

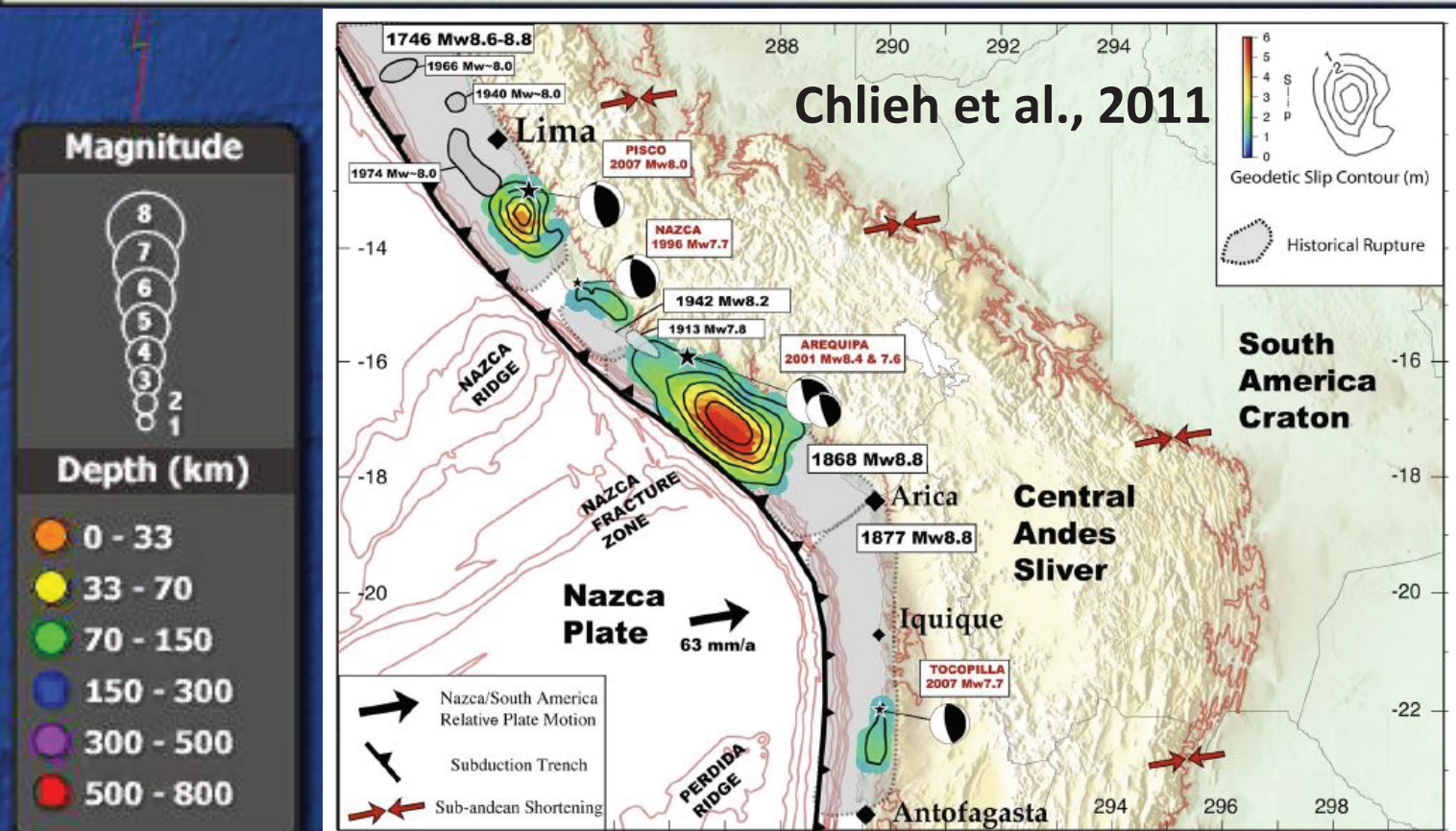


Figure 1. Seismotectonic setting of the Central Andes subduction zone with rupture of large ($M_w > 7.5$) subduction earthquakes on the Peru-Chile megathrust since 1746. The Central Andes sliver is squeezed between the Nazca plate and the South America Craton. Convergence rate of the Nazca plate relative to the South America Craton (black arrow) is computed from Kendrick et al. [2003]. Shortening across the Subandean foothills is represented with the red arrows (assumed parallel to the Nazca/South America plate convergence). Red contours are the 1000 m of the Andes topography and the -5000 m to -3000 m bathymetric contour lines. Historical ruptures are compiled from Beck and Ruff [1989] and Dorbath et al. [1990]. Slip distributions of the 2007 $M_w = 8.0$ Pisco, 1996 $M_w = 7.7$ Nazca, 2001 $M_w = 8.4$ Arequipa and 2007 $M_w = 7.7$ Tocopilla earthquakes were determined from joint inversions of the InSAR and GPS data (this study). These source models include coseismic and afterslip over a few weeks to a few months depending on case. Slip contours are reported each 1-m. The color scale indicates slip amplitude.

