

Our SOURCES

- 1) <https://en.armradio.am>
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- 5) Getty Images: Mohammed Al-Rifai/AFP, Anas Alkharboutli, Aydin Arik/Anadolu Agency, Aaref Watad/AFP, AFP via Getty Images,
- 6) <https://kazibaonline.com>
- 7) The New York Times: <https://www.nytimes.com/>
- 8) <https://en.as.com>
- 9) Shutterstock: Ymphotos/Shutterstock
- 10) <https://www.rescue.org>
- 11) USGS website: www.usgs.gov
- 12) Twitter: @PAOK_FC, The_Georgios
- 13) The Guardian

Data and resources from internet

- Ground motion records AFAD: <https://tadas.afad.gov.tr/list-waveform> (last accessed 18/02/2023 01:20 UTC).
 - EPOS earthquake data: <https://seismicportal.eu/> (last accessed 23/02/2023 7:00 UTC).
 - ShakeMap data: <https://earthquake.usgs.gov/earthquakes/map/> (last accessed 16/03/2023 11:00 UTC).
 - Probabilistic seismic hazard data: <http://hazard.efehr.org/en/hazard-data-access/hazard-maps/> (last accessed 15/03/2023 17:00 UTC).
 - ESM Ground motion records: <https://esm-db.eu/> (last accessed 07/02/2023).
 - Preliminary finite fault geometry from the USGS, (last accessed 08/02/2023 00:26:44 UTC): <https://earthquake.usgs.gov/earthquakes/eventpage/us6000jllz/finite-fault>
- The data used for the preparation of the various sections of the present report can be found as supplemental material to this report on the ResearchGate page of this report or can be asked to the corresponding author.
- AFAD (2023) <https://en.afad.gov.tr/>
 - <https://en.wikipedia.org/wiki/Pendulum>
 - <https://www.theguardian.com/global-development/2023/aug/06/the-illegality-of-this-is-enormous-will-Türkiyes-earthquake-cleanup-cause-even-more-death>

Data Providers

- Landsamt für Geologie, Rohstoffe und Bergbau -- Freiburg, Germany (LED)
- Geoscience Australia, Canberra, ACT, Australia -- Canberra, Australia (AUST)
- Rede Sismografica Brasileira -- Sao Paulo, Brazil (RSBR)
- Seismological Survey of Serbia -- Belgrade, Serbia (SSS)
- GeoForschungsZentrum (GFZ) -- Potsdam, Germany (GFZ)
- Republican Seismic Survey Center or Azerbaijan National Academy of Sciences -- Baku, Azerbaijan (RSSC)
- Instituto Portugues do Mar e da Atmosfera -- Lisbon, Portugal (IPMA)

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- Bundesanstalt für Geowissenschaften und Rohstoffe, German Regional Seismograph Network -- Hannover, Germany (BGR)
 - National Earthquake Information Center, U.S. Geological Survey -- Golden, United States (NEIC)
 - Disaster and Emergency Management Presidency, Earthquake Department (AFAD) -- Ankara, Türkiye (AFAD)
 - Universidad de Panama -- Panama, Panama (IGC)
 - Agencija Republike Slovenije za okolje, Seismological Office -- Ljubljana, Slovenia (LJU)
 - Instituto Geografico Nacional -- Madrid, Spain (IGN)
 - National Institute for Earth Physics -- Bucharest, Romania (NIEP)
 - Ukrainian NDC, Main Center of Special Monitoring -- Kyiv, Ukraine (MCSM)
 - Korean Meteorological Administration -- Seoul, Korea, Republic of (SEO)
 - ELKH EPSS Kovesligetyh rado Seismological Observatory -- Budapest, Hungary (BUD)
 - Institut National de Meteorologie -- Tunis, Tunisia (INMT)
 - Badan Meteorologi, Klimatologi dan Geofisika -- Jakarta, Indonesia (BMKG)
 - Aristotle University of Thessaloniki, Department of Geophysics -- Thessaloniki, Greece (THE)
 - Geophysical Survey of the Russian Academy of Sciences -- Obninsk, Russia (GSRAS)
 - Kandilli Observatory and Earthquake Research Institute -- Istanbul, Türkiye (KOERI)
 - Istituto Nazionale di Geofisica e Vulcanologia -- Rome, Italy (INGV)
 - Geophysical Survey of the Russian Academy of Sciences -- Obninsk, Russia (GSRAS)
 - Ministry of Interior MAKİS -- Türkiye

ANNEX – Video-camera information on oscillating objects (EMSC 2023)

City	Dist (km)	Phenomenon	Type of place	oscillation	PGA (m/s ²)
Gazientep-T 04:20:26	15	Biblots out of shelves	1st floor		1
Syria- Azaz	65	build mid blockcollap-minaret not			1,5
Syria-Alepo	106	build at corner collap; minaret collap			1,5
Hatay T	114	airport runway crashed	floor		3
Syria- Idlib	143	Hospital 1 m gas-canister		shakes, no fall	0,6
Atakent- T	153	build collapse	8 stories		1,5
Sanliurfa T	157	build collapse 13:24	7 stories	damage Gfloor	1,5
Syria -Saraqib	159	Iron Heater		shakes a little	0,4
Ensentepe T	165	partial buil collapse			1,2
Syria	165	landslide			1,8
Talas T	216	Lamp		very small angle	0,2
Keyseri T	223	small lamp		small angle	0,4
Kizkalesi T	274	overturn 2m pole		overturn	0,6
Diyarbakir-T	291	build collapse	10 stories		2
Tasucu T	298	small Lamp		small angle	0,3
Lebanon - Halbet	322	curtains & hanging object		shake	0,3
Leonarisso Cyprus	325	old lamp	small town	moderate angle	0,4
Trikomo Cyprus	355	complex small lamp	small town	large angle	0,7
Dirineia Cyprus	365	bottles wine		ratling	0,2
Paralimni Cyprus	366	3 m swimming water		inundation	1
Beyrut Lebanon	391	shell supermark		goods fall to floor	0,6
Larnaka Cyprus	399	large lamp		small angle	0,4
Nicosia Cyprus	401	several bulky lamps	10 stories	moderate angle	0,4
Damascus -S	412	Drink water jar		slight	0,3
Ordu T	429	60 cm lamp	4 stories	moderate-large	0,6
Manavgat T	504	old lamp	8 stories	moderate angle	0,4
Simele District Iraque	520	several bulky lamps		moderate-large	0,8
Elyakhin Israel	564	small lamps		large angle	0,9
Israel	564	many small lamps		large angle	0,8
Al Fuhay-Jordan	585	old lamp	small town		0,5
Herzliya Israel	592	lamps bar		small angle	0,5
Holon Israel	610	long lamp &water buckle		w-3Hz	0,3
Holon Israel	619	many sphere lamps		small rattling	0,3
Batumi Giorgia	631	small lamp	15 stories	very small angle	0,2
Ashod-Israel	637	hanging rod		slight-small angle	0,2

T-Türkiye; S-Syria; Distance to Epi 1st earthquake.

Video References

Drones

- 01- <https://www.youtube.com/watch?v=wjJ31yDlSuk> Türkiye and Syria earthquake: Drone footage reveals extent of devastation, BBC URDU
- 02- https://www.youtube.com/shorts/re_5ykjSpKE Drone captures scale of earthquake devastation one month on. #Shorts #Türkiye #BBCNews, BBC News
- 03- <https://www.youtube.com/watch?v=xqMUNOUVq-w> Drone footage shows devastation in Türkiye following TWO earthquakes in 24 hours, The Sun
- 04- <https://www.youtube.com/watch?v=62Er2qBnChw> Drone shows devastation in Hatay province of Türkiye after powerful earthquakes, No Comment TV
- 05- <https://www.youtube.com/watch?v=Gn4Dm6CR6XE&authuser=0> Aerial footage shows earthquake aftermath in hard-hit Turkish region of Hatay, The Guardian
- 06- <https://www.youtube.com/watch?v=GJDjEEvxi0E&authuser=0> Before and after drone footage shows extent of devastation in quakes-hit Türkiye, The Guardian

Video Cameras

- 07a - <https://www.youtube.com/watch?v=EttklMIxtUM> 23:37 min night “Earthquake Compilations”Compilation 1- Magnitude 7.8 Earthquake in Türkiye & Syria Feb. 6, 2023 / Gaziantep deprem anı
- 07b- <https://youtu.be/ysOycyDKuP0?si=gHWSbjxiexJwVF1j> 35:14
Earthquake Compilations Magnitude 7.8 & 7.5 Earthquakes in Türkiye Part 7
- 07c- <https://m.youtube.com/watch?v=FZex65lq4jM>. Depremde Yıkılan Cami Minaresinin Altında Kalan 1 Kişi Hayatını Kaybetti. Haber Global (2:37)
- 08- <https://m.youtube.com/watch?v=fzex65lq4jm> Kahramanmaraş'taki ilk depremin yeni görüntüleri ortaya çıktı.NTV K. Maras
- 09a- <https://www.youtube.com/watch?v=2b4jT8VzuVw> P-S wave 6 Subat 2023 kotyora
- 09b- <https://www.youtube.com/watch?v=j5eDtfAseSI> <https://www.youtube.com/watch?v=j5eDtfAseSIP-S> Waves Guvenlik Kameronasından Deprem

Buildings

- 10a- <https://www.youtube.com/shorts/mQ1kkmsTwVI> sanli urfa deprem collapse building
- 10b- <https://www.youtube.com/shorts/H0WCD61JnfM> Buildings collapse following powerful #earthquakes in #Türkiye and #Syria, NBC News
- 11- <https://www.youtube.com/shorts/PwhElwbnyMc> Moment building collapses in Türkiye as rescuers continue earthquake searches, The Telegraph
- 12- https://www.youtube.com/shorts/w_H-evgTkOw Collapse of building.Powerful Earthquake in Türkiye and Syria-BOL News
- 13- <https://youtu.be/buLMbZh5rI?t=30> Buildings collapse after Türkiye earthquake
Associated Press
- 14- <https://www.youtube.com/watch?v=PLUOSECI1wUC> Collapse mid blocky2scom Malatyada 6 katli binanınçokme
Lotus News

Industrial facilities

15- <https://www.youtube.com/watch?v=cVtmUxI-4As> Earthquake In Factory!, Turkiye Earthquake Video
Fault rupture

16- https://www.youtube.com/watch?v=Wf-Vwabh_t4 Drone footage shows olive field split in HALF by huge fault line after Southern Türkiye earthquakes, The Sun

17- <https://www.youtube.com/watch?v=liDvo-xTinY> Earthquake creates massive chasm - ITV News

Monuments

18- https://static3.emsc.eu/Files/gallery/QUEST/1218444/1218444_20230228190356_17.mp4 Syrian Arab Rep Dist
EPi 105km– Collapse of minaret

19- <https://www.youtube.com/watch?v=OrPUf7SO3h4> Habib-i Neccar Mosque, one of the first mosques in Anatolia, was destroyed in the earthquake, WONDER WORLD

20- <https://www.youtube.com/watch?v=Axl6krEprQ> Ancient Mosque & Heritage Church Destroyed In Türkiye After Earthquake | Before & After, India Today 13

Hospitals

21a- <https://www.youtube.com/watch?v=cyBEGb-3iVI> Hospital Corridor, Ulusal Kanal

21b- <https://www.youtube.com/watch?v=g54nLBH9ooM> Gaziantep Hospital to stop the baby incubators falling over-
Imam Adubofour

22- <https://lnkd.in/gYqFqb6a> – Taiwan Matsuzawa Base Isolation Co., Ltd. (Accessed through Anastasios Sextos)

Videos EMSC (2023) Images

- 1  Al Fuhays Jordan 585 km epi 1218444_20230206022734_21
- 2  Ashdod Israel 637 km epi 1218444_20230206024031_34
- 3  Atakent Turkey 153 km epi 1218444_20230206080900_63
- 4  Atakent Turkey 153 km epi Building collapses during earthquake aftershock in Turkey
- 5  Atakent Turkey 153 km epi Şanlıurfa'da deprem sonrası ağır hasar gören bir bina yıkıldı
- 6  Batumi Georgia 631 km epi 1218444_20230206055746_37
- 7  Damascus Syria 412 km epi 1218444_20230206121452_24
- 8  Deryneia Cyprus 365 km epi 1218444_20230206020019_81
- 9  Elyakhin Israel 564 km epi 1218444_20230206092209_56
- 10  Herzliya Israel 592 km epi 1218444_20230207202210_54
- 11  Holon Israel 610 km epi 1218444_20230206015047_58
- 12  Holon Israel 610 km epi 1218444_20230206054024_1
- 13  Kayseri Turkey 223 km epi 1218444_20230206012414_72
- 14  Kizkalesi Turkey 274 km epi 1218444_20230206025925_33
- 15  Larnaca Cyprus 399 km epi 1218444_20230206024116_70
- 16  Lebanon 322 km epi 1218444_20230209023317_32
- 17  Leonárisso Cyprus 325 km epi 1218444_20230206015644_57
- 18  Manavgat Turkey 504 km epi 1218444_20230206034548_62 (1)
- 19  Nicosia Cyprus 401 km epi 1218444_20230206013334_93
- 20  Ordu Turkey 429 km epi 1218444_20230206090219_67
- 21  Paralimni Cyprus 366 km epi 1218444_20230206020132_2
- 22  Ra'sBayrut Lebanon 391 km epi 1218444_20230206030338_30
- 23  Simele District Iraq 520 km epi 1218444_20230206021818_65
- 24  Syria 65 km epi 1218444_20230208120009_93
- 25  Syria 106 km epi 1218444_20230220071710_96
- 26  syria 412 km epi
- 27  syria 412 km epi
- 28  Talas Turkey 216 km epi 1218444_20230219182908_20
- 29  Tasucu Turkey 298 km epi 1218444_20230206033052_30
- 30  Trikomo 355 km epi 1218444_20230206021444_23

A few Acronyms not explained in the text:

AFAD- Turkish Disaster and Emergency Management Authority

AFPS- Association Française de Génie Parasismique

AI- Artificial Intelligence

APA- American Psychological Association (Style for references)

DAS- Distributed Acoustic Sensing

DYFI- Did You Feel It

EEFIT- Earthquake Engineering Field Investigation Team

EERI- Earthquake Engineering Research Institute

EMSC- Euro-Mediterranean Seismological Centre

ESA- European Space Agency

GDP- Gross Domestic Product

GEER- Geotechnical Extreme Events Reconnaissance Association

GIS- Geographic Information System

GNSS- Global Navigation Satellite System

GPS- Global Positioning System

JB- Joyner-Boore Distance

ML- Machine Learning

NERC/COMET- Natural Environment Research Council/Centre for the Observation and Modelling of Earthquakes, Volcanos & Tectonics

OCHA- United Nations Office for the Coordination of Humanitarian Affairs

PALSAR- Phased Array L-band Synthetic Aperture Radar (Image resolution =10 m or down to 1 m)

RC- Reinforced Concrete

SAR- Synthetic Aperture Radar

SRL- Seismological Research Letters

TUSAGA- Turkish National Permanent GNSS Network

USGS- United States Geological Survey

UTC- Coordinated Universal Time