



# Seismicity of Makran Subduction Zone



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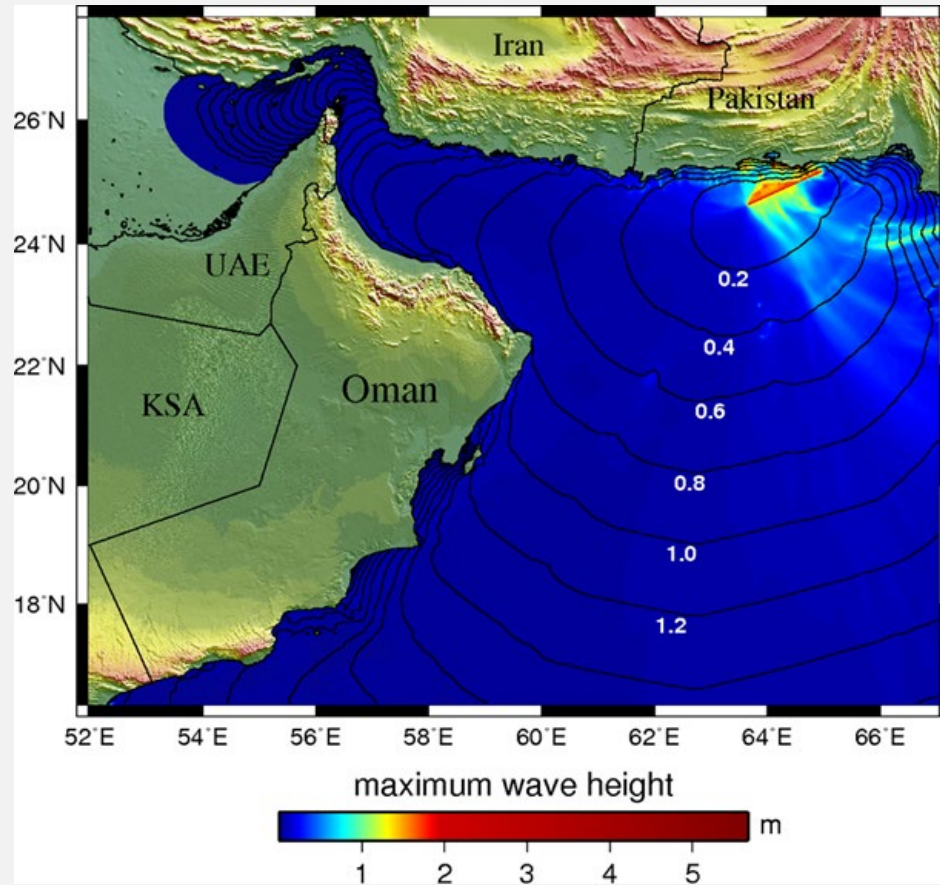
Email: [elhussain@squ.edu.om](mailto:elhussain@squ.edu.om)

9 November 2021

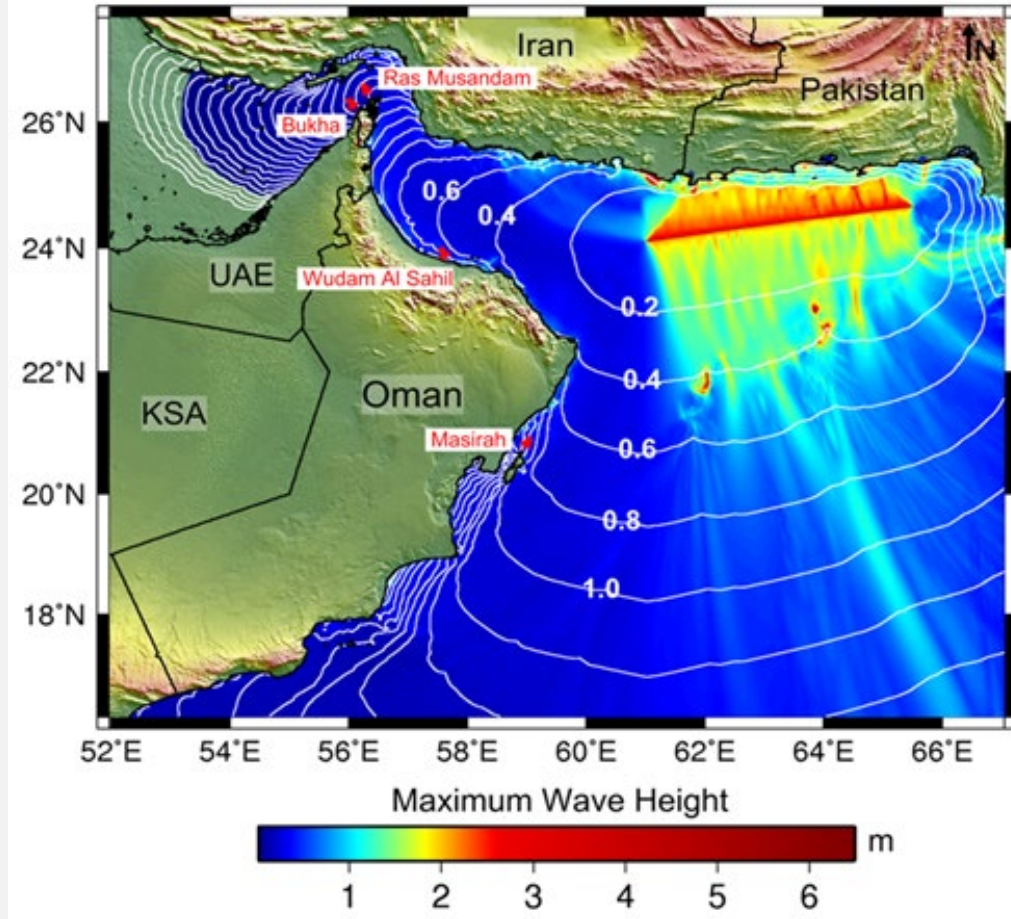
*Scientific Tsunami Hazard Assessment of the Makran Subduction Zone*

# Tsunami Hazards

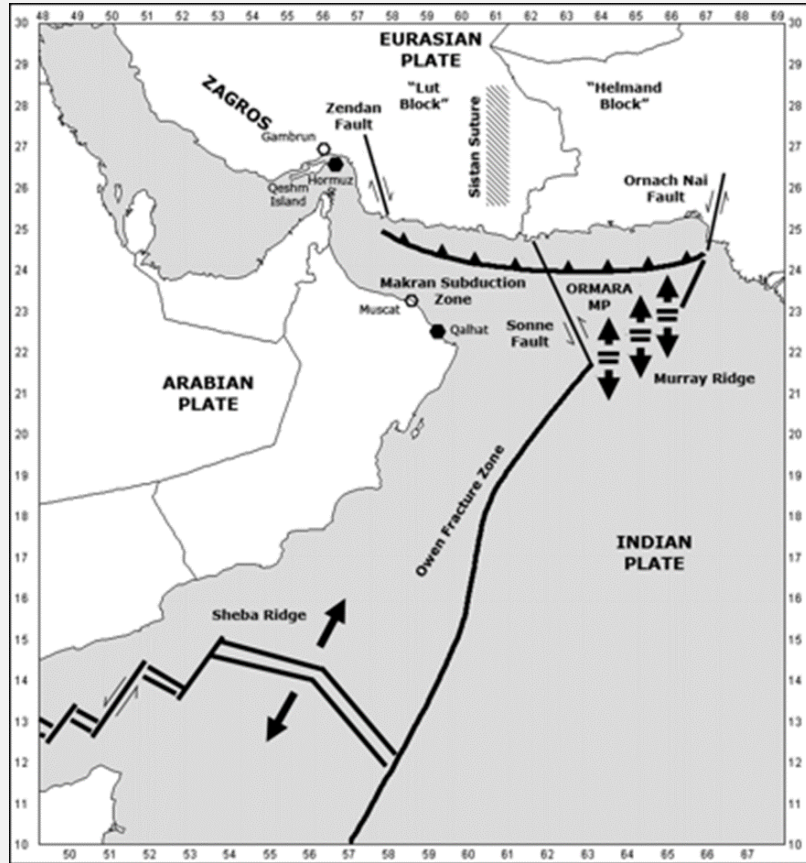
## Historic Near field Tsunami



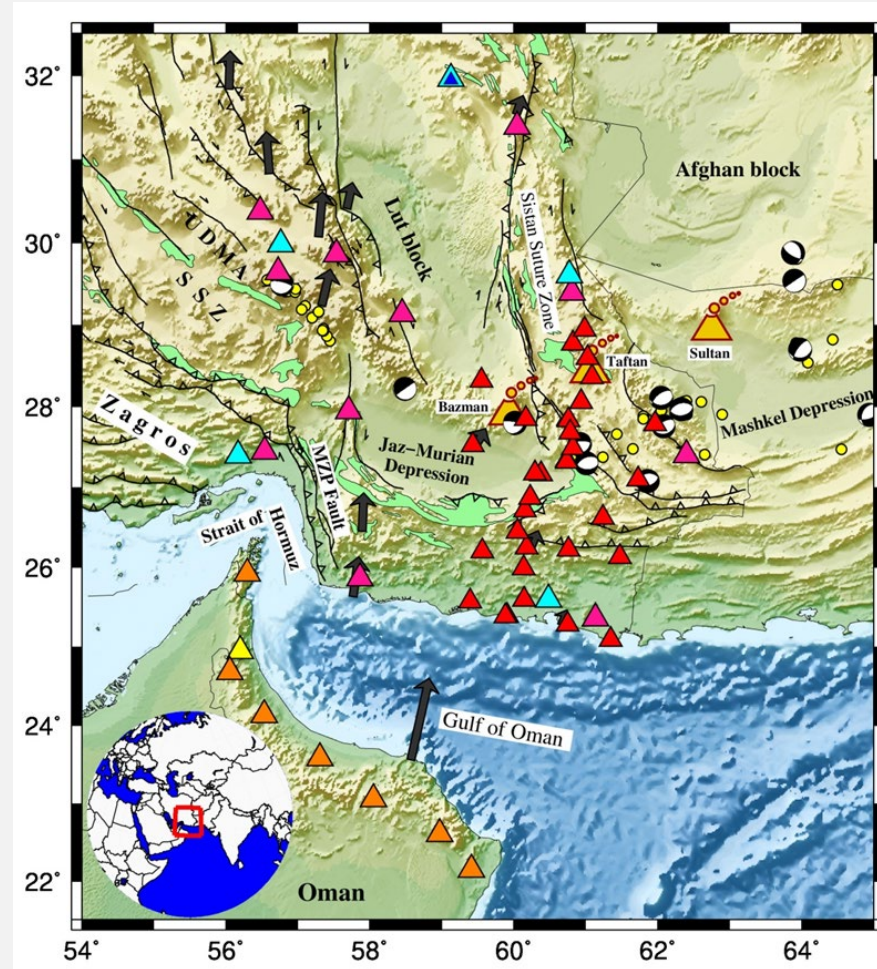
## Scenario Near field Tsunami



# Tectonic setting

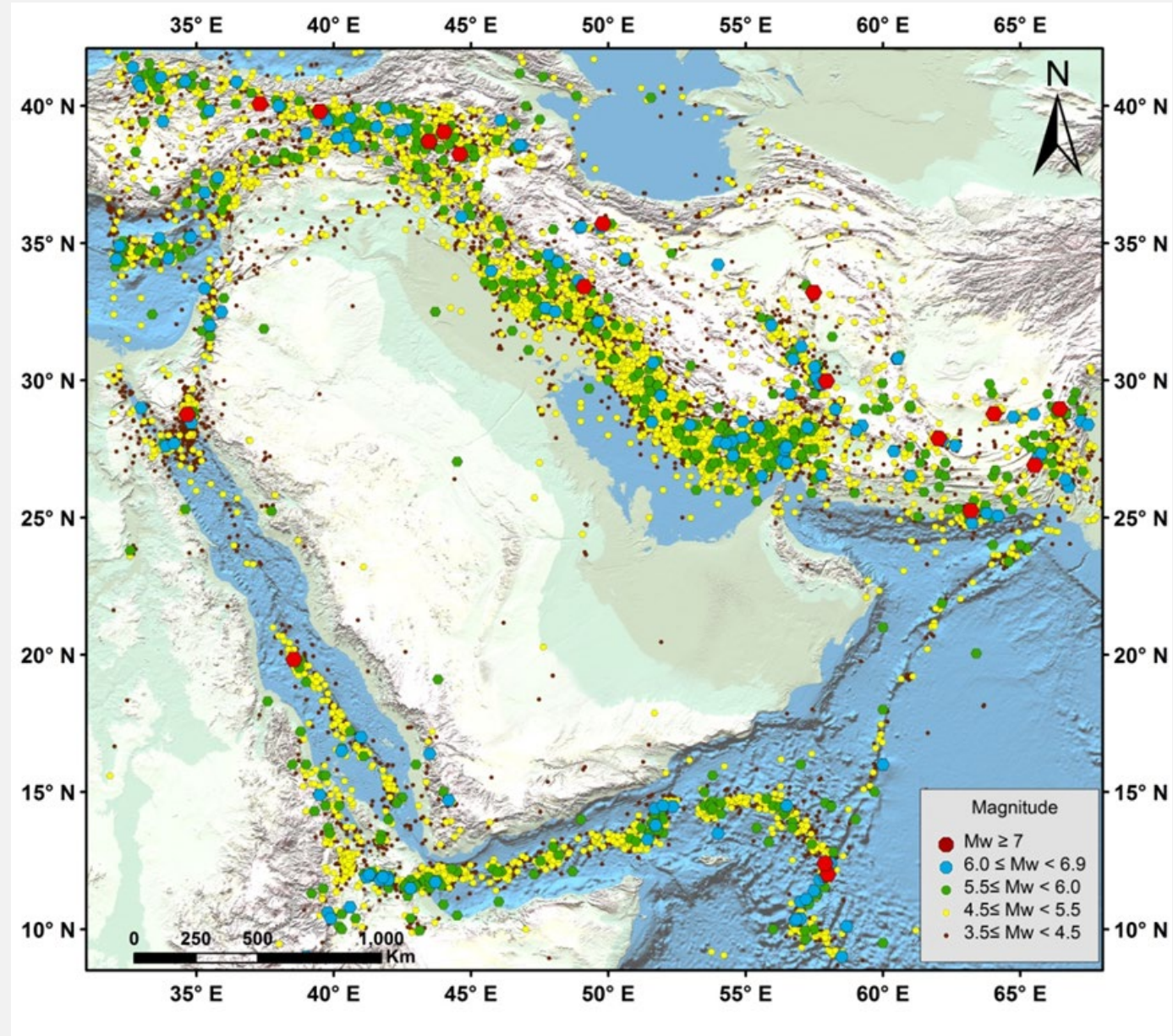


Kukowski et al., 2000



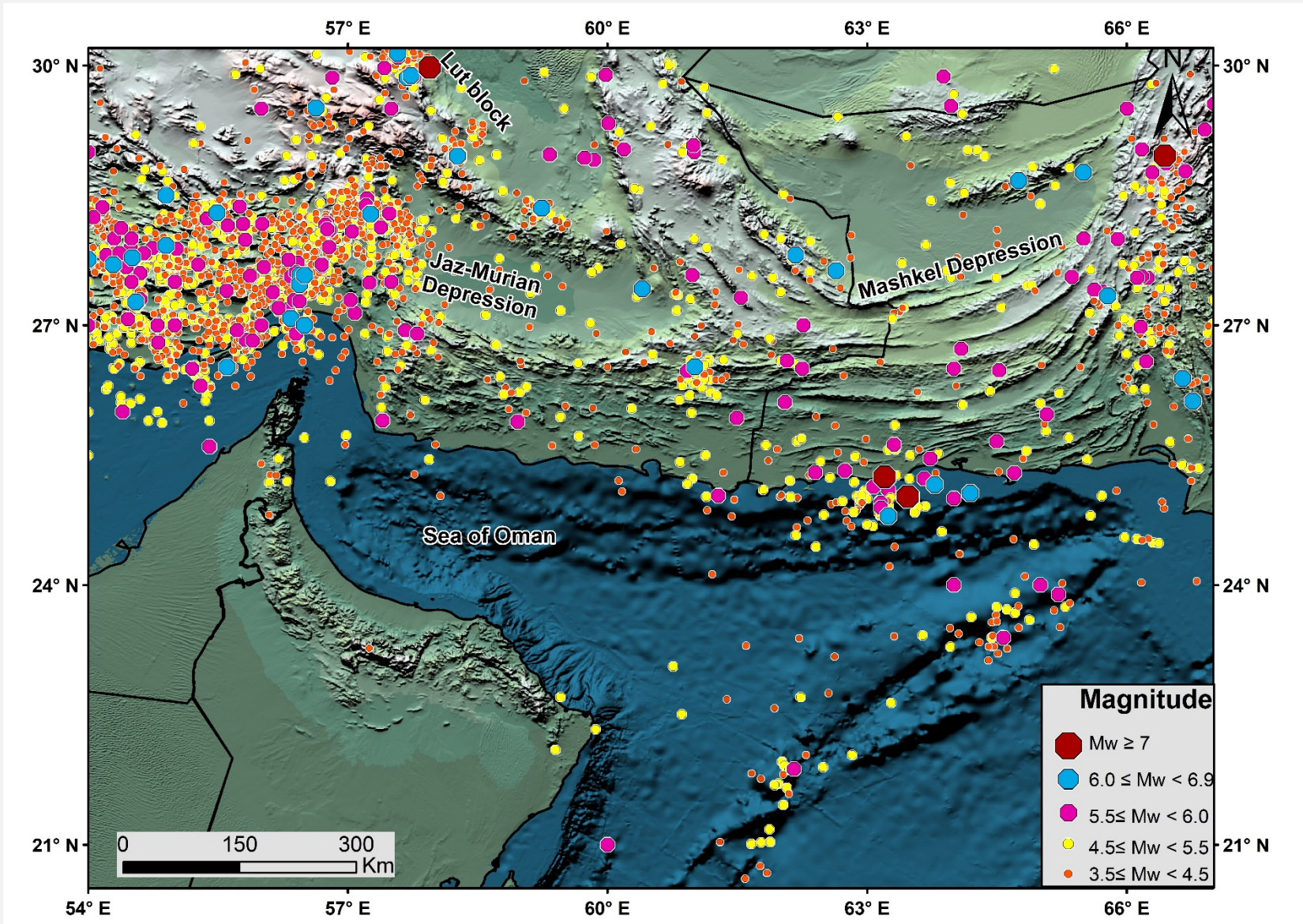
Zeynaddini-Meymand1 et al., 2021

# Seismicity surrounding the Arabian Peninsula



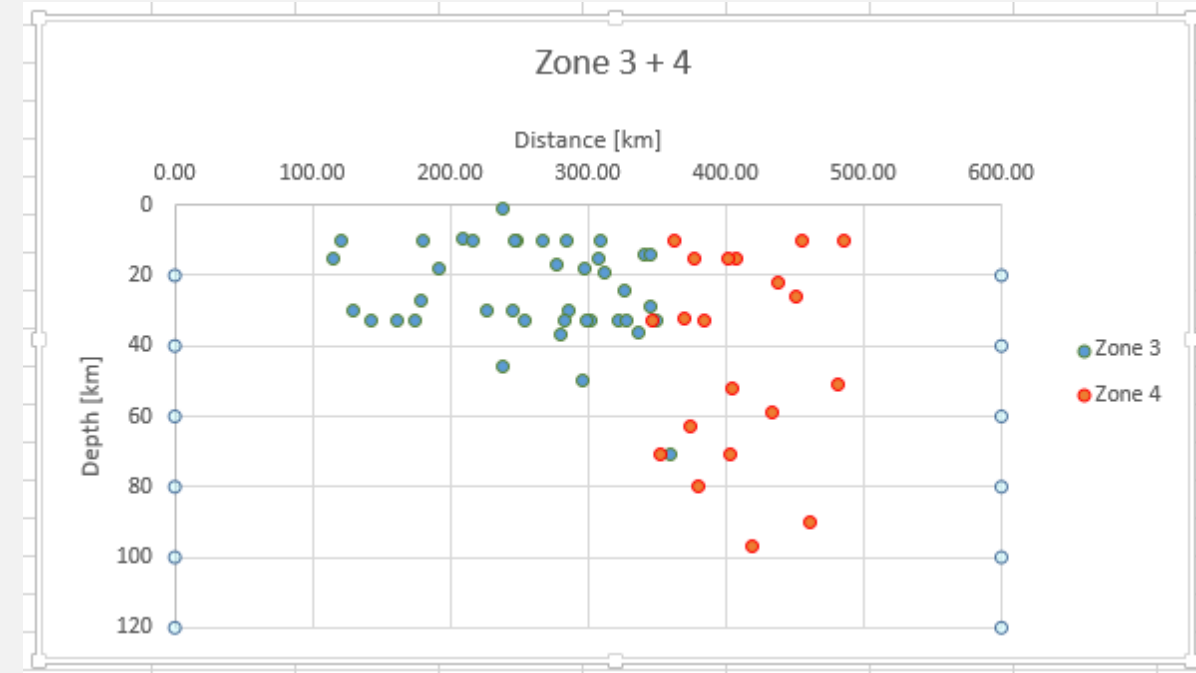
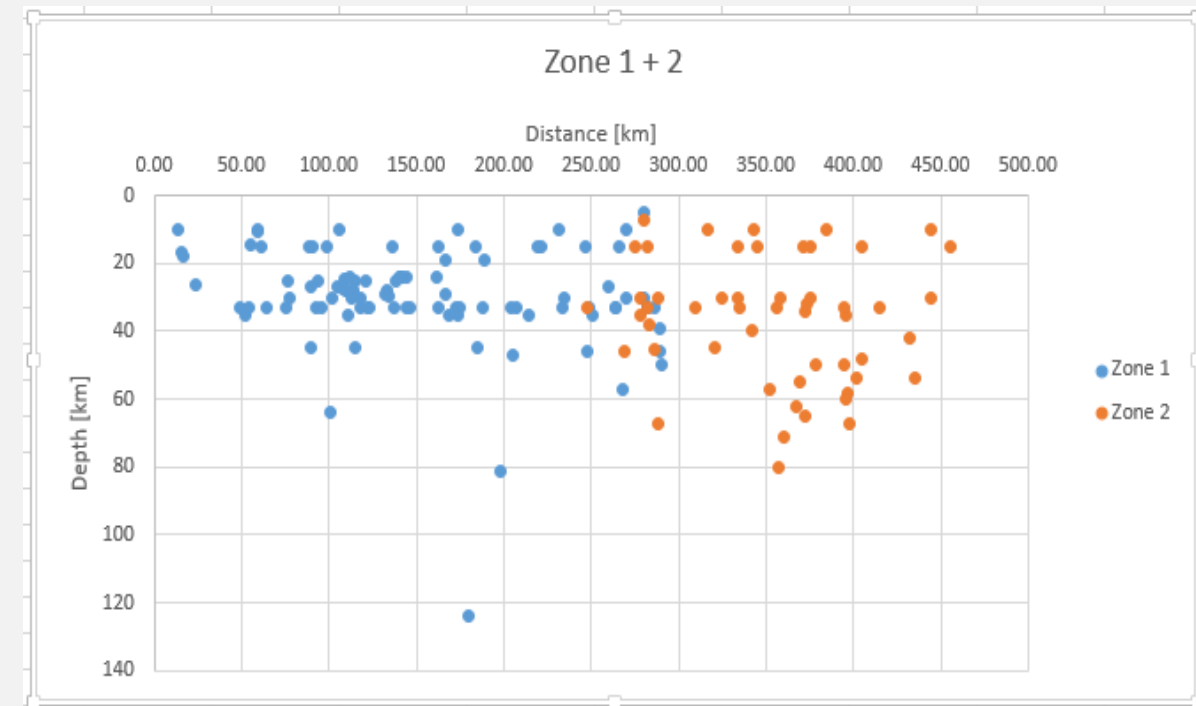
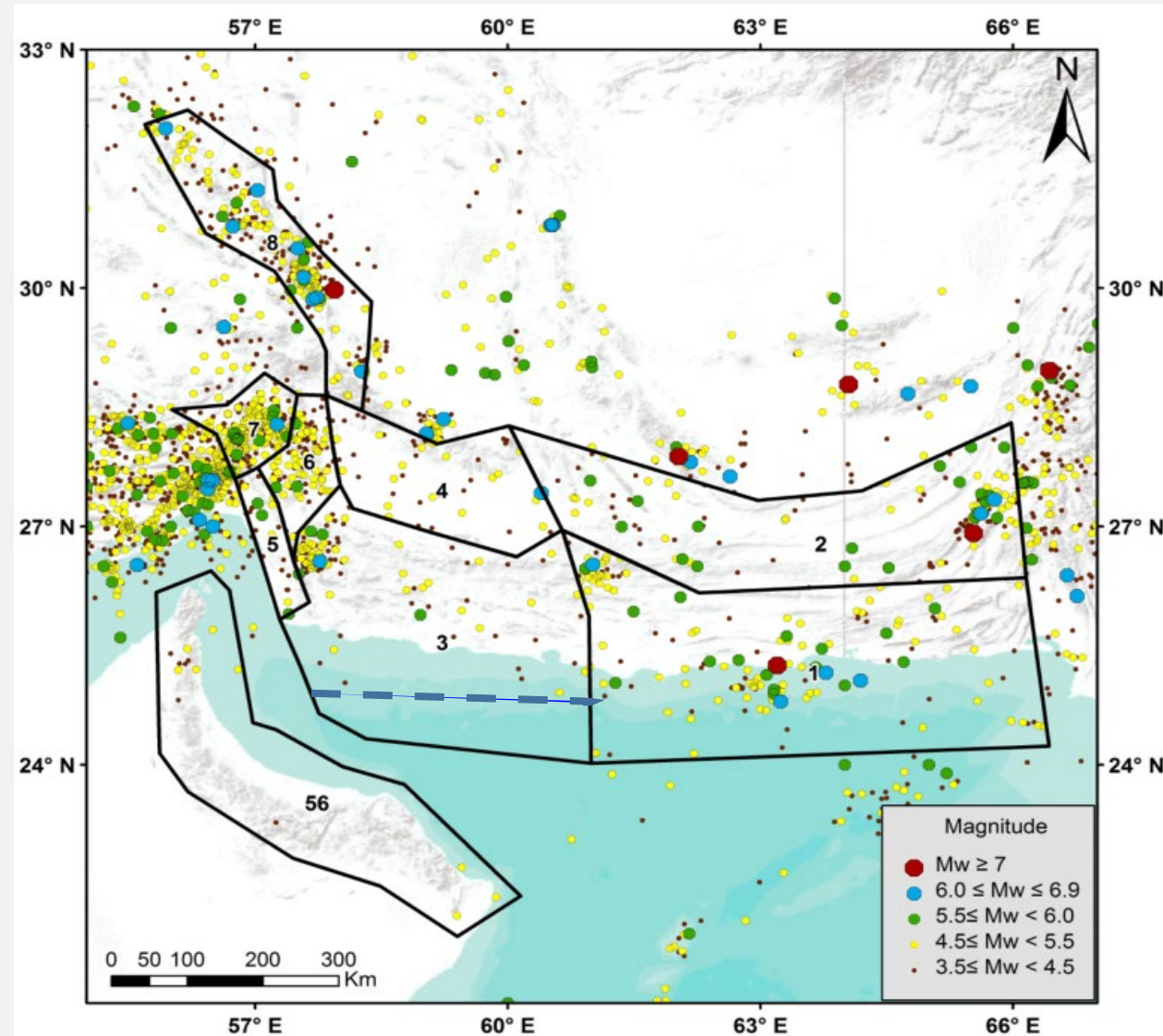
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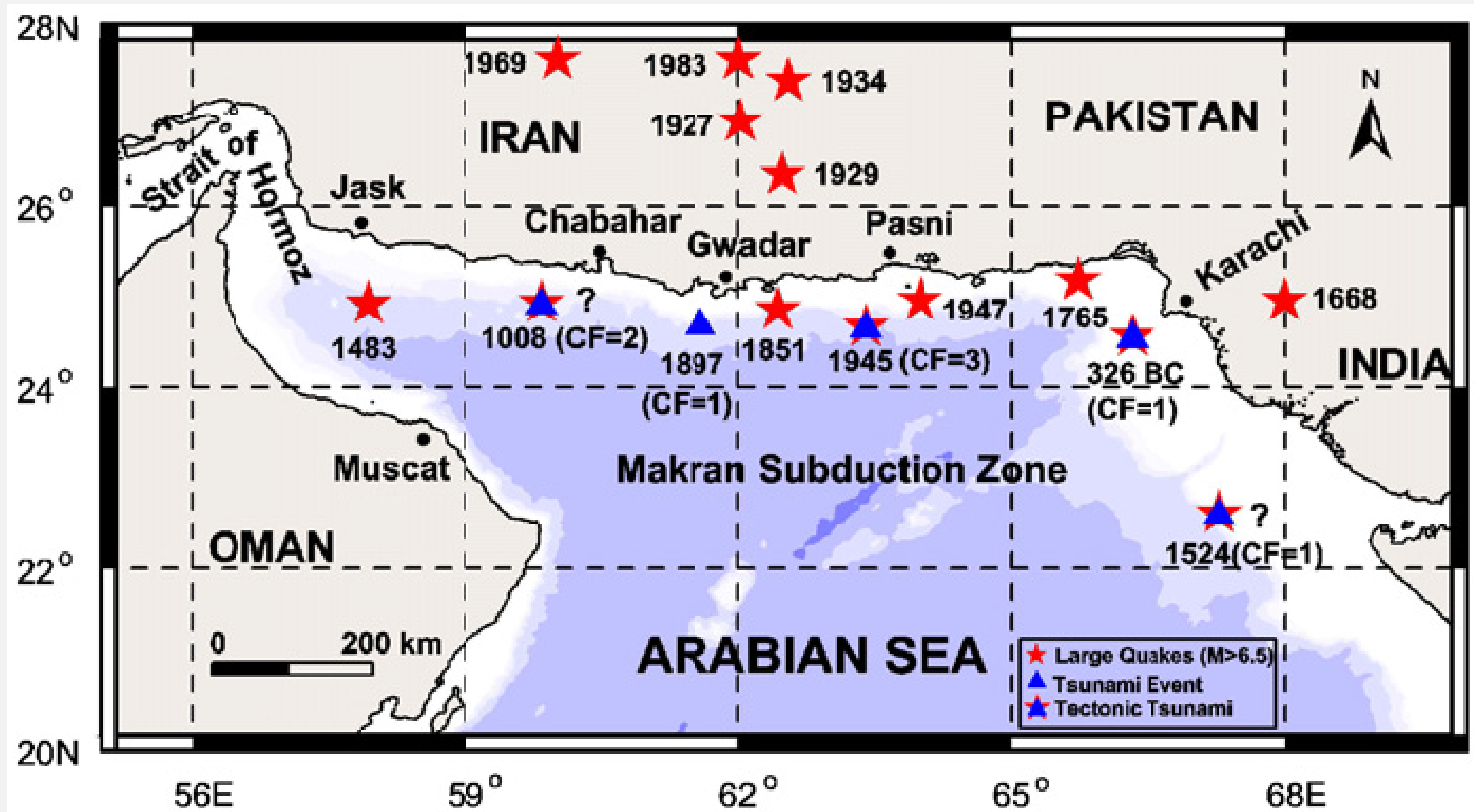


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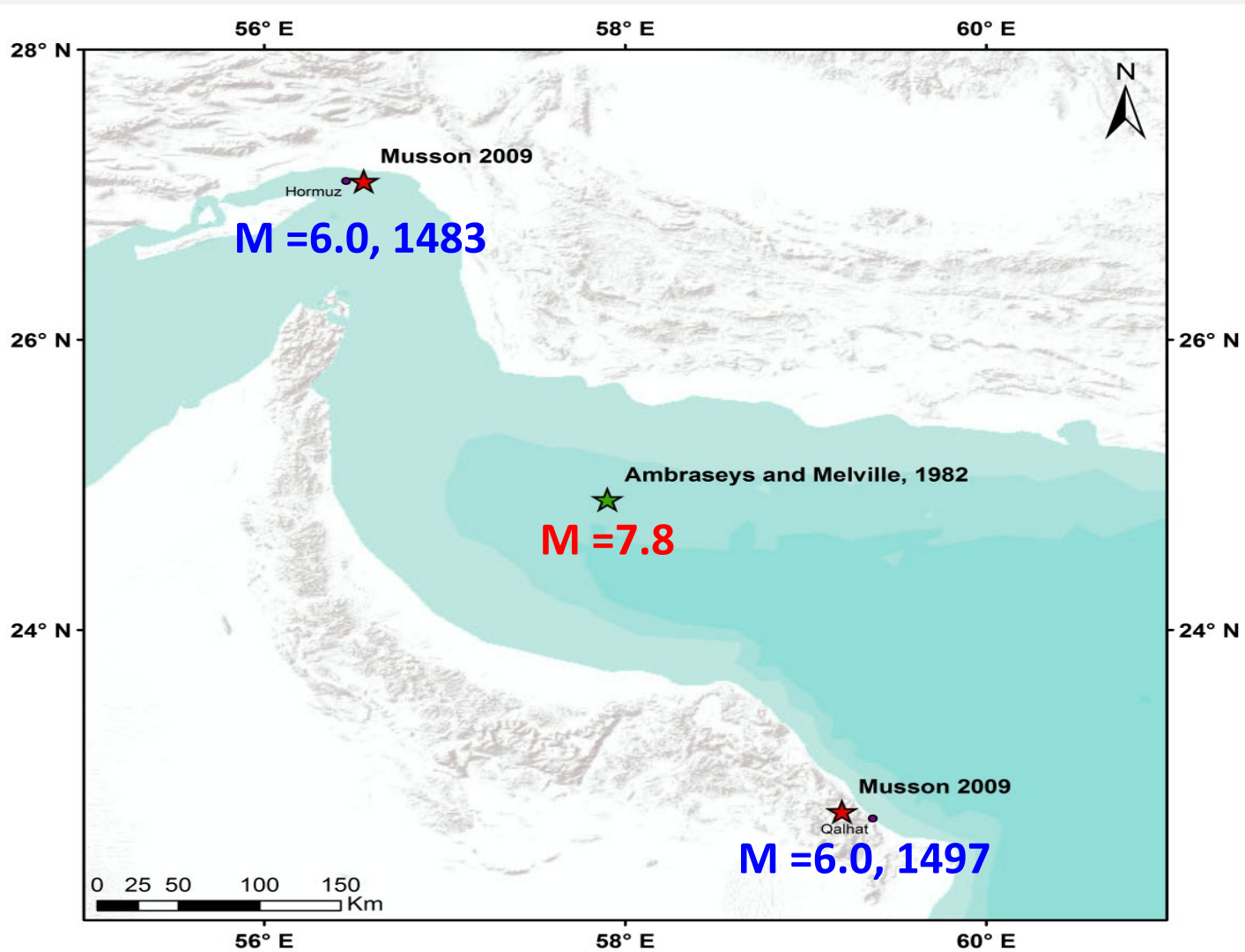
# Change of dip with distance



# Comments on some earthquakes in Makran Subduction zone



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## 1483 AD Earthquake

Ambraseys and Melville, 1982 classified the location of this event as **very approximate**, being large ( $M_s$  7.8) but with insufficient details.

Musson 2009 concluded that **1483** earthquake was **entirely a local event to Hormuz** and Qalhat is damaged by an earthquake in April **1497**. These two events were of **Mw 6.0**

Ambraseys is listed as a co-author in the Musson et al. (2006) study, implicitly implies that Ambraseys retracted his previous opinion

Musson, R.M.W., K.J. Northmore, S.L. Sargeant, E.R. Phillips, D. Boon, D. Long, K.McCue, and **N.N. Ambraseys**, "Vol. 4: Geological Hazards," The Geology and Geophysics of the United Arab Emirates, p. 237, British Geological Survey, United Kingdom, 2006



## Conclusions

- MSZ is the place for one of the largest earthquake in the last century
- Historic tsunami originated from east Makran but the west Makran is being relatively quite, active research is needed to answer this question...
- Geological and geophysical researches are needed this purpose.



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**THANK YOU**

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