

U.S. Geological Survey - Earthquake Hazards Program

M 7.8 - 26 km E of Nurdağı, Turkey

2023-02-06 01:17:35 (UTC) | 37.174°N 37.032°E | 17.9 km depth

Interactive Map

A map of Turkey with a yellow star indicating the earthquake epicenter near Gaziantep. Major cities like Kayseri, Malatya, Adana, Mersin, Aleppo, and Gaziantep are labeled. The map shows topographical features and major roads.

Contributed by US<sup>2</sup>

Regional Information

A regional map of Turkey showing the earthquake epicenter near Gaziantep. Major cities like Kayseri, Malatya, Adana, Mersin, Aleppo, and Gaziantep are labeled. The map shows topographical features and major roads.

Contributed by US<sup>2</sup>

Felt Report - Tell Us!

001665


Responses

Contribute to citizen science.  
Please [tell us](#) about your experience.

Citizen Scientist Contributions

Did You Feel It?

IX

A map of Turkey showing the earthquake epicenter near Gaziantep. The map displays intensity levels across the country, with a color scale from 1 (blue) to 9 (red). The epicenter is marked with a yellow star. The map includes latitude and longitude coordinates and a scale bar.

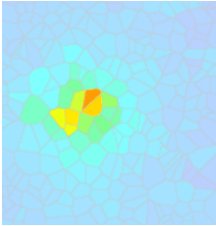
Community Internet Intensity Map



Contributed by [US<sup>2</sup>](#)

[ShakeMap](#)

**IX**

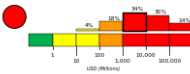


Estimated Intensity Map

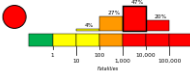
Contributed by [US<sup>2</sup>](#)

[PAGER](#)

**RED**



Estimated Economic Losses



Estimated Fatalities

Contributed by [US<sup>2</sup>](#)

[Ground Failure](#)

Landslide Estimate

- Significant area affected
- Significant population exposed

Liquefaction Estimate

- Significant area affected
- Significant population exposed

Contributed by [US<sup>2</sup>](#)

[Origin](#)

Review Status

REVIEWED

Magnitude

7.8 mww

Depth

17.9 km

Time

2023-02-06 01:17:35 UTC

Contributed by [US<sup>2</sup>](#)



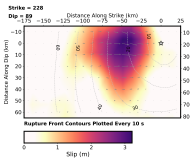
[Moment Tensor](#)



Fault Plane Solution

Contributed by [US<sup>2</sup>](#)

[Finite Fault](#)



Cross-section of slip distribution.

Contributed by [US<sup>2</sup>](#)

[View Nearby Seismicity](#)

Time Range



± Three Weeks

Search Radius



250.0 km

Magnitude Range



≥ 4.0

ANSS Comcat



**Tectonic Summary**

On February 6, 2023, a magnitude 7.8 earthquake occurred in southern Turkey near the northern border of Syria. The earthquake was followed 11 minutes later by a magnitude 6.7 aftershock. The magnitude 7.8 earthquake resulted from strike-slip faulting at shallow depth. The event ruptured either a near-vertical left-lateral fault striking northeast-southwest, or a right-lateral fault striking southeast-northwest. The preliminary location of the earthquake places it within the vicinity of a triple-junction between the Anatolia, Arabia, and Africa plates. The mechanism and location of the earthquake are consistent with the earthquake having occurred on either the East Anatolia fault zone or the Dead Sea transform fault zone. The East Anatolia fault accommodates the westward extrusion of Turkey into the Aegean Sea, while the Dead Sea Transform accommodates the northward motion of the Arabia peninsula relative to the Africa and Eurasia plates.

Although earthquakes are commonly plotted as single points on a map, they rupture planes that have dimensions. A magnitude 7.8 strike slip earthquake typically ruptures a fault ~190 km long and ~25 km wide.

The region where the February 6 earthquake occurred is seismically active. Only three earthquakes of magnitude 6 or larger have occurred within 250 km of the February 6 earthquake since 1970. The largest of these, a magnitude 6.7, occurred northeast of the February 6 earthquake on January 24, 2020. All of these earthquakes occurred along or in the vicinity of the East Anatolia fault. Despite the relative seismic quiescence of the epicentral area of the February 6, southern Turkey and northern Syria have experienced significant and damaging earthquakes in the past. Aleppo, in Syria, was devastated several times historically by



large earthquakes, though the precise locations and magnitudes of these earthquakes can only be estimated. Aleppo was struck by an estimated magnitude 7.1 earthquake in 1138 and an estimated magnitude 7.0 earthquake in 1822. Fatality estimates of the 1822 earthquake were 20,000-60,000.

### For More Information

- [Impact Summary](#).
- [Technical Summary](#).

### Contributors

1. ADMIN
2. [USGS National Earthquake Information Center, PDE](#)

### Additional Information

- [ANSS Comprehensive Earthquake Catalog \(ComCat\) Documentation](#)
- [Technical terms used on event pages](#)



