



# 2023 Turkey Earthquake Effects on Population & Infrastructure

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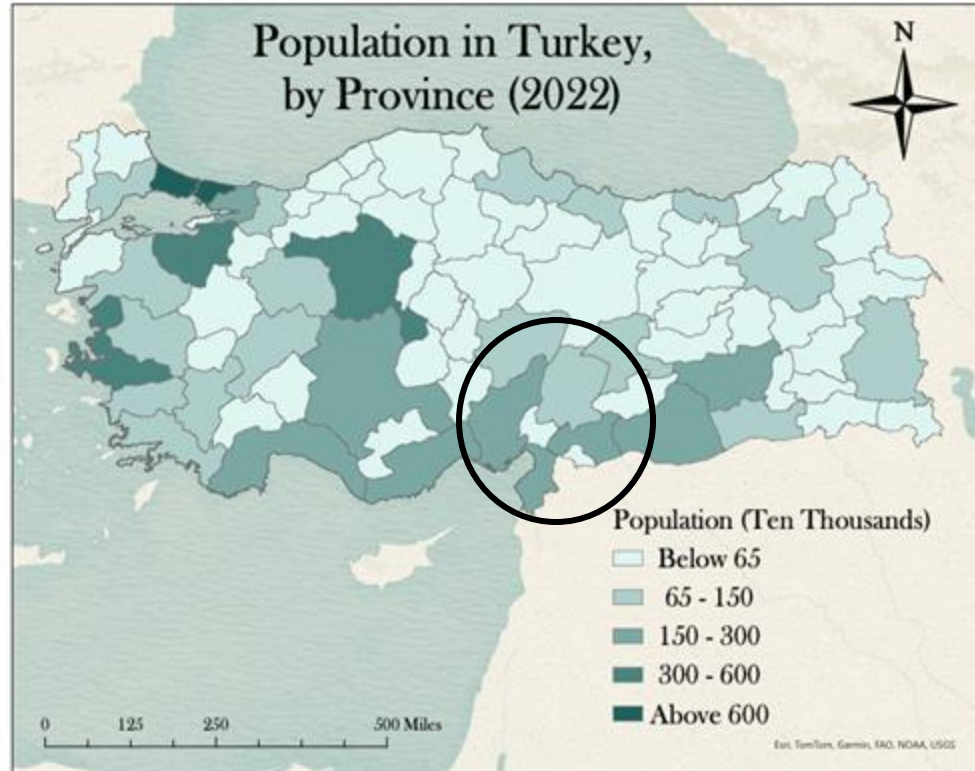
# Context

- On, February 6th, 2023, a series of powerful earthquakes and aftershocks caused widespread damage to southeast Turkey and northwest Syria. Another earthquake on February 20 compounded the destruction.
- ~53,000 people died and ~3.6 million were displaced, many permanently.
- The impacted region is one of the most populous *and* economically disadvantaged in Turkey. Many residents are displaced Syrian refugees.

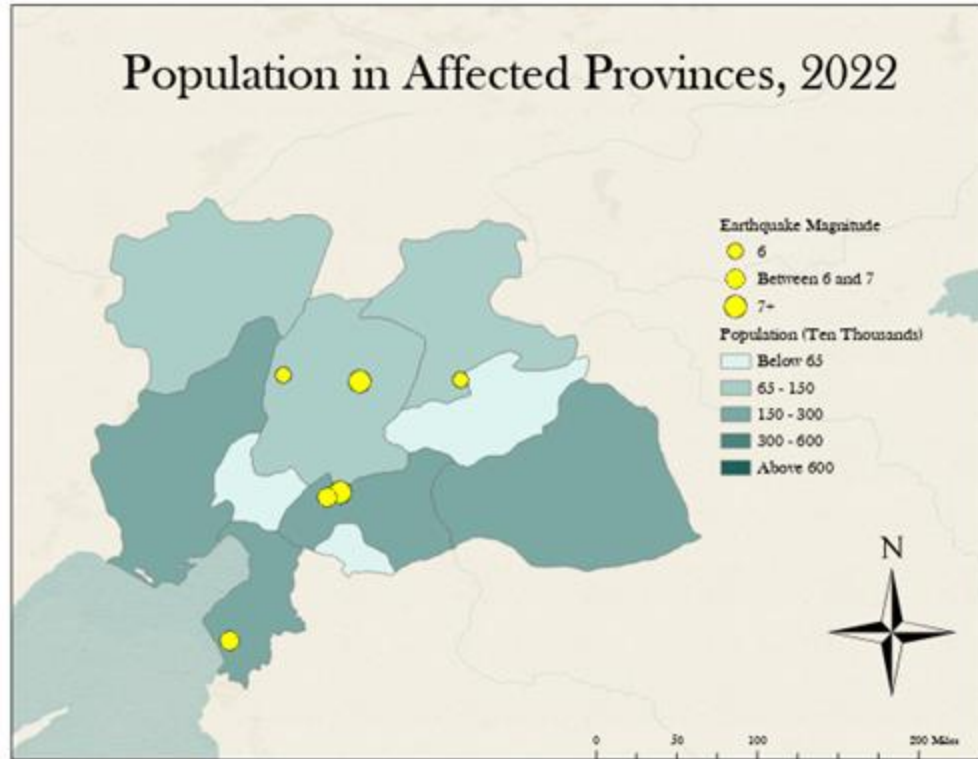
# Why is this important?

- **Tragedy scale reinforces the importance of building code policy and enforcement.** Many buildings were misleadingly marketed as “luxury” or “earthquake-safe”, despite failing to comply with codes
- **Natural disasters amplify already existing humanitarian emergencies.** Studying how people and governments respond to intersecting events, like war and natural disaster, can help us build more effective interventions
- **Demographic recovery isn’t automatic**, and affected regions can suffer population decline and brain drain if they don’t receive sufficient investment following disasters

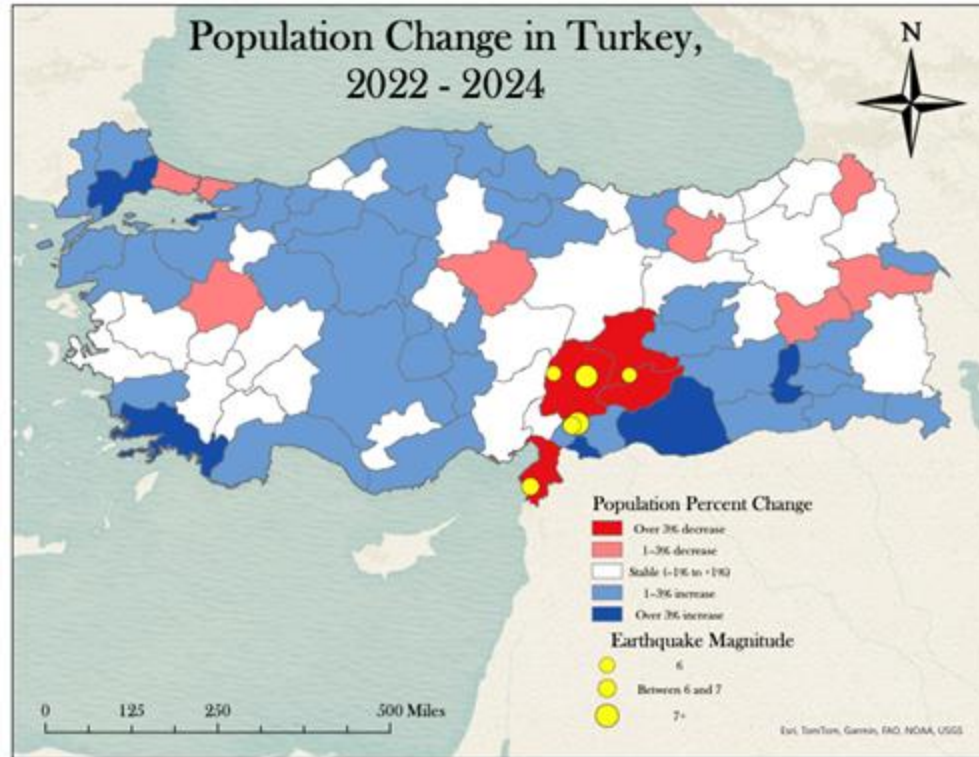
# Population Pre-Earthquake



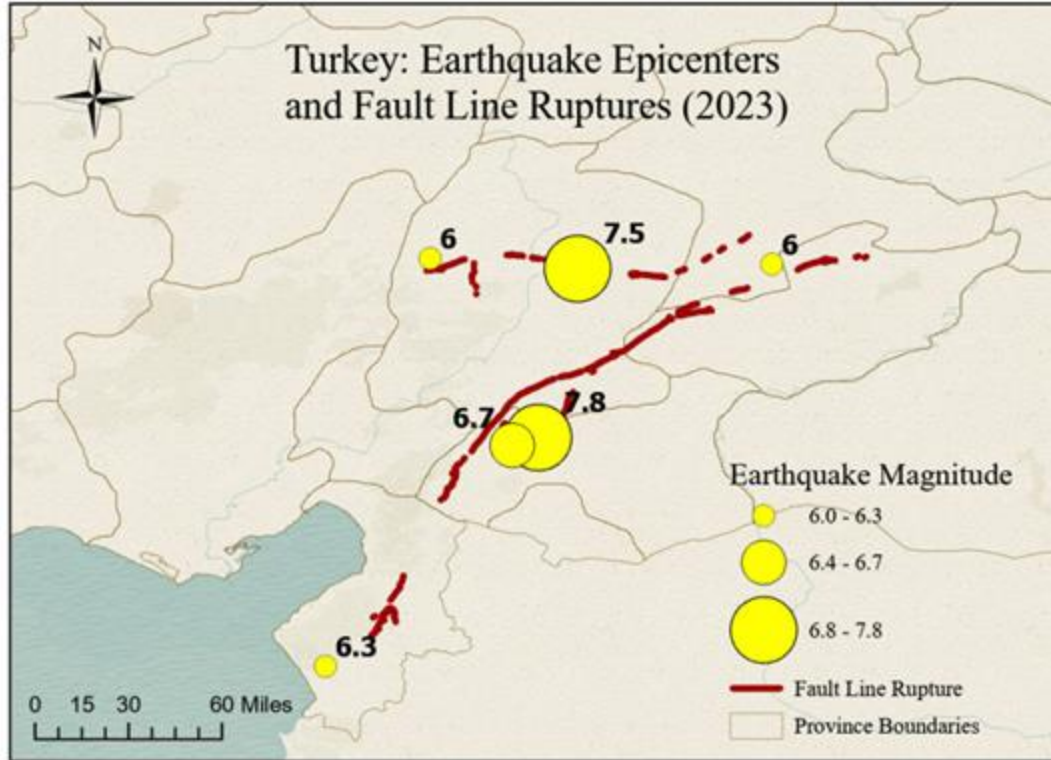
# Population Pre-Earthquake



# Population Change Post-Earthquake



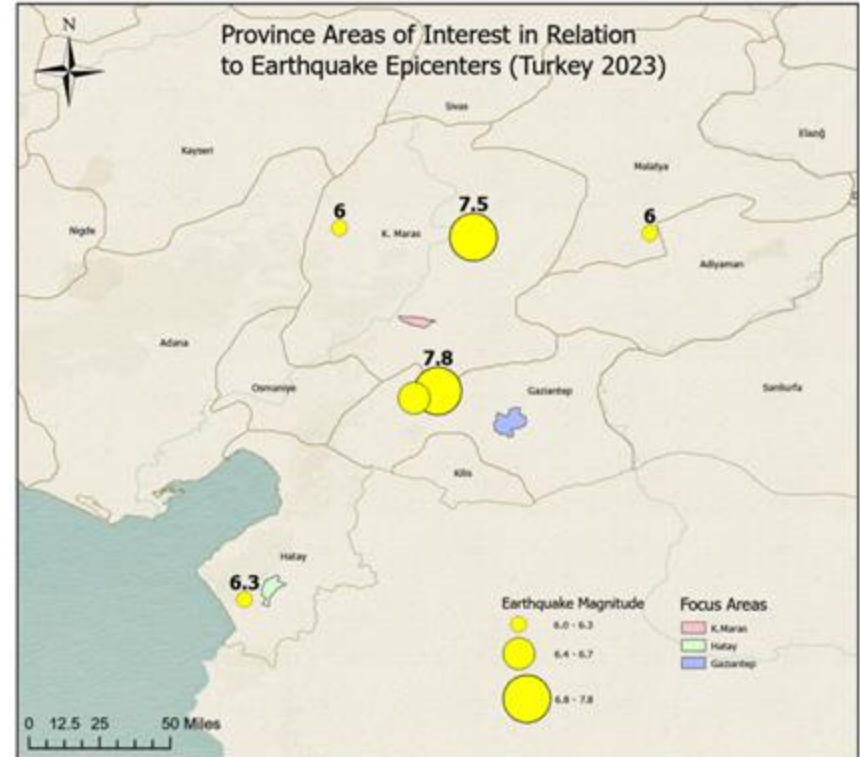
# Earthquake Epicenters



- Earthquake epicenters primarily located in 2-3 provinces
- Extensive fault line ruptures
- Smaller earthquakes product of aftershocks
- Comparison: Haiti 2010 earthquake was magnitude 7.0

# Areas Hit Hardest by the Earthquake

- Data from Copernicus Emergency Management Service (EU funded program)
- Highlights areas of interest (AOIs) within provinces most impacted by the earthquake
- Will look closer at damage within these AOIs (buildings & roads)

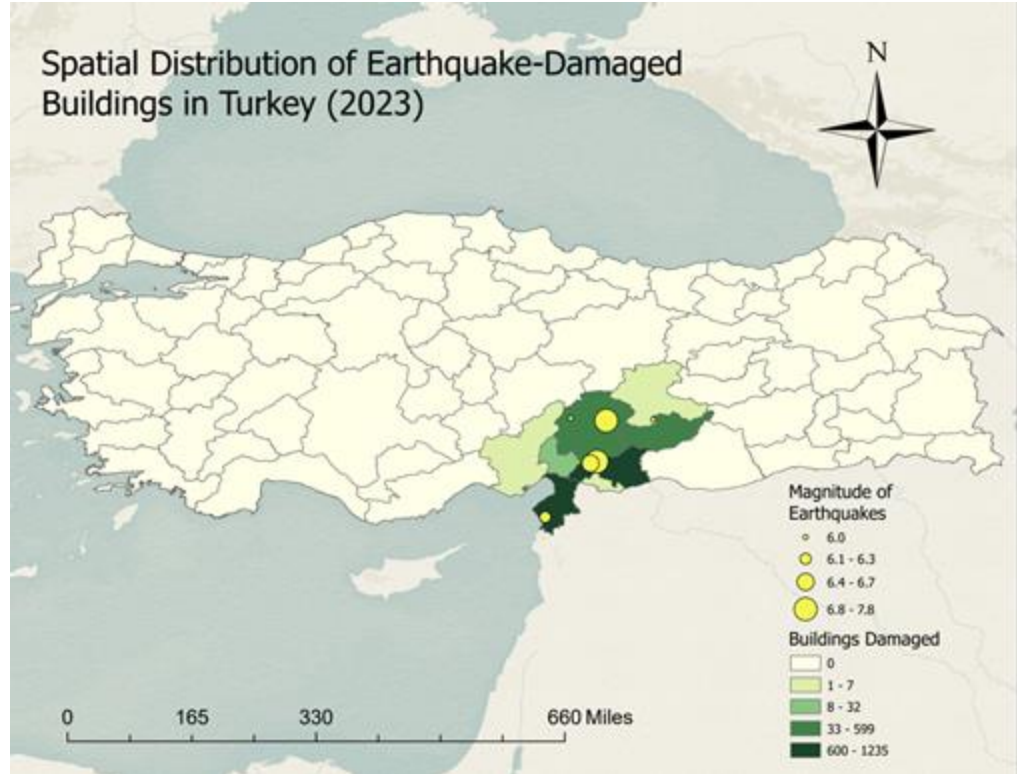




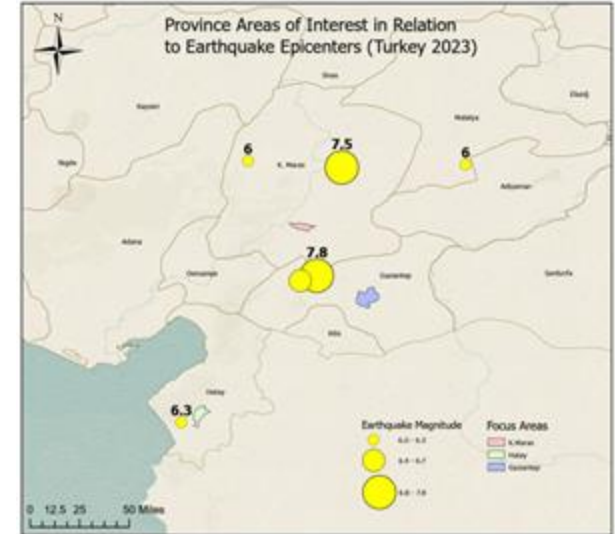
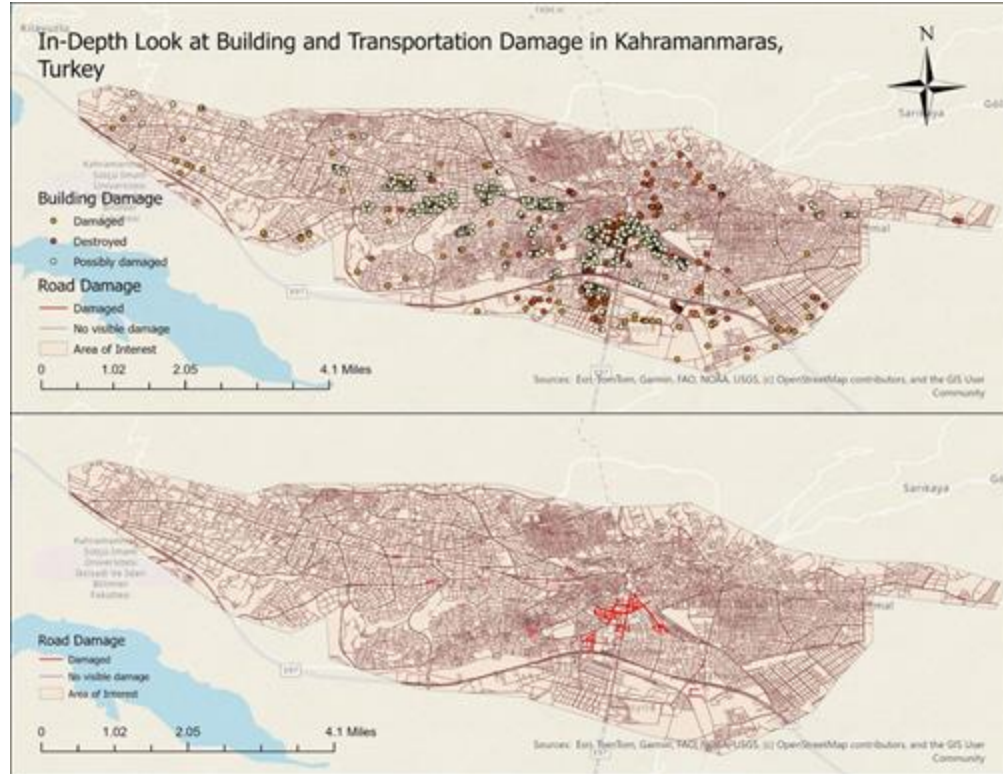
# Infrastructural Impact

Provinces Most Affected:

- **Kahramanmaras\***
- **Hatay\***
- **Gaziantep\***
- Osmaniye
- Malatya
- Adana
- Kilis
- Adiyaman



# Zooming Into Key Area of Impact in Kahramanmaras



# Zooming Into Key Area of Impact in Antakya, Hatay

