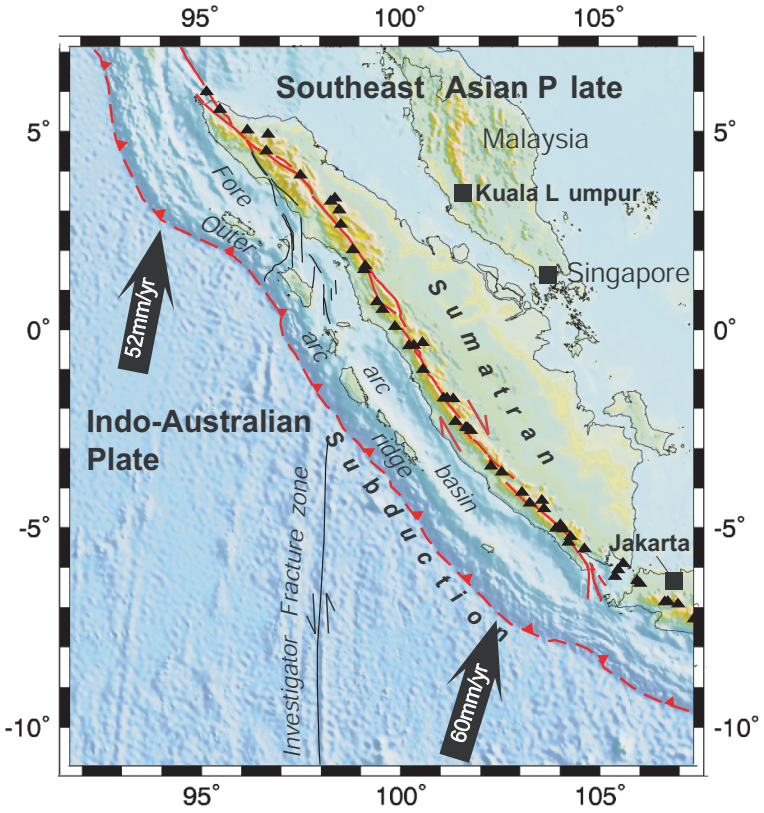

Figure 1.1 Map of the principal tectonic elements of the Sumatran plate boundary, and on ETOPO2 shaded relief base map. Oblique subduction of the Indian and Australia plates beneath Sumatra is accommodated principally by slip on the Sumatran subduction zone and the dextral Sumatran fault. Volcanoes are triangles. Arrows are plate vectors from GPS.

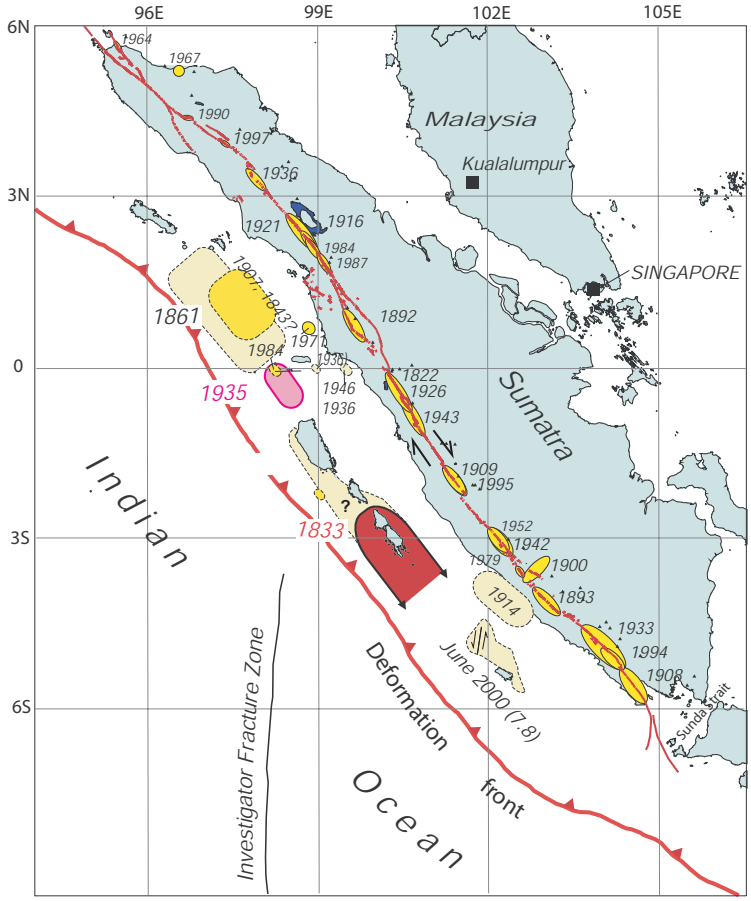

Figure 1.2 Seismologic summary of Sumatra . Source regions of large earthquakes from historical records are in yellow. Those from coral microatoll study appear as colored rectangles. Highly segmented Sumatran provides an opportunity to test the degree to which major structural discontinuities influence rupture dimensions. Paleoseismic and paleogeodetic time-series from coral heads, decades to centuries long, will enable testing of the stationarity of rupture boundaries, fractions of seismic and aseismic slip, slip magnitudes and inter-event times on the subduction interface.