beach sand) and pavement. The cracks reach up to 5 meters in length and up to 3 cm in width.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	144
LATITUDE	18.8598772
LONGITUDE	-103.964414
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	At the base of the light pole there was ejection of water and sand that caused the pole to tilt. 48 meters away from the river.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	145
LATITUDE	18.6875407
LONGITUDE	-103.738985
DISTANCE FROM EPICENTER	69
CITY	Boca de Apiza, Colima
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in beach sand and pavement along the beach and on the road near the river about 2m in length
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	146
LATITUDE	18.6943013
LONGITUDE	-103.74325
DISTANCE FROM EPICENTER	69
CITY	Boca de Apiza, Colima
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks along the beach and on the road near the river about 2m in length
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	147
LATITUDE	18.6854462
LONGITUDE	-103.736583
DISTANCE FROM EPICENTER	68
CITY	Boca de Apiza, Coahuayana, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	The estuary has dried up, the elevation is about 50 cm.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	148
LATITUDE	18.6854462
LONGITUDE	-103.736583
DISTANCE FROM EPICENTER	68
CITY	Boca de Apiza, Coahuayana, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	With coseismic uplift, a crack opened on the limit between what was the estuary and the populated area. The crack was more than 1 meter deep and people have filled it in with rocks and waste material.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	149
LATITUDE	18.5863214
LONGITUDE	-103.679057
DISTANCE FROM EPICENTER	56
CITY	San Juan de Alima, Michoacán
EEE TYPE	Liquefaction
EEE DESCRIPTION	The natural soil near the river (10m aprox.), suffered liquefaction, which also caused the collapse of structures
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	150
LATITUDE	18.5863214
LONGITUDE	-103.679057
DISTANCE FROM EPICENTER	56
CITY	San Juan de Alima, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Riverside cracks several meters long and less than 10cm deep and 10-25cm wide, occurred in natural soil and pavement. The cracks produced fractures in structures such as roads and houses.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	 <p>The photographic documentation consists of two side-by-side photographs. The left photograph shows a dirt path with a visible crack in the soil. A person wearing a red jacket and grey pants is walking on the path. The right photograph shows a concrete structure, possibly a well or a small bridge, with a crack in the concrete. A person wearing a red jacket and grey pants is standing next to the structure.</p>
REFERENCES	

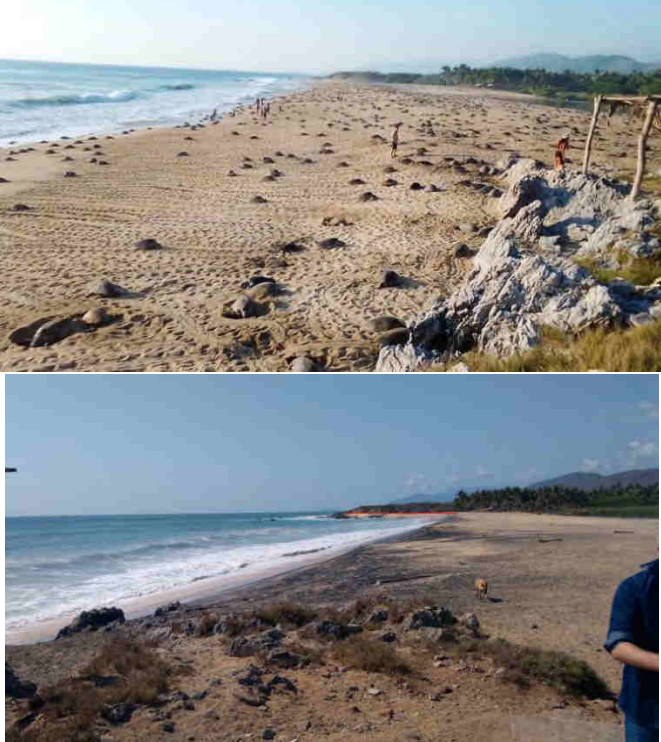
SITE NUMBER	151
LATITUDE	18.5886254
LONGITUDE	-103.682896
DISTANCE FROM EPICENTER	57
CITY	San Juan de Alima, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Liquefaction in natural soil caused damage and destabilization in artificial structures, such as several fallen walls. On this site, caused a light pole to tilt.
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	152
LATITUDE	18.5886254
LONGITUDE	-103.682896
DISTANCE FROM EPICENTER	57
CITY	San Juan de Alima, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks 1-2m long and less than 5cm, occurred in natural soil and pavement road.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	153
LATITUDE	18.558904
LONGITUDE	-103.641948
DISTANCE FROM EPICENTER	51
CITY	Las Brisas, Michoacán
EEE TYPE	Rockfalls
EEE DESCRIPTION	Blocks of varied diameter that reaches up to 3m, with material falling on an unstable slope, on the cliff.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	 A photograph showing a steep, eroded cliff face composed of reddish-brown soil and large, angular rock blocks. A white marker is placed on a rock in the foreground. Sparse vegetation is visible on the cliff top, and a palm tree trunk is on the right side of the frame.
REFERENCES	

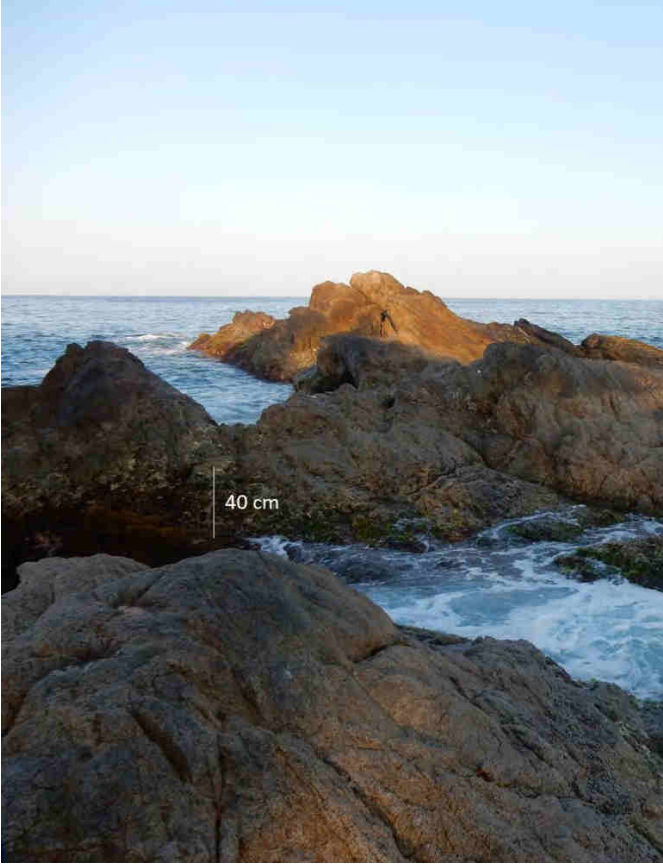
SITE NUMBER	154
LATITUDE	18.5258
LONGITUDE	-103.60178
DISTANCE FROM EPICENTER	46
CITY	La Placita, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	The coastline is 59 cm lower from the earthquake. “15 - 30 minutes after the earthquake the sea entered approximately 80 m inland, the day after the earthquake, it returned but only 30 m and during the following 4 days, it was totally returning, in fact more than normal; From then on, the sea, even at high tide, does not reach as far as it did before the earthquake” (testimony of residents of La Placita).
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	 <p>The photographs show a wide, sandy beach with a red dashed line and a black line drawn across it. In the background, there are palm trees, a small building, and mountains under a blue sky with white clouds. A scale bar in the bottom right of the second photo indicates 1.00 cm.</p>
REFERENCES	Video available of the moment after the earthquake, courtesy of a resident of the place


SITE NUMBER	155
LATITUDE	18.525819
LONGITUDE	-103.6017809
DISTANCE FROM EPICENTER	46
CITY	La Placita, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in the natural sandy soil of about 4 m in length parallel to the coastline.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	156
LATITUDE	18.413399
LONGITUDE	-103.533096
DISTANCE FROM EPICENTER	32
CITY	Ixtapilla, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Tectonic uplift of 50 cm approx. The coastline currently marks a step from the earthquake. According to testimonies from the inhabitants "the sea moved several meters inland with the earthquake".
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	<p>First photo: https://www.facebook.com/photo?fbid=3684030124992542&set=pcb.3684030731659148</p>


SITE NUMBER	157
LATITUDE	18.413399
LONGITUDE	-103.533096
DISTANCE FROM EPICENTER	32
CITY	Ixtapilla, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in the natural sand soil parallel to the coastline, along the entire beach, which were erased by the arrival of turtles.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	Not available
REFERENCES	


SITE NUMBER	158
LATITUDE	18.402852
LONGITUDE	-103.529276
DISTANCE FROM EPICENTER	31
CITY	Majahuita, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	64-69 cm layer with organisms now white due to death by desiccation.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	 <p>The top photograph shows a person in blue jeans and a red tool measuring a rocky area near the ocean. The bottom photograph is a close-up of the rocky surface with a yellow measuring tape.</p>
REFERENCES	


SITE NUMBER	159
LATITUDE	18.355478
LONGITUDE	-103.513137
DISTANCE FROM EPICENTER	27
CITY	La Manzanillera, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Tectonic uplift that is observable by a stratum, white color from 40 to 50 cm of organisms exposed to desiccation
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	160
LATITUDE	18.355478
LONGITUDE	-103.513137
DISTANCE FROM EPICENTER	27
CITY	La Manzanillera, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks in natural beach sandy soil and paved structures, up to 5 cm wide.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	161
LATITUDE	18.347882
LONGITUDE	-103.508916
DISTANCE FROM EPICENTER	26
CITY	Motín-Colola bridge, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	The destabilization of the bridge caused cracks and openings along its length in its paved floor.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	162
LATITUDE	18.278983
LONGITUDE	-103.353613
DISTANCE FROM EPICENTER	8
CITY	Colola-Maruata bridge, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	The destabilization of the bridge caused cracks along its length in its paved floor and lateral movement of its different parts.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	163
LATITUDE	18.297000
LONGITUDE	-103.408051
DISTANCE FROM EPICENTER	14
CITY	Colola bridge, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks along the bridge and destabilization of the structure.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	164
LATITUDE	18.292719
LONGITUDE	-103.409405
DISTANCE FROM EPICENTER	14
CITY	Colola, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Uplift of 0.65m, evident by the layer of organisms that suffered desiccation. 6 months later, the inhabitants of the town comment that "the sea has been covered" and now there is more beach.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	165
LATITUDE	18.292719
LONGITUDE	-103.409405
DISTANCE FROM EPICENTER	14
CITY	Colola, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	The earthquake produced cracks along the entire beach, parallel to the coastline.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	Not available
REFERENCES	

SITE NUMBER	166
LATITUDE	18.292719
LONGITUDE	-103.409405
DISTANCE FROM EPICENTER	21
CITY	Colola, Michoacán
EEE TYPE	Rockfalls
EEE DESCRIPTION	Rockfall and loose material in small volumes, on the cliffs of the beach.
ESI INTENSITY	VI
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	167
LATITUDE	18.329526
LONGITUDE	-103.466289
DISTANCE FROM EPICENTER	21
CITY	Motín del Oro, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Ground cracks on the roofing Fractures and cracks in the concrete floor ranging from 2 to 3m in length, with .5 to 2cm in width.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	168
LATITUDE	18.322157
LONGITUDE	-103.4712
DISTANCE FROM EPICENTER	21
CITY	Motín del Oro, Michoacán
EEE TYPE	Hydrogeological anomalies
EEE DESCRIPTION	2 of 3 springs dried up and a new one appeared. The lagoon dried up. The water level in the lagoon was about 2m deep before the earthquake. Formation of cracks 15 - 20 cm wide and up to 10 m long. It is about 1mm diameter beach sand.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	169
LATITUDE	18.3213619
LONGITUDE	-103.4701079
DISTANCE FROM EPICENTER	21
CITY	Motín del Oro, Michoacán
EEE TYPE	Liquefaction processes
EEE DESCRIPTION	Formation of a sand volcano of 1m in diameter approx. and ejection of fresh water and sand near the lagoon that dried up from the earthquake.
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	


SITE NUMBER	170
LATITUDE	18.322191
LONGITUDE	-103.474452
DISTANCE FROM EPICENTER	22
CITY	Motín del Oro, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Ladder-like cracks along the entire length of the beach, and parallel to the shoreline, as Mezcala site, which were soon erased by the arrival of turtles
ESI INTENSITY	IX
PHOTOGRAPHIC DOCUMENTATION	Not available
REFERENCES	


SITE NUMBER	171
LATITUDE	18.322191
LONGITUDE	-103.474452
DISTANCE FROM EPICENTER	22
CITY	Motín del Oro, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	Uplift evidenced by rocks before the earthquake, always covered by water; the rocks closest to the beach show a white level (green covered by algae 6 months later), 83 cm, of organisms exposed to desiccation from the earthquake.
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	172
LATITUDE	18.322191
LONGITUDE	-103.474452
DISTANCE FROM EPICENTER	22
CITY	Motín del Oro, Michoacán
EEE TYPE	Landslides and rockfalls
EEE DESCRIPTION	Landslides and falls of rocks and material from the coastal cliff, from small volumes up to 10^5 m^3
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	173
LATITUDE	18.3213619
LONGITUDE	-103.4701079
DISTANCE FROM EPICENTER	21
CITY	San Telmo, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Cracks that cross the paved and paved street of approximately 4 meters long and up to 5 cm wide.
ESI INTENSITY	VII
PHOTOGRAPHIC DOCUMENTATION	 <p>The photograph shows a street scene with a prominent crack running across a paved area. The street is composed of concrete slabs and sections of cobblestone paving. In the background, there is a sign for 'RAMADA LAS PALMAS' and some trees. The crack is approximately 4 meters long and up to 5 cm wide, as described in the text.</p>
REFERENCES	

SITE NUMBER	174
LATITUDE	18.3213619
LONGITUDE	-103.4701079
DISTANCE FROM EPICENTER	21
CITY	San Telmo, Michoacán
EEE TYPE	Tectonic uplift
EEE DESCRIPTION	<p>Uplift of 66 - 68 cm evidenced by stratum with white colored organisms due to exposure to desiccation after the earthquake.</p> <p>According to residents, at the time of the earthquake, a sound like a "great waterfall" was heard and waves were seen on the ground. "Since then, the sea level has dropped, before there was not so much beach."</p>
ESI INTENSITY	X
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	

SITE NUMBER	175
LATITUDE	18.624414
LONGITUDE	-103.685008
DISTANCE FROM EPICENTER	60
CITY	Chocoquillo bridge, Coahuayana, Michoacán
EEE TYPE	Ground cracks
EEE DESCRIPTION	Ground cracks in the pavement path traversing the entire width of the road, with displacement of the bridge structure
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	 <p>Photos taken six months after the earthquake</p>
REFERENCES	

SITE NUMBER	176
LATITUDE	18.8609168
LONGITUDE	-103.966097
DISTANCE FROM EPICENTER	99
CITY	Tecomán, Colima (Boca de Pascuales)
EEE TYPE	Ground cracks
EEE DESCRIPTION	Crack on natural soil with 2-4m in length
ESI INTENSITY	VIII
PHOTOGRAPHIC DOCUMENTATION	
REFERENCES	Photos, courtesy of the ramada owner