

Building A Resilient Society: Transferring Sciences to Society

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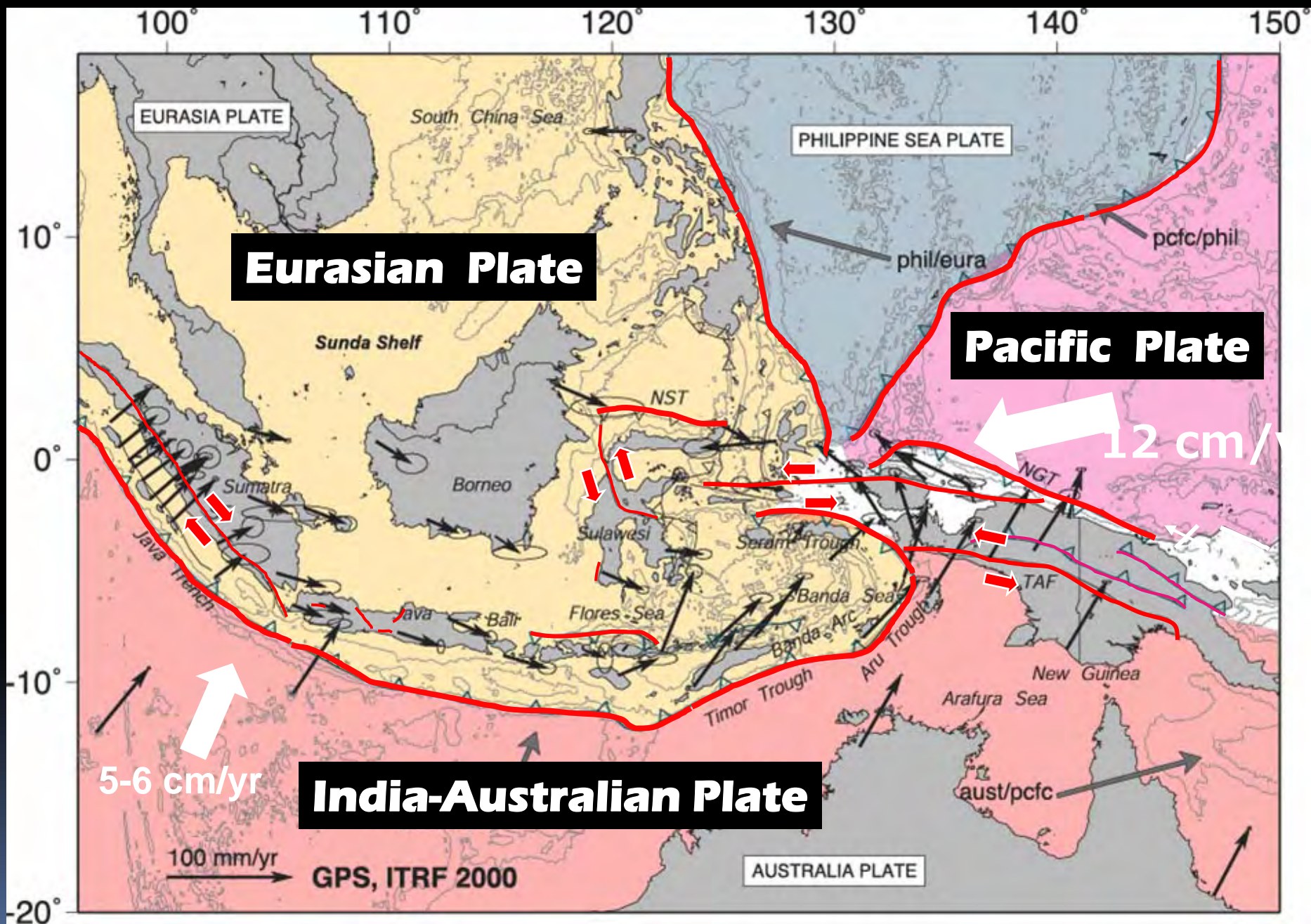
Indonesian Institute of Sciences

Acknowledgement

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- Prof. Kenji Satake, ERI

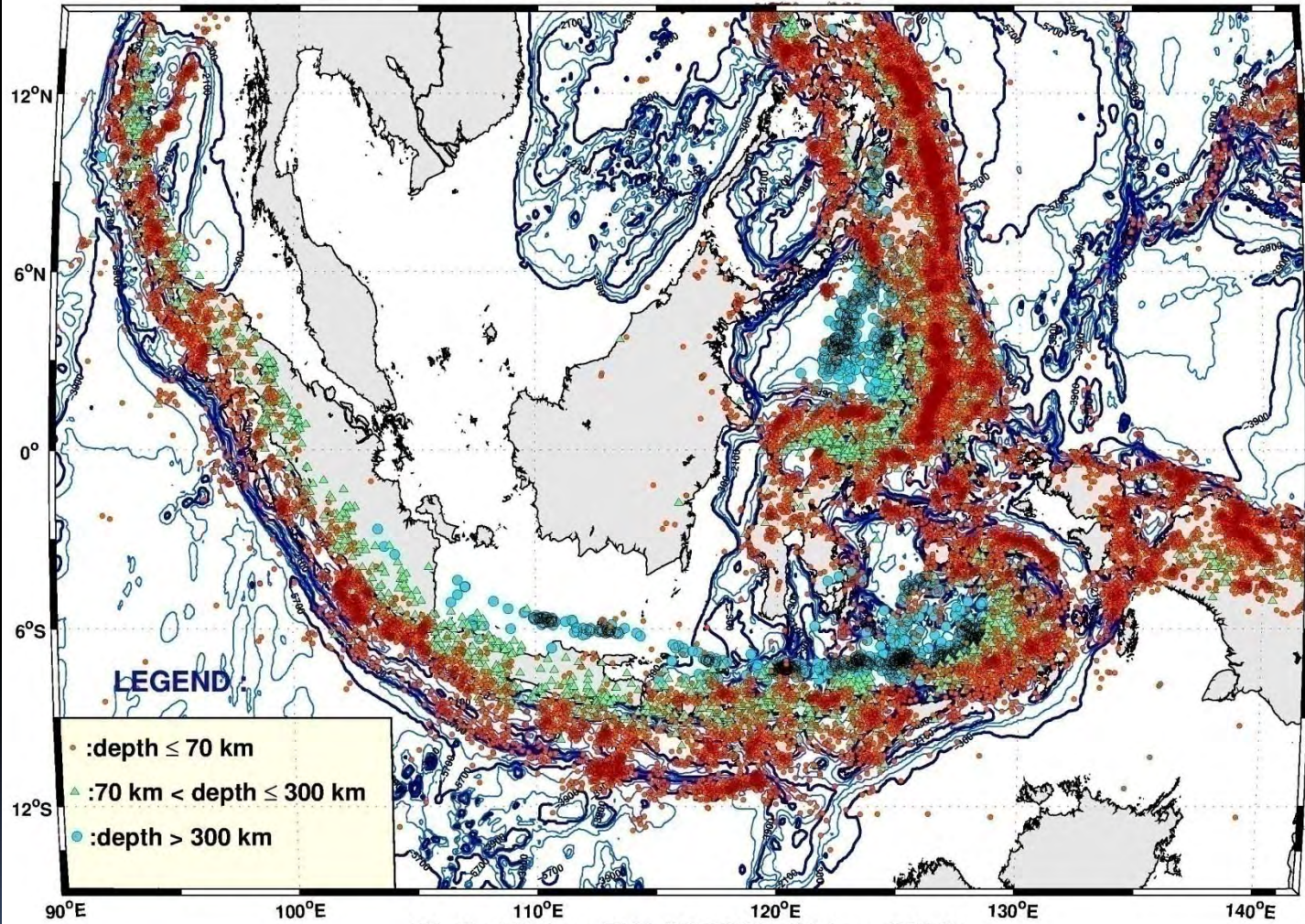
- Prof. Kerry Sieh, Caltech
- Dr. Danny H. Natawidjaja, LIPI
- Dr. Eko Yulianto, LIPI
- Dr. Birger of GFZ, Germany
- Dr. Herryal Anwar, LIPI
- Dr. Torsten, LDR



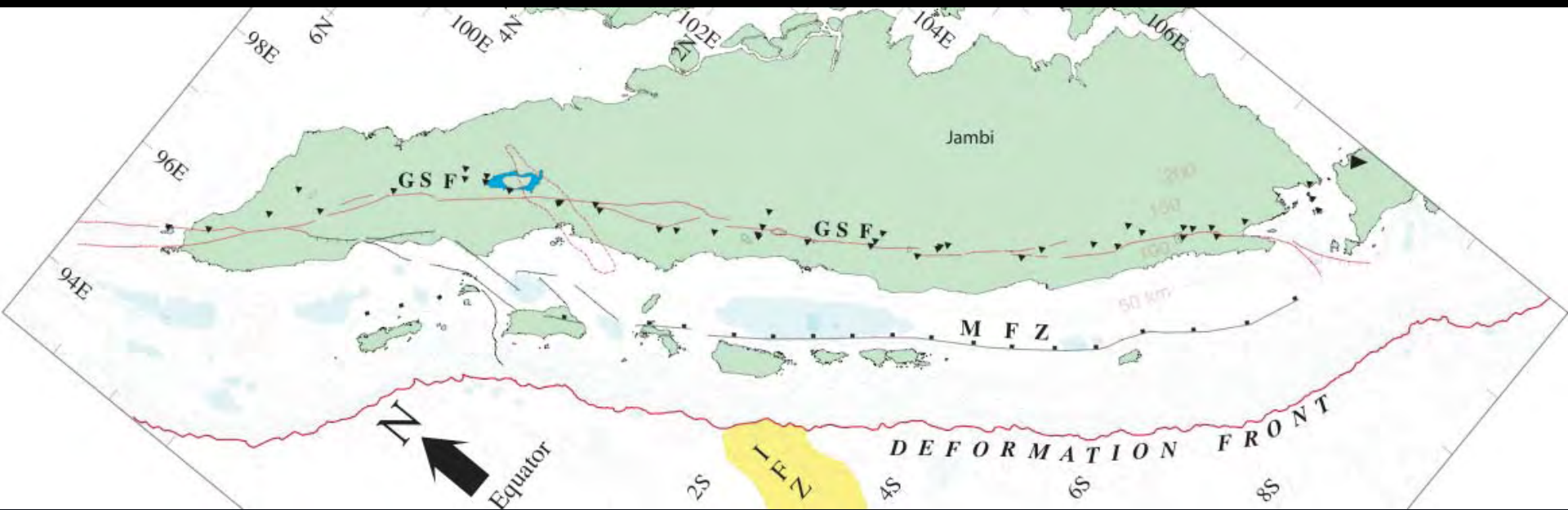


Crustal motions from GPS study (Bock et al, 2004)

Seismicity Map of Indonesian Region (1964 – 2000; Source Catalog: USGS)



(Plotted Using: DISLOCTOOL, Wahyu, 2001)

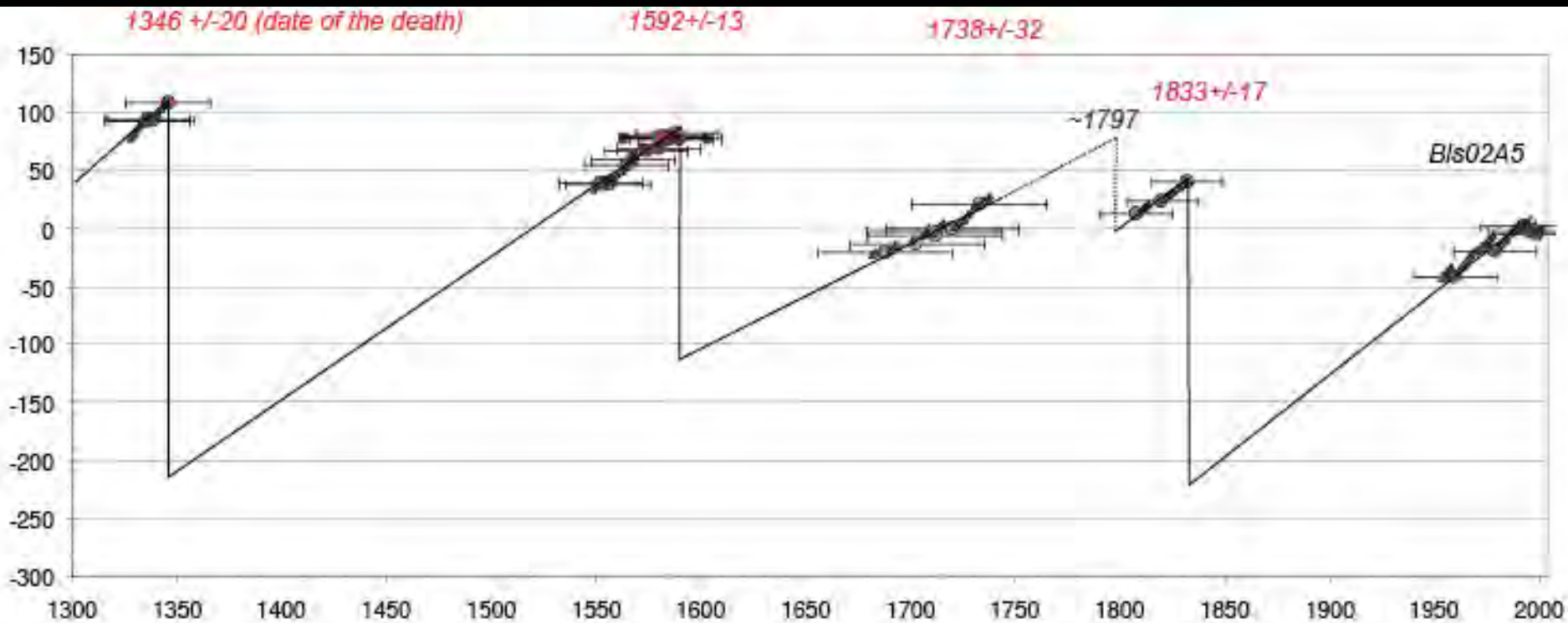


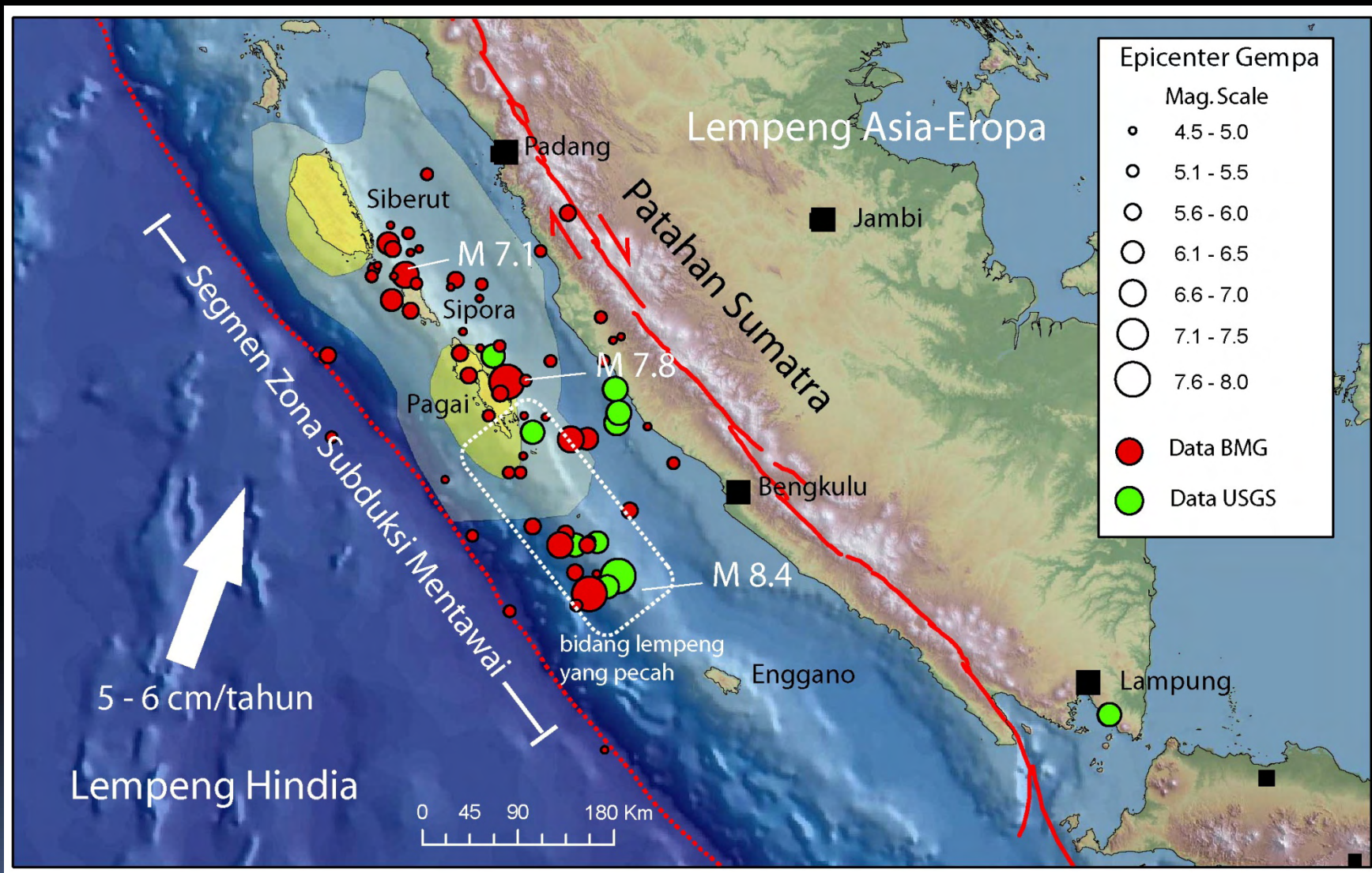


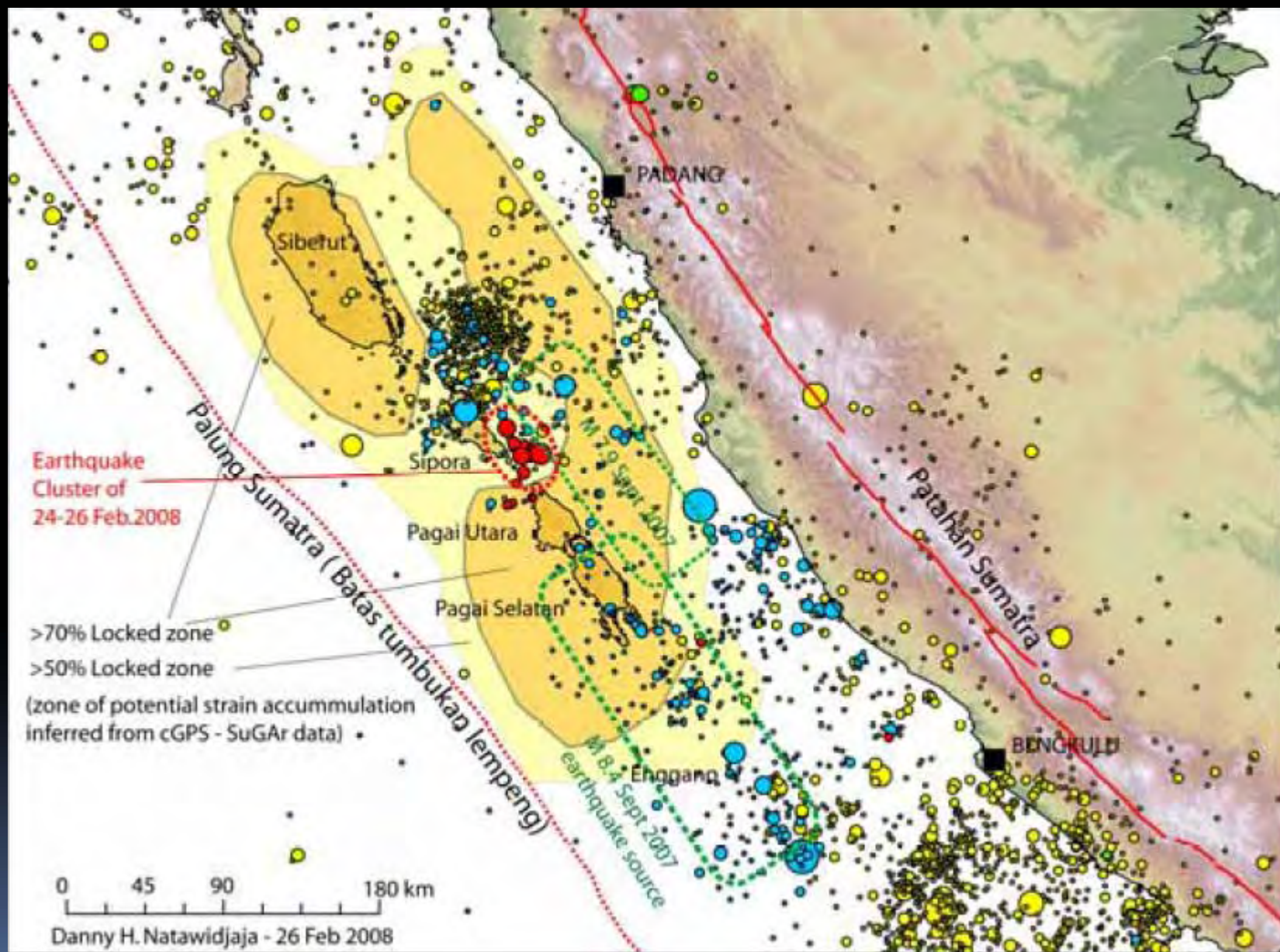
Sumber: Sieh & Natawidjaja

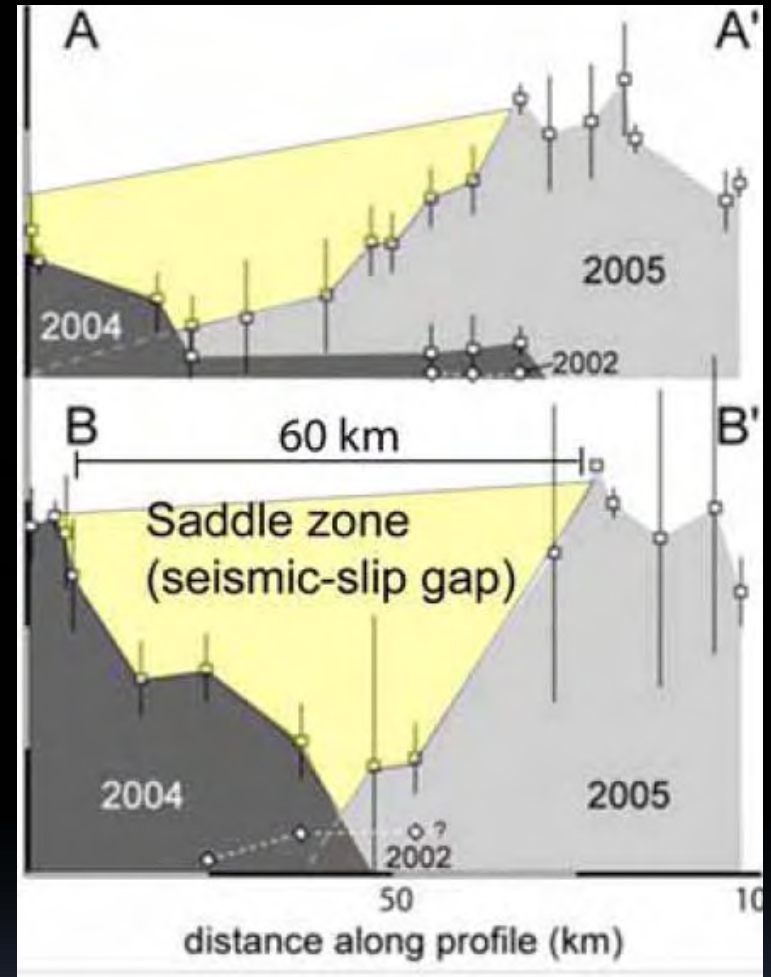
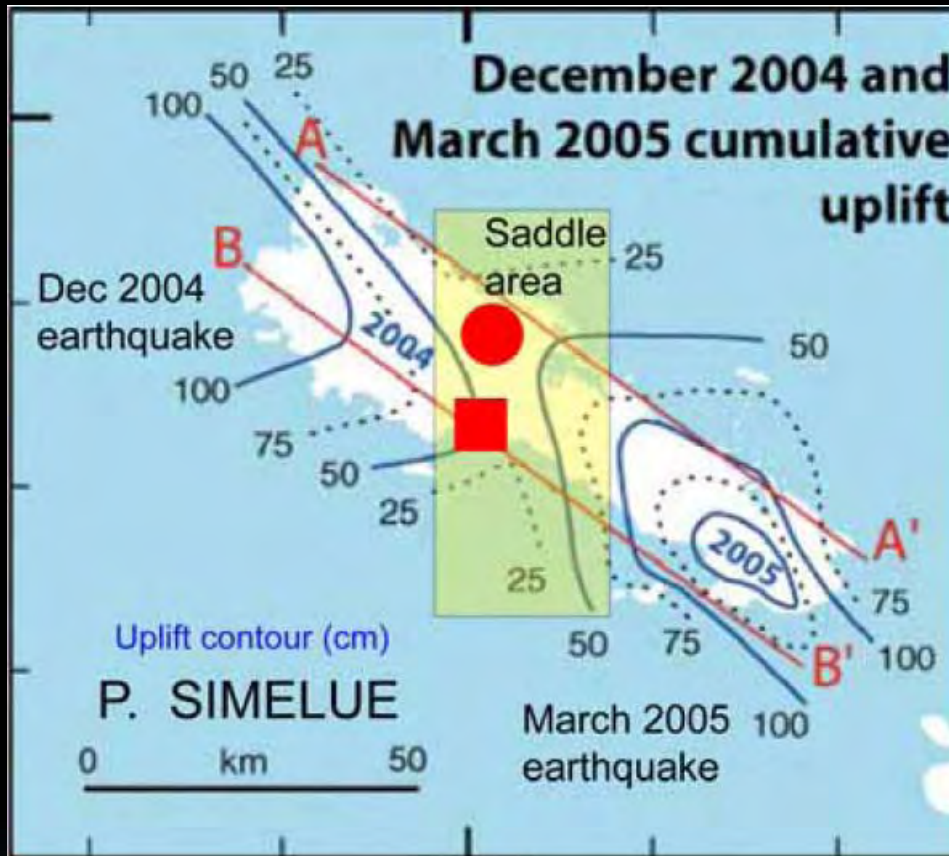


Sumber: Sieh & Natawidjaja



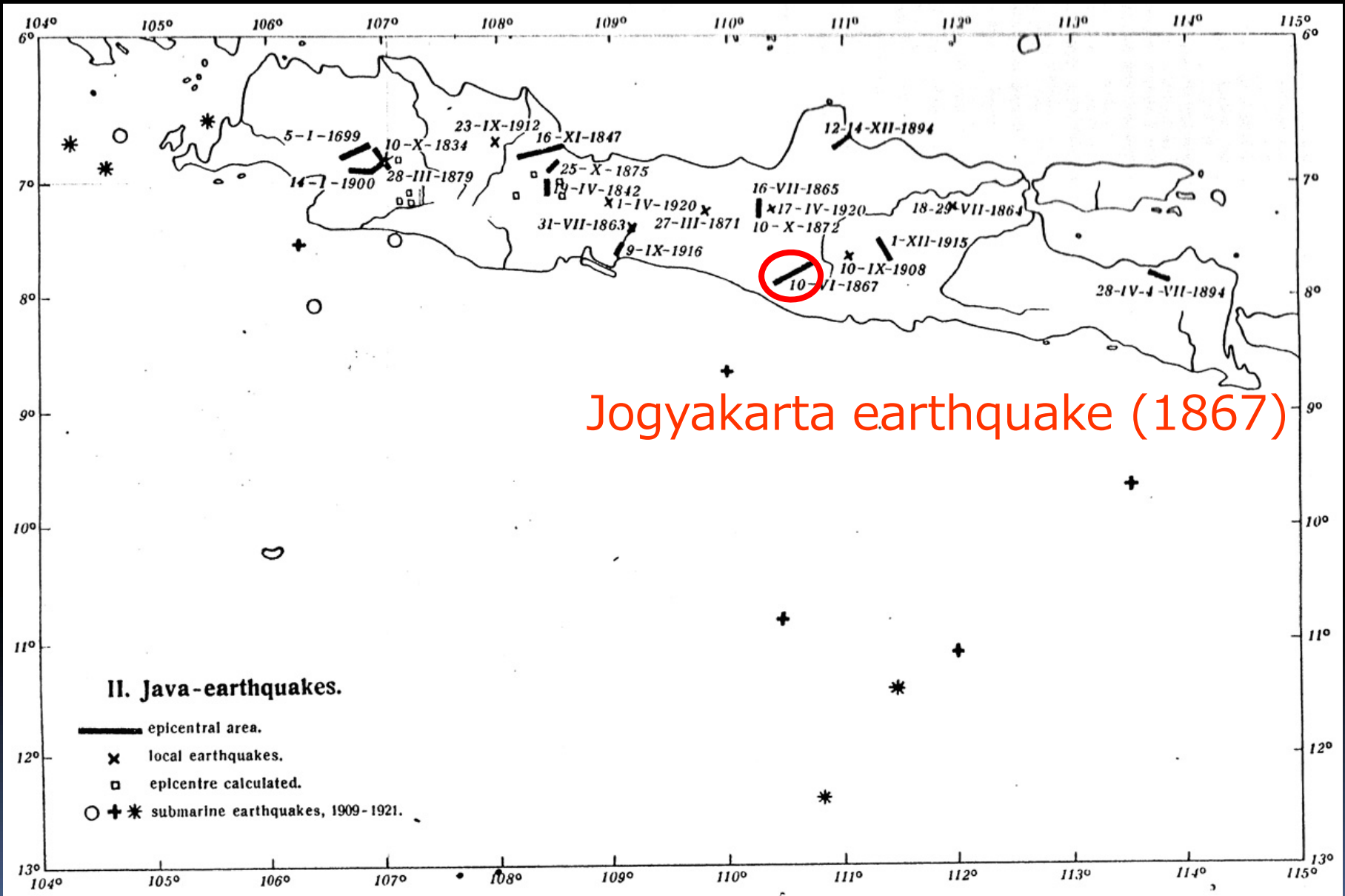






February 28, 2008 Simelue Earthquake M=7.5

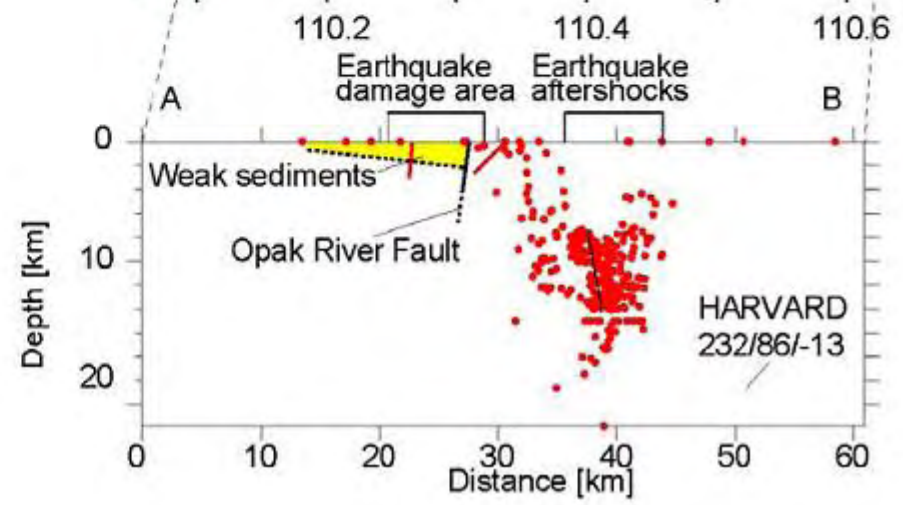
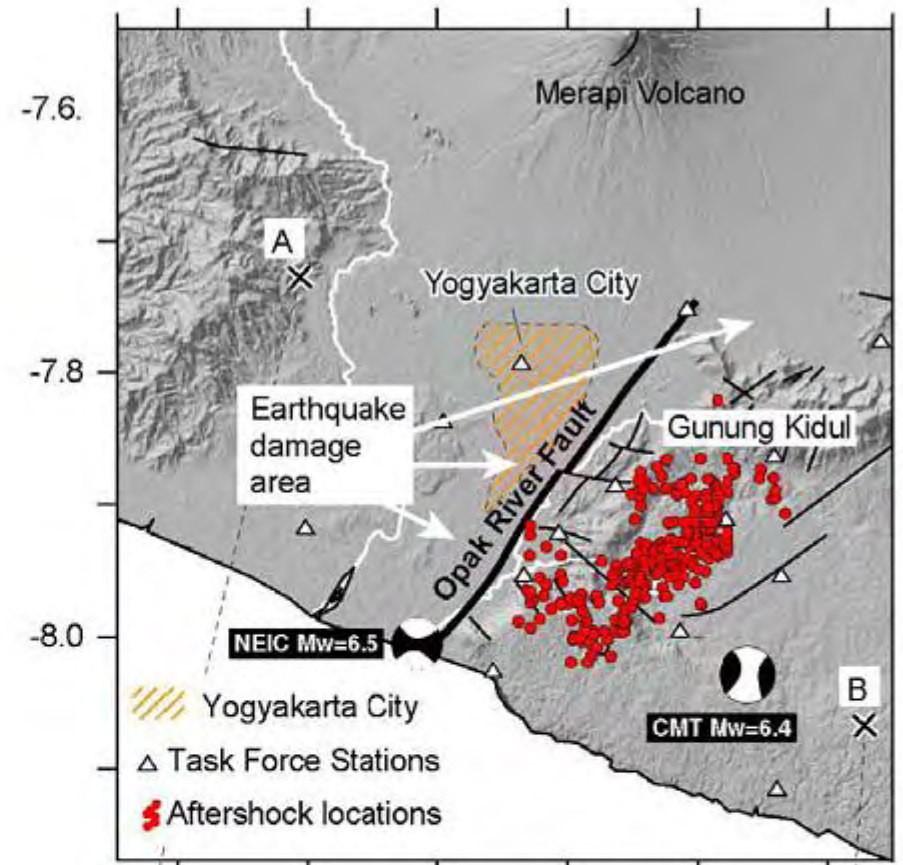
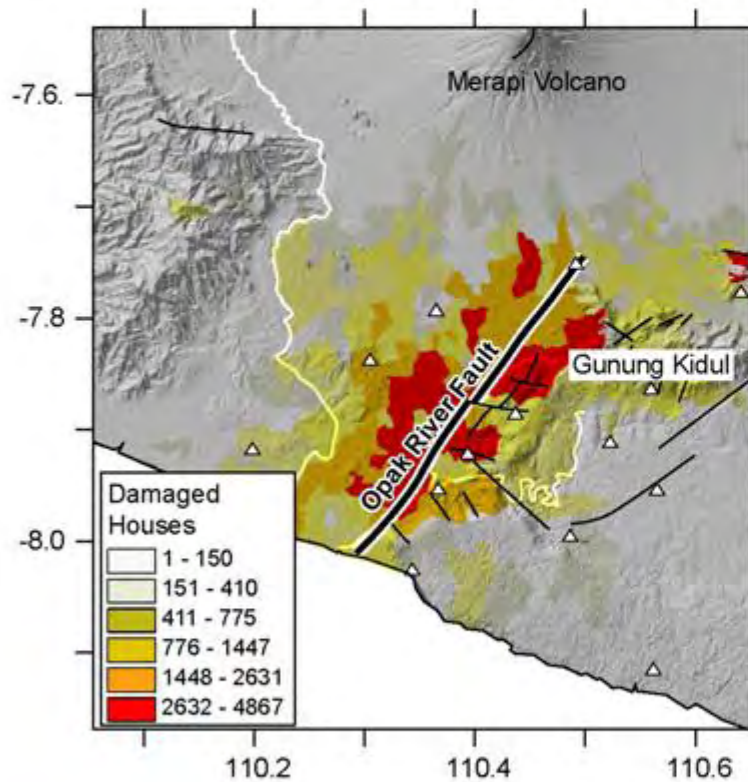
Source: Danny Hilman Natawidjaja



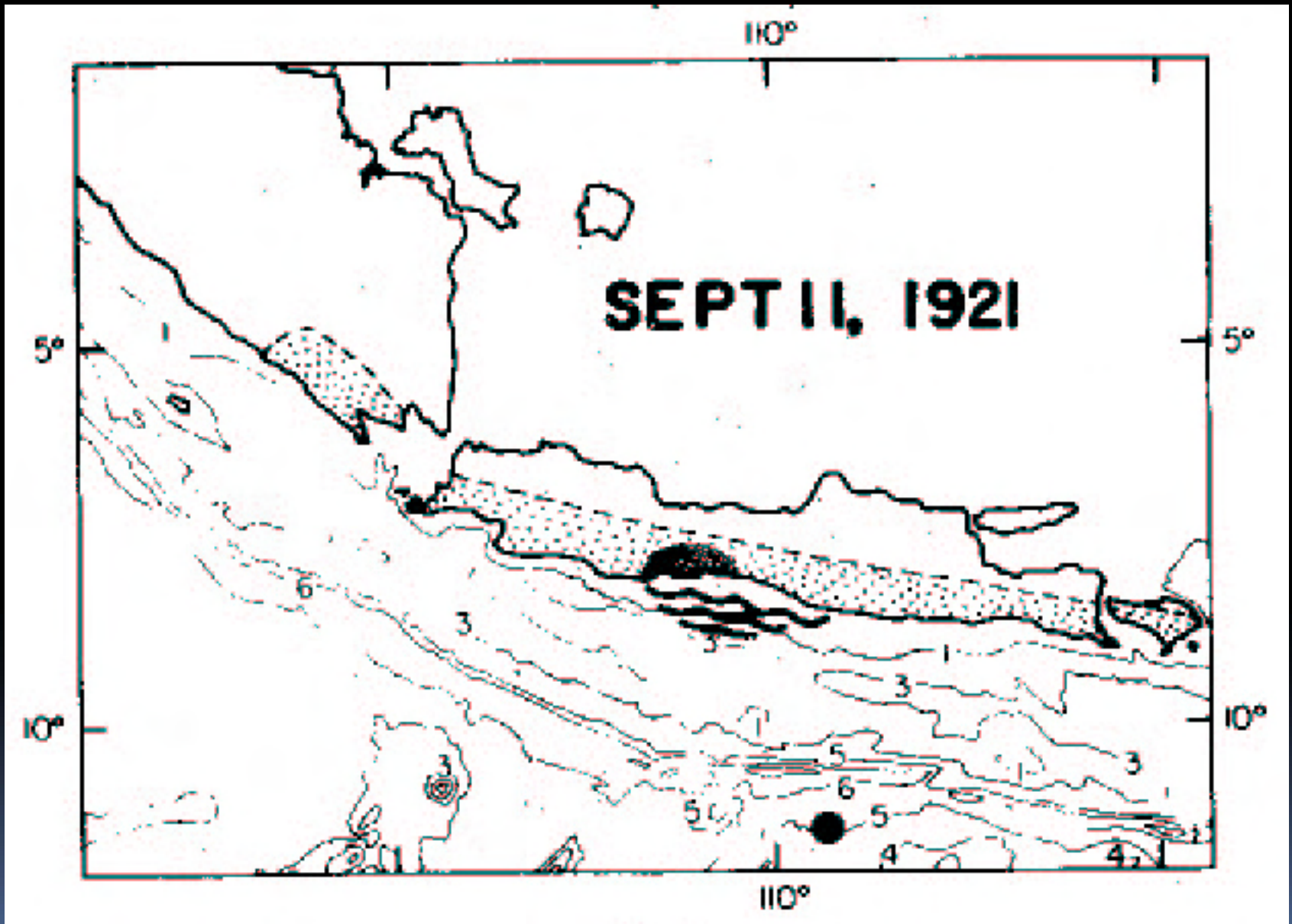
On land earthquakes 1600-1921 (Dr. Visser, 1922)

Distribution of destruction, and of 200 aftershocks

Number houses destroyed or heavily damaged

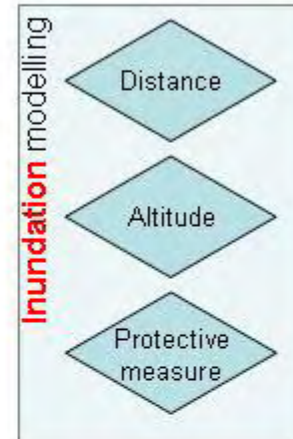
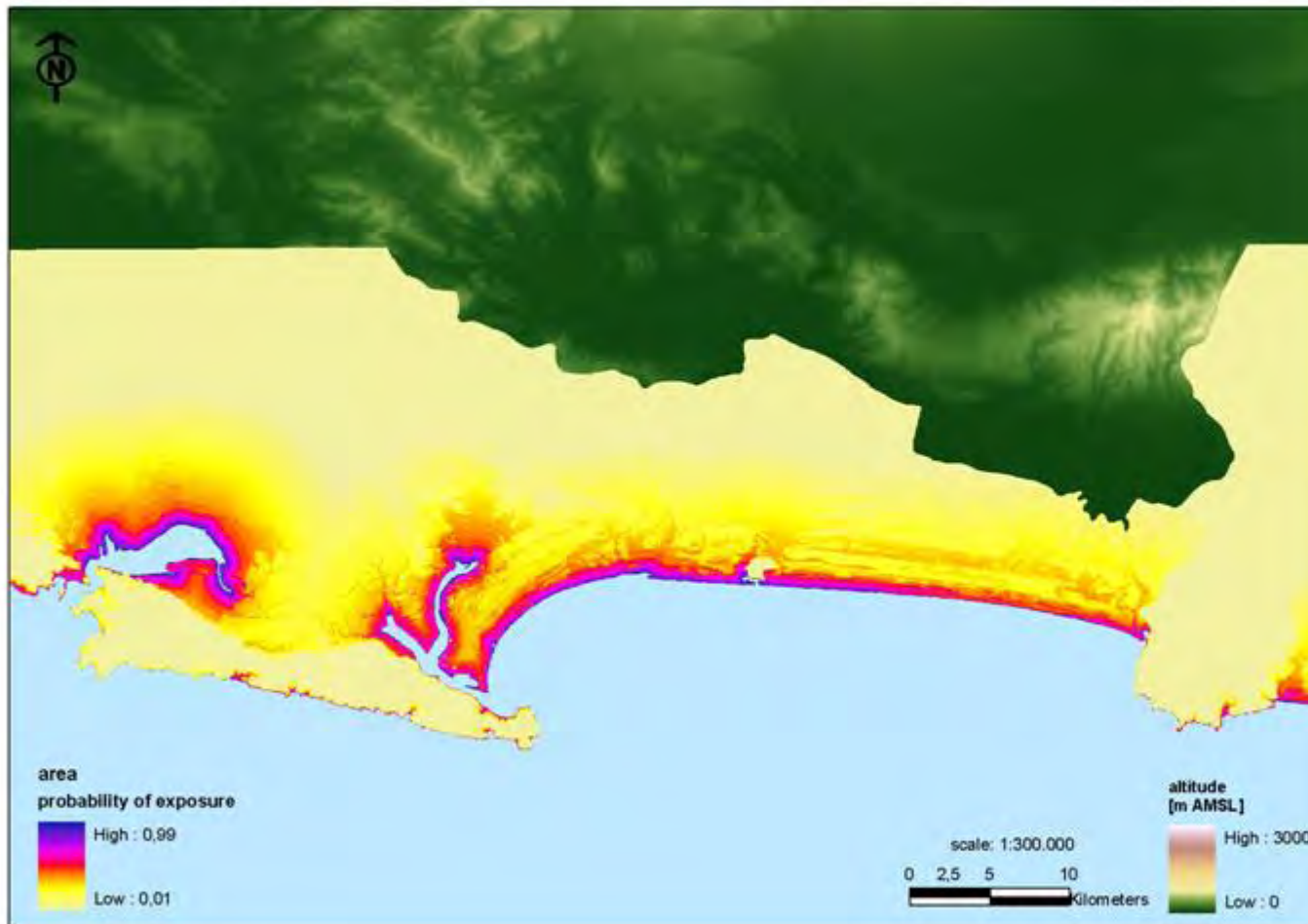


INTRAPLATE EARTHQUAKE, NOT A SUBDUCTION EARTHQUAKE



M 7.5, SEA WARD FROM THE TRENCH, WITH TSUNAM

Combine distance to coast / elevation



low distance to coast
low elevation
low roughness
→
high vulnerability

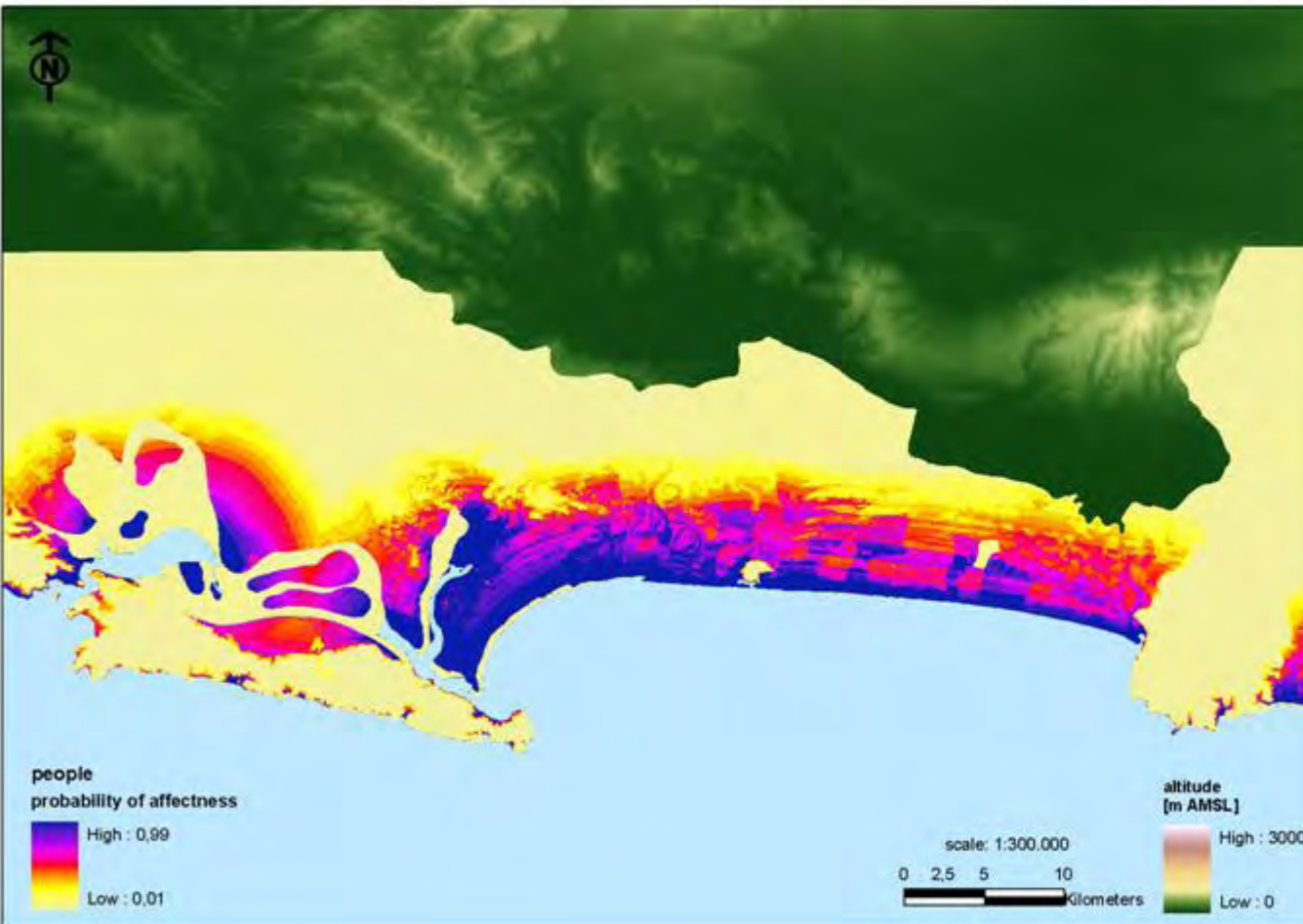
population density



Probability of exposure depending only on the Population density in a desa

Census 2000, BPS

Exposed people



Probability of exposure
depending on the
Population density
in a desa combined with
the exposed areas



Paleotsunami deposit in Langi Bay (Simeulue Island)