

## '23.2.6 튀르키예 지진 특성 및 댐 피해

한국지반공학회 댐·제방기술위원회 (2023.2.13.)

### □ 지진특성

- 매커니즘: 주향이동단층활동(strike-slip-faulting)에 의한 지진, M=7.8(20km)과 7.5(10km)

#### Turkey Earthquake

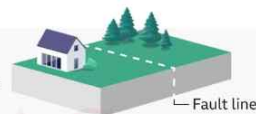
##### What caused the Turkey Earthquake?

The recent earthquake in Turkey was caused by **tectonic plate movement**. Turkey lies along a **seismic fault line** called **Anatolia tectonic block**. **Arabian plate** is known to be pushing northward, which has resulted in a **slight westward movement** for the **Anatolian plate**. This has led to one of the largest **strike-slip earthquakes** along **East Anatolian Fault Zone**

Earthquakes are common in Turkey, which sits in a very seismically active region where **three tectonic plates** constantly grind against one another beneath Earth's surface.

Earthquake caused by strike-slip fault

Rocks beneath the surface contain **points of weakness**



Movements cause the rocks to **deform**

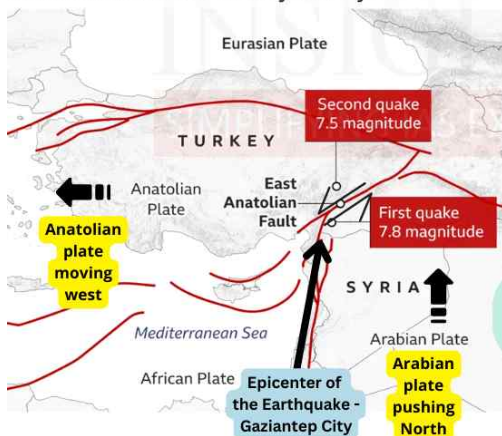


When stress exceeds the strength of the rock, the rock fractures along a fault



A **strike slip fault** is a fault zone where **two blocks of land move horizontally** rather than vertically along a fault plane.

Fault lines around Turkey and Syria

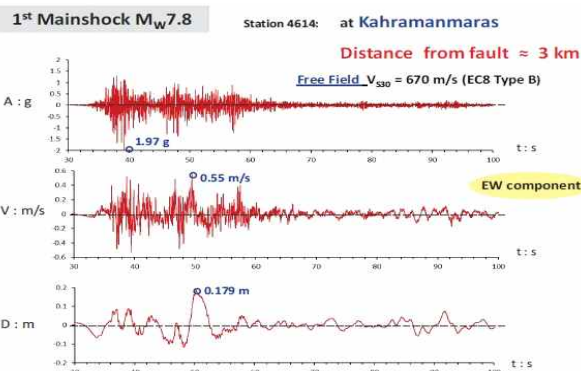
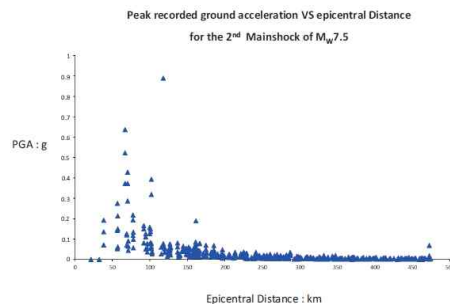
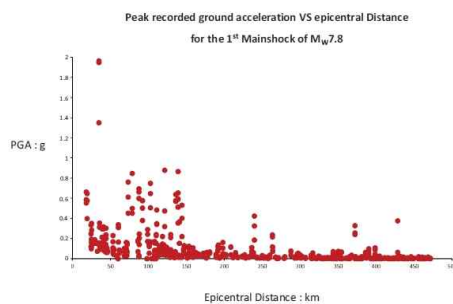


**Drop! Cover! Hold On!**

Drop to the ground. Cover your head with your arms (as best as possible). Hold On to your neck or study object with both hands until shaking stops.



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1차지진시 최대지반가속도=1.97g

## □ 댐 관련 피해

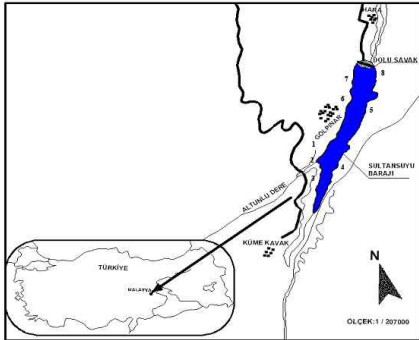
### 1. 튀르키예

#### ○ 진앙지 인근 120여개 댐 긴급점검 실시 (농림임업부)

- 6개 댐에서 균열 발생 확인 ⇨ 안전에는 문제 없는 것으로 확인

#### ○ Sultansuyu댐 마루 균열

- 댐형식 및 제원 : 흙댐, 댐높이 60m, 저수용량 53백만 $m^3$
- 위치 : 진앙지 인근 (튀르키예 최대 댐 Ataturk댐으로부터 170m 이격)



### 2. 시리아

#### ○ 시리아 북동부 소재 댐의 균열 및 붕괴 발생

- Afrin댐 (또는 *Maydanki* 댐, Aleppo시에서 70km북서쪽) 마루 균열 발생 (댐높이 73m, 저수용량 1억9천만 $m^3$ )
- Idlib지역 인근의 흙댐(댐 위치 및 제원 미확인) 붕괴로 하류지역 침수



<Afrin댐 균열>



<Idlib지역 침수>