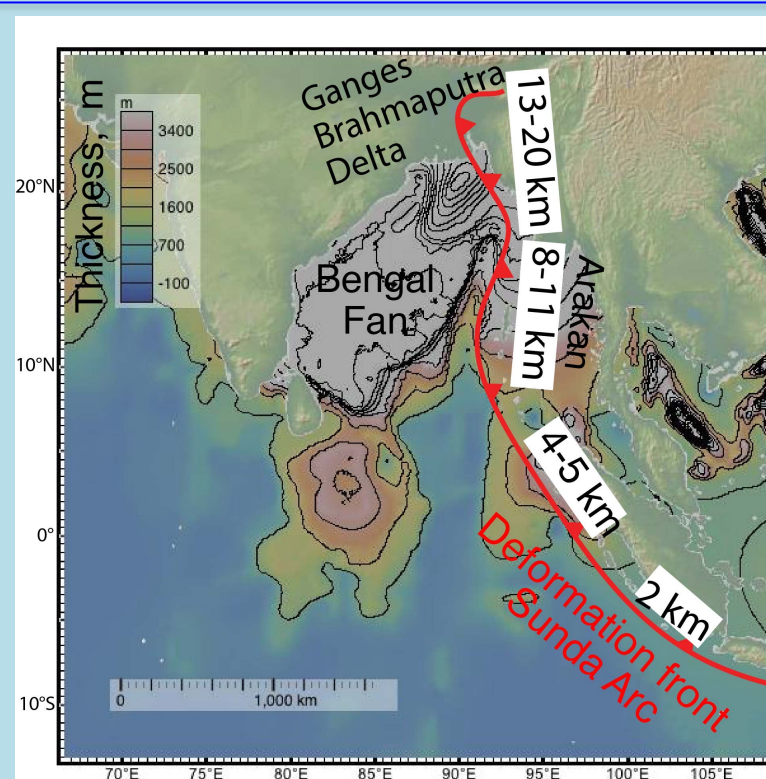


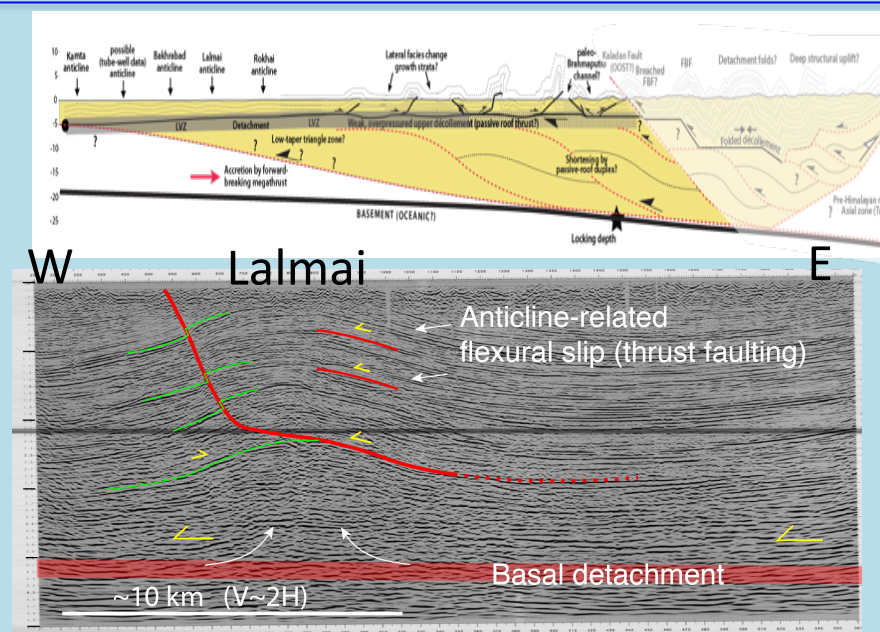
Deformation, earthquakes and tsunamis along thickly sedimented subduction: Arakan segment, Sunda Arc



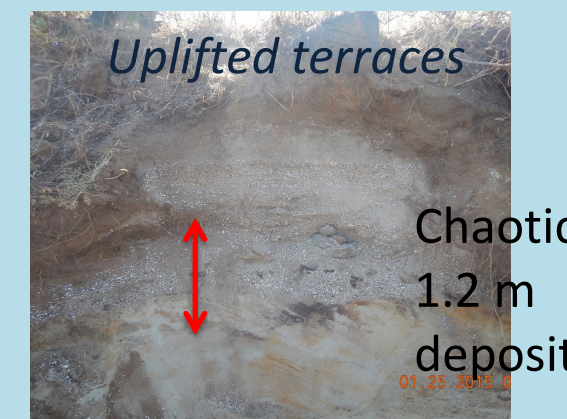
The Arakan segment of the Sunda Arc (Myanmar-Bangladesh) is one of the most sedimented subduction boundaries.



The N. half of the segment is on land or on the shelf as the prism accretes ~20 km thick deposits of the Ganges-Brahmaputra Delta



Folds and low angle thrust faults are rooted into a basal detachment, the frontal part of which is likely advancing at the contact between deep- and shallow-water sediment



- New evidence from the Arakan segment of the Sunda Arc shows that even the most heavily sedimented subduction boundary experiences large coseismic deformations: The 1762 AD and ~1100 AD ruptures extended for >500 km and ~>300 km, respectively
- Evidence for the ruptures and their along-strike dimensions are event deposits with multiple C-14 dates, 6 -2 m of coseismic coastal uplift quantified by GPS and structural growth inferred from coseismic tilt.
- Event deposits and uplifted terraces contain beds with shallow water marine shells (20-200m). Their deposition is related to local displacement during uplift, shallow water tsunami waves and/or uplifted marine terraces.
- Both rupture lengths are consistent with models of $M > 8.5$ earthquakes