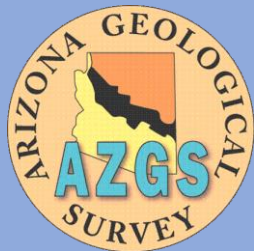


# Arizona Broadband Seismic Network - AE



Contact: Jeri Young Ben-Horin

[jeribenhorin@email.arizona.edu](mailto:jeribenhorin@email.arizona.edu)

602-770-2512



# AZ Broadband Seismic Network



## • GOALS

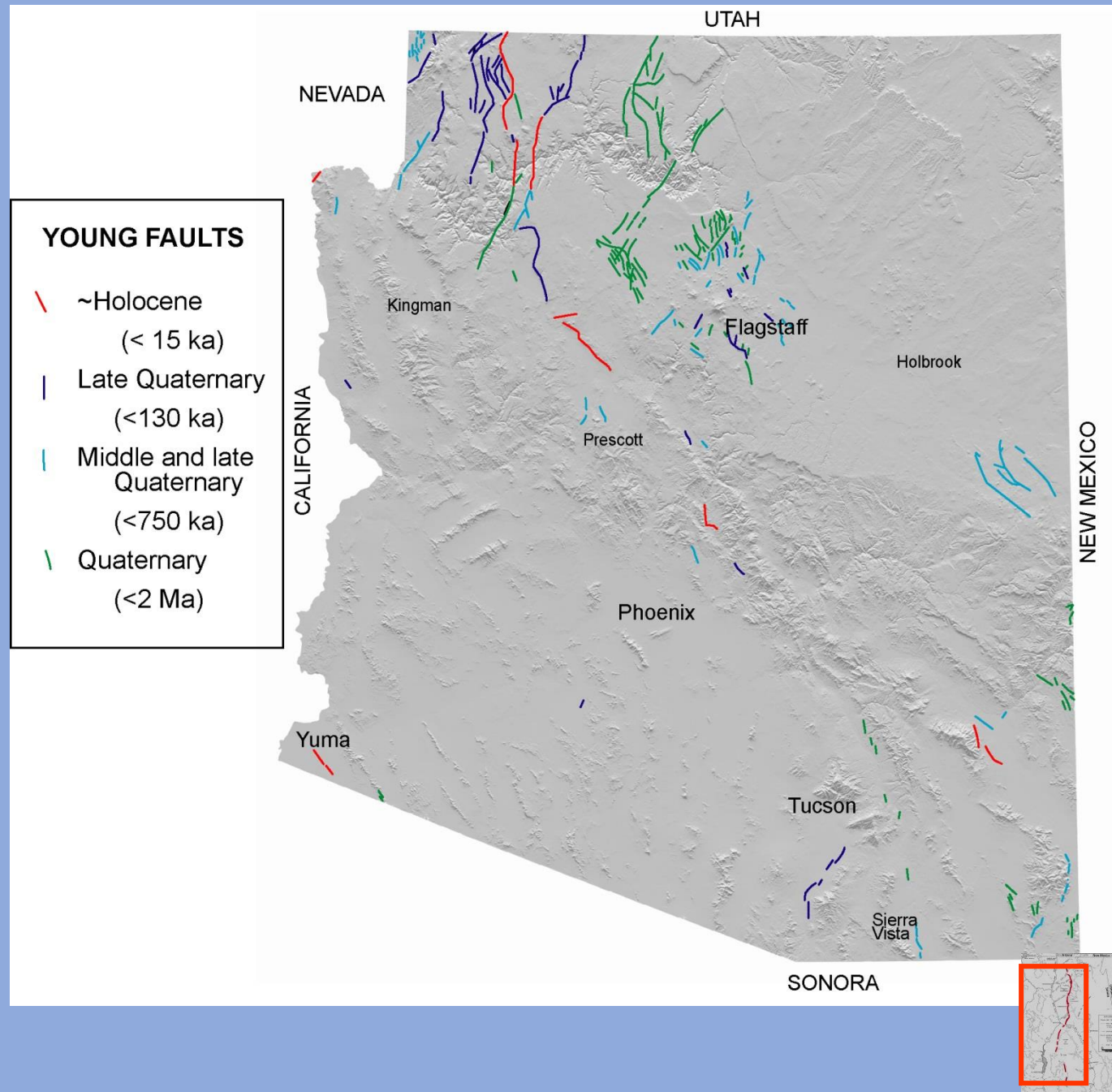
- Provide better understanding of seismicity in Arizona and improve catalogue completeness.
- Archive data for ground-motion estimates.
- Update seismic hazard characterization for seismically active regions in a growing state.
- Keep stations healthy, long-term.

## • Limitations

- Currently, one part-time geologist running network
- Funding opportunities are very limited.
- Need more station coverage to improve detection threshold.

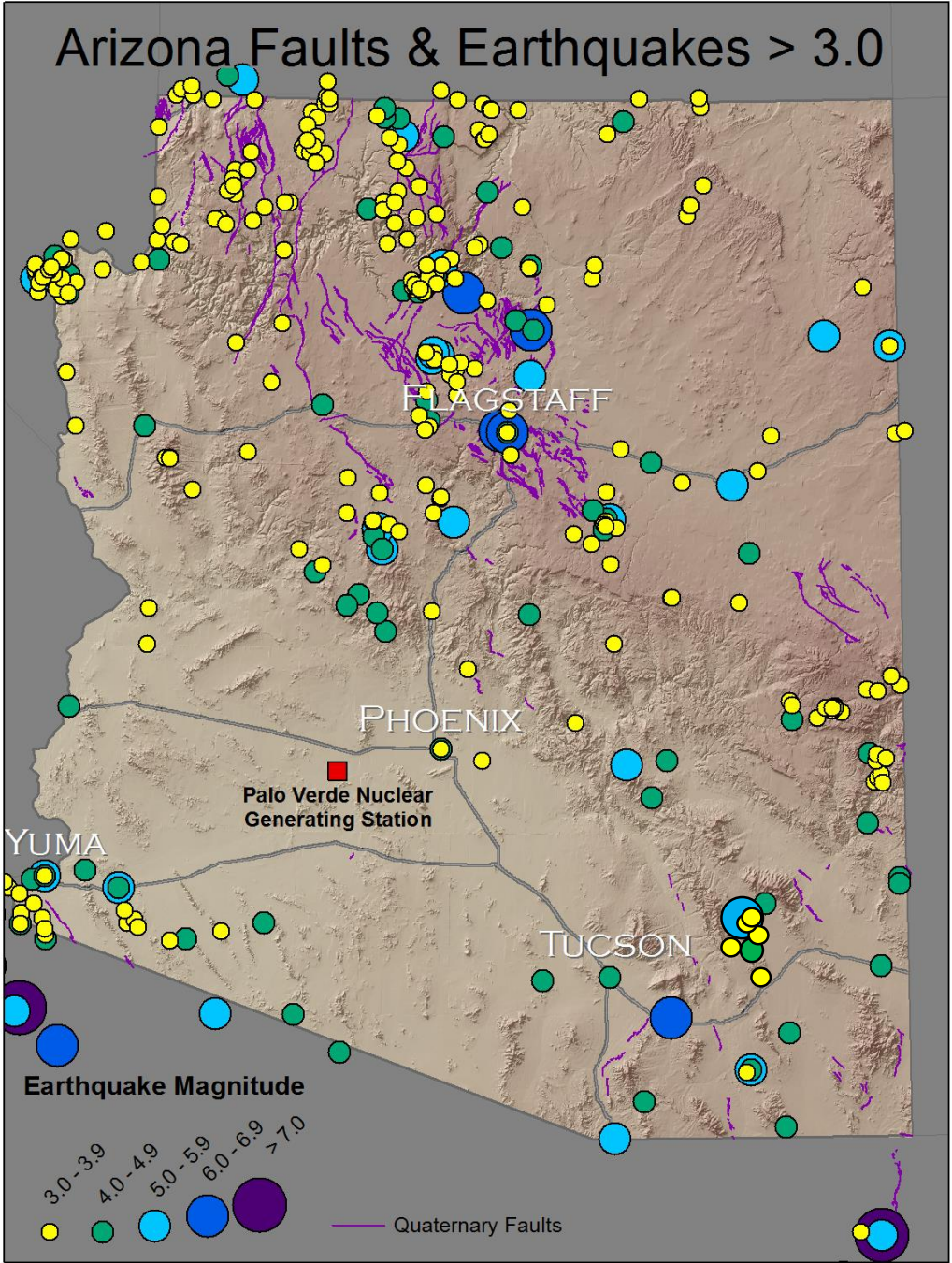
# Quaternary faults in Arizona

- ~90 faults active in past 2 m.y.
- ~30 definitely active in past 130 k.y.
- ~15 active in past 15 k.y.
- Most barely studied
- Most have normal fault movement



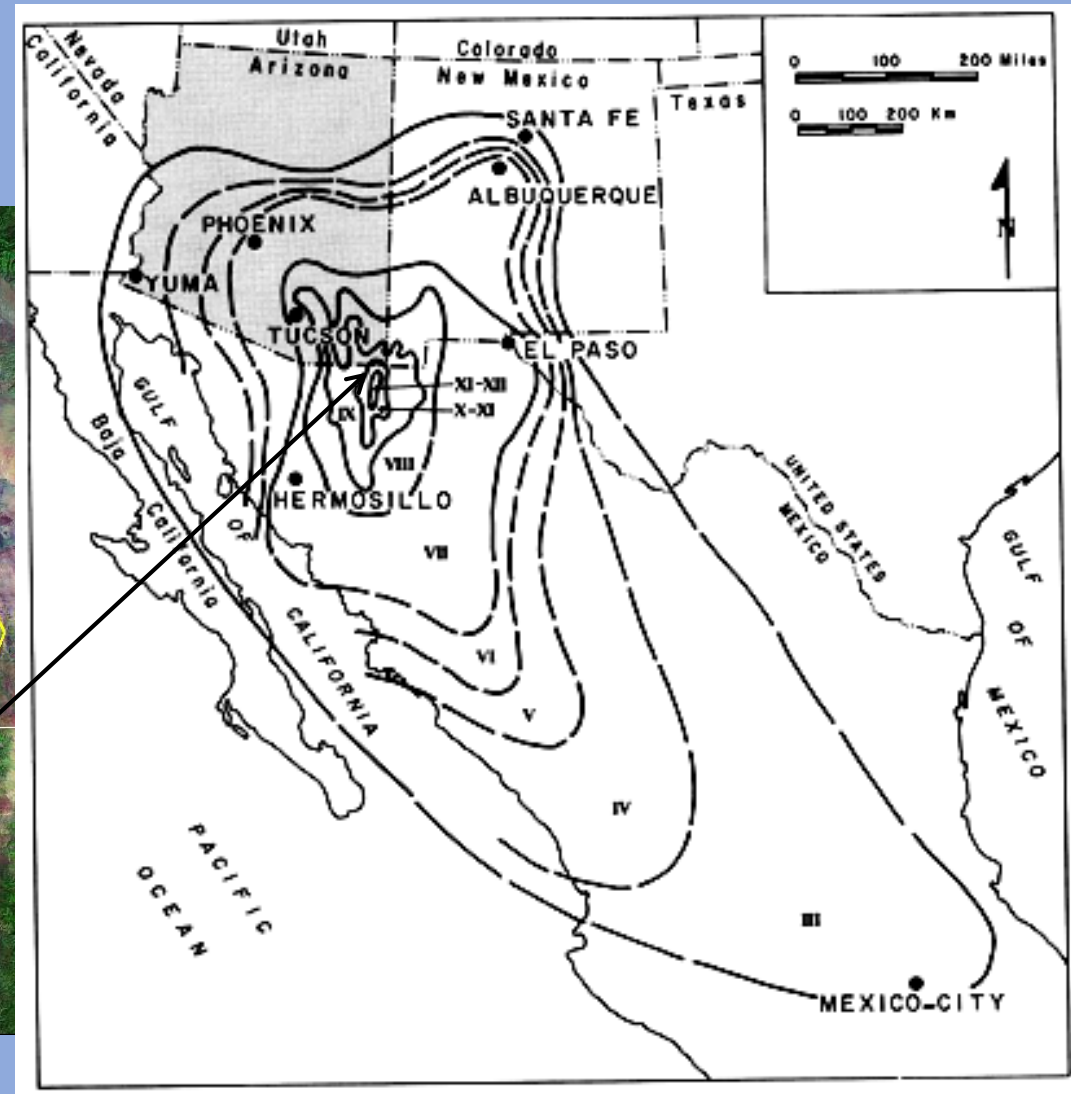
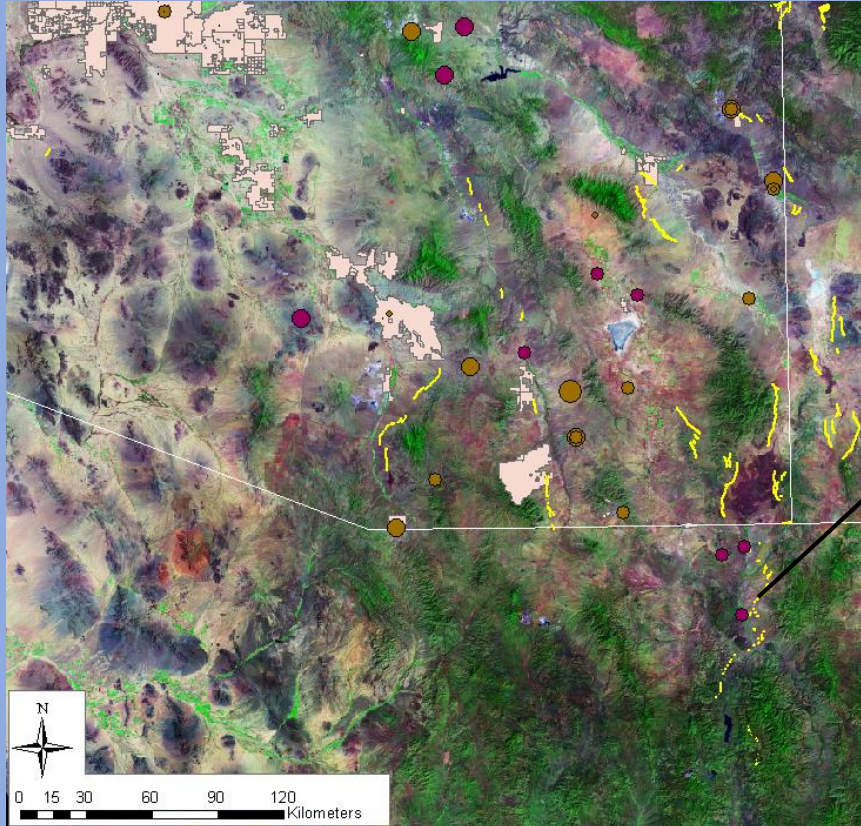
# Historical and Instrumental Seismicity in Arizona

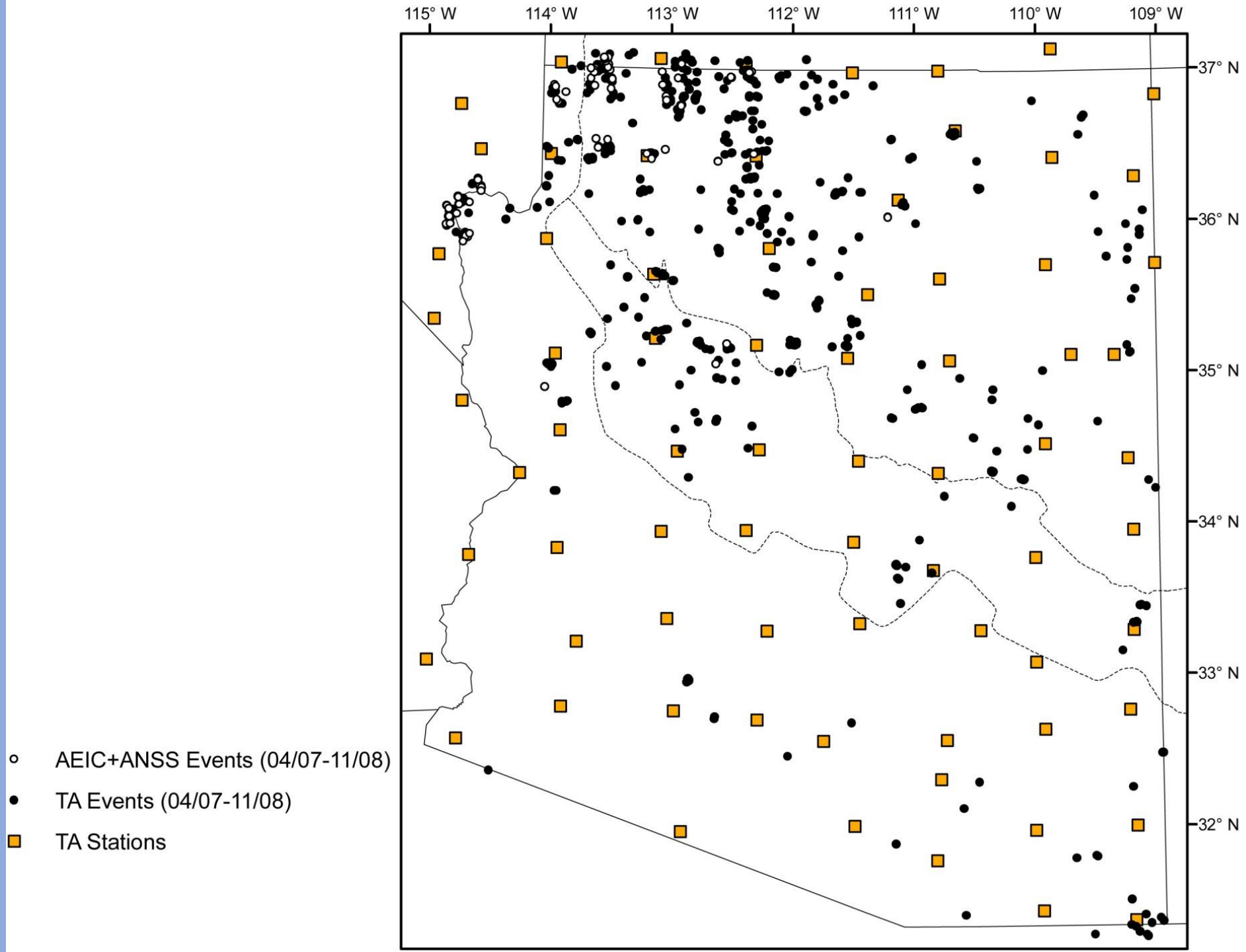
Catalogue completeness is poor, esp. prior to TA (2007)



# 1887 Pitaycachi M 7.5 Event

Typifies some of Arizona's faults – large, active, but long recurrence intervals.



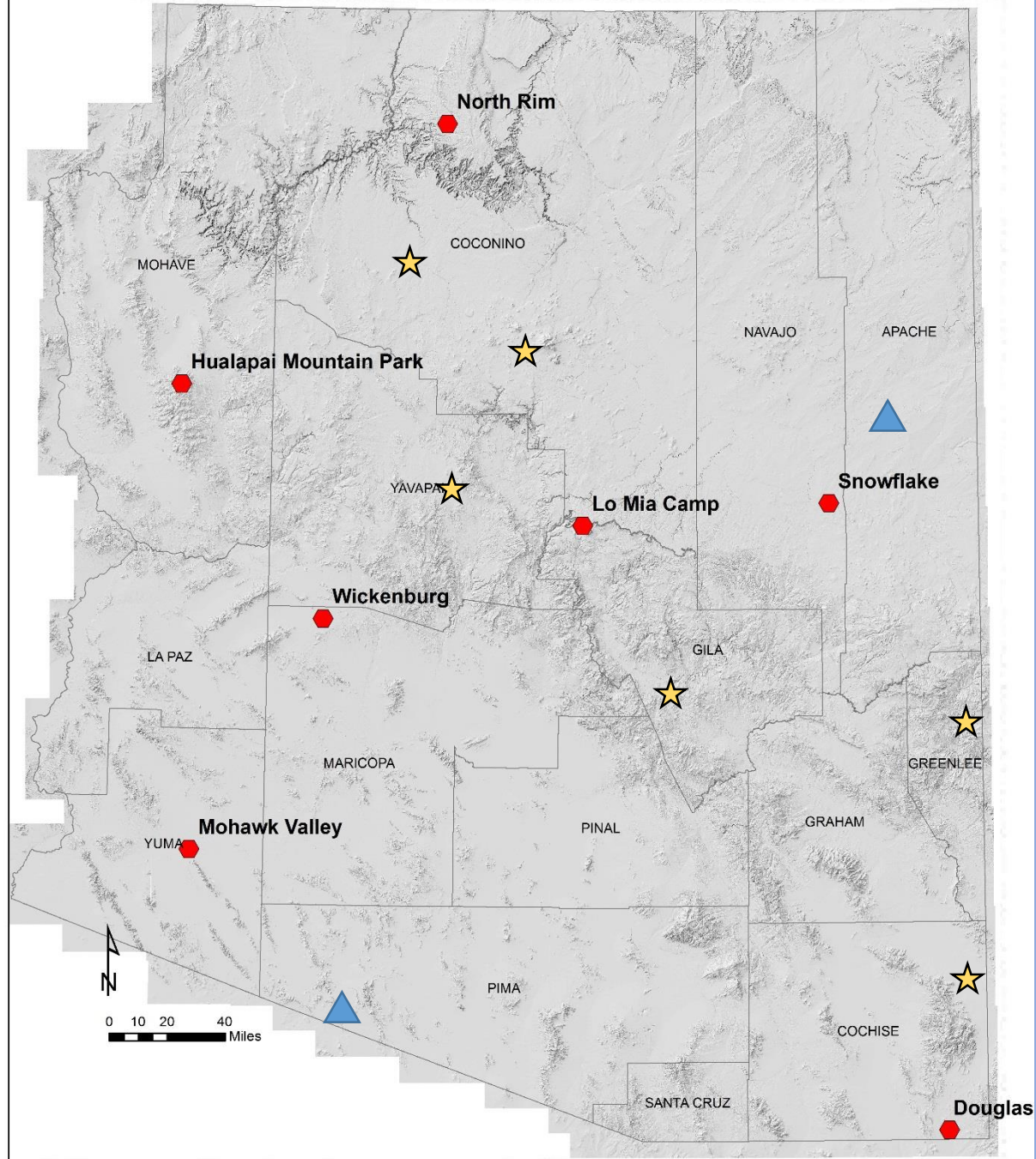


# 13 (15) Broadband Stations

7 Legacy TA ●

6 New BB ★

2 Additional TA ▲



# 7 Legacy TA Stations (9 this Fall)

- 5 Guralp 3Ts, 1 Streickhesen, 1 Trillium 240
- Legacy stations – TA vault construction
- Adding W18A and 214A by Fall of 2018
- Continuous AZ data – April 2007 to present





# New Broadband Stations

- Q330S+ data loggers, real-time telemetry
- Equip. boxes mostly above land surface
- 5 Trillium 120PH sensors, 1 Guralp 3T
- Sensor depths vary
  - BABIT – 1.1meters depth (limestone bedrock)
  - BARN – 3.3meters depth (unconsolidated seds.)
  - DUN6 – 0.9m (unconsolidated with large clasts)
  - HANNA – 1.5m (soil and C-horizon to bedrock)
  - PRCT – 1.3m (colluvium and poorly sorted seds)
  - TONTO – 1.1m (unconsolidated river deposits)

