

M 6.1, 15 km W of Duzce, Turkey

Origin Time: 2022-11-23 01:08:15 UTC (Wed 04:08:15 local)
Location: 40.8356° N 30.9831° E Depth: 10.0 km

PAGER
Version 10

Created: 5 weeks, 1 day after earthquake

Estimated Fatalities

Fatalities

Orange alert for economic losses. Significant damage is likely and the disaster is potentially widespread. Estimated economic losses are less than 1% of GDP of Turkey. Past events with this alert level have required a regional or national level response.

Yellow alert for shaking-related fatalities. Some casualties are possible.

Estimated Economic Losses

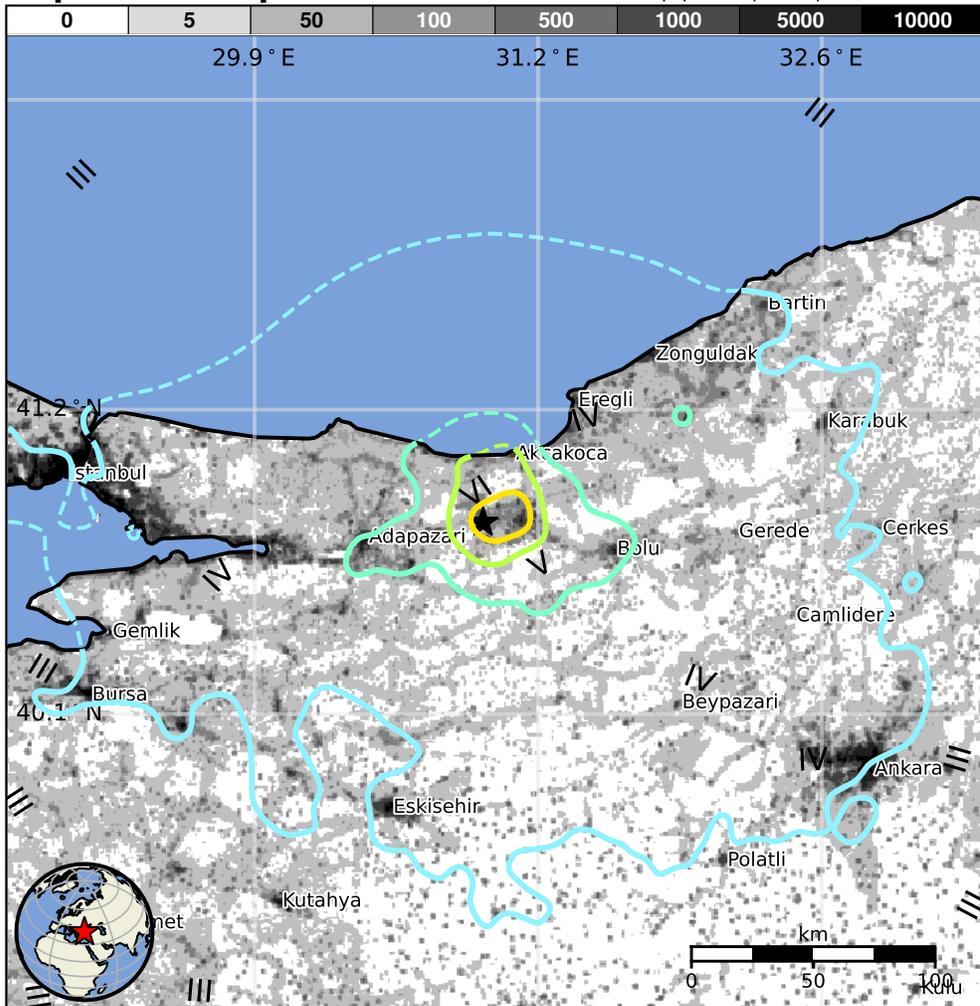
USD (Millions)

Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|-----------------------|---------|----------|----------|----------|-------------|------------|------------|----------|----------|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | —* | 6,890k* | 18,126k* | 983k | 135k | 181k | 52k | 0 | 0 | |
| ESTIMATED MODIFIED MERCALLI INTENSITY | I | II-III | IV | V | VI | VII | VIII | IX | X+ | |
| PERCEIVED SHAKING | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme | |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are adobe block and dressed stone/block masonry construction.

Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|------------|------------|------|------------|----------------|
| 1995-10-01 | 315 | 6.4 | VIII(173k) | 101 |
| 1999-11-12 | 20 | 7.2 | VIII(234k) | 894 |
| 1999-08-17 | 88 | 7.6 | IX(396k) | 17k |

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|------|------------------|----------------|
| VIII | Konuralp | <1k |
| VII | Duzce | 58k |
| VII | Golyaka | <1k |
| VII | Cumayeri | <1k |
| VII | Gumusova | <1k |
| VII | Cilimli | <1k |
| V | Adapazari | 287k |
| IV | Eskisehir | 515k |
| IV | Bursa | 1,413k |
| IV | Istanbul | 11,174k |
| III | Ankara | 3,517k |

bold cities appear on map.

(k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

<https://earthquake.usgs.gov/earthquakes/eventpage/us7000irp8#pager>

Event ID: us7000irp8