SnT 2025
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE
8 SEPTEMBER ONLINE DAY
9 TO 12 SEPTEMBER AT HOFBURG PALACE, VIENNA & ONLINE

Comprehensive Seismic Study of North Sulawesi Indonesia: *b-Value, z-Value*, and Earthquake Recurrence Time

LIGHTNING TALK

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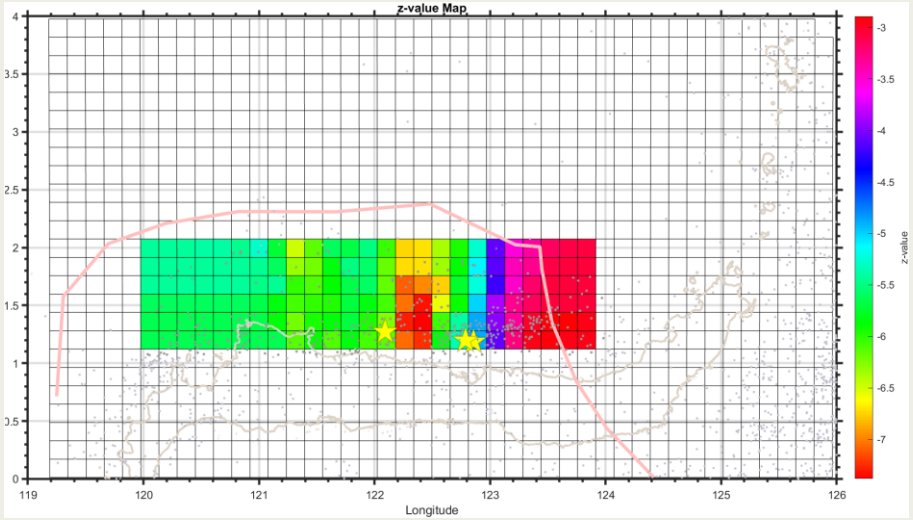
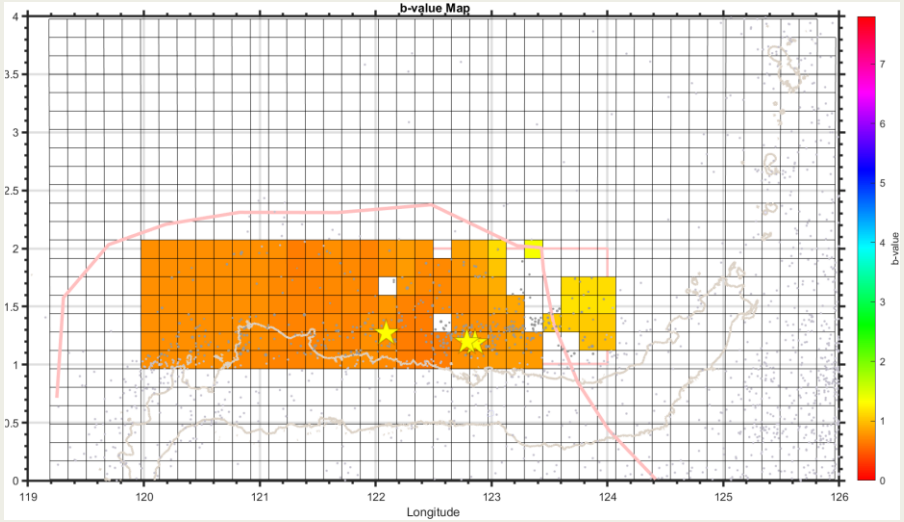
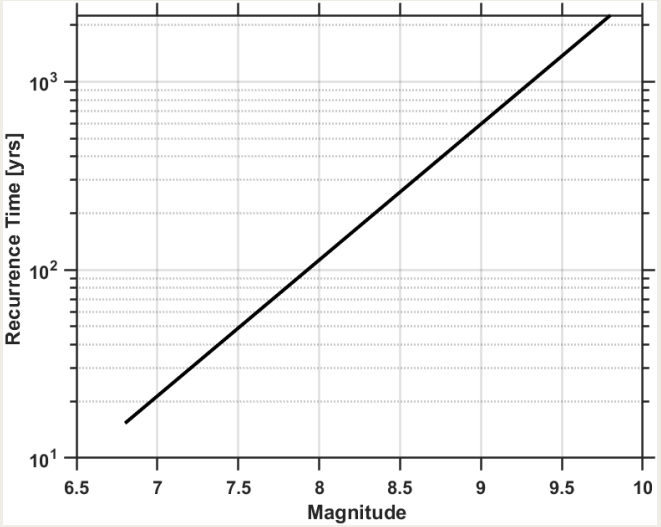
- Aim: To explore seismic activity in North Sulawesi, Indonesia (Pacific Ring of Fire), for earthquake and tsunami risk mitigation.
- Methodology: Calculated and mapped *b-values, z-values*, and identified earthquake recurrence times. Used 100 years of USGS catalog data (1925–2024) and analyzed with Z-Map Version 7.
- *b-value* Findings: Ranged from 0.7 to 1.3; lower values indicate dominance of major earthquakes in subduction zones or high stress accumulation.
- *z-value* Findings: Ranged from -0.3 to -0.7; reflects increased small earthquake activity (e.g., aftershocks, background seismicity) due to local stress release.
- Recurrence Times: Large earthquakes (M > 7.0) projected every 50 years; extremely large earthquakes (M > 8.0) every 150 years.
- Implication: Findings aid in identifying high-risk zones for seismic risk mitigation







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