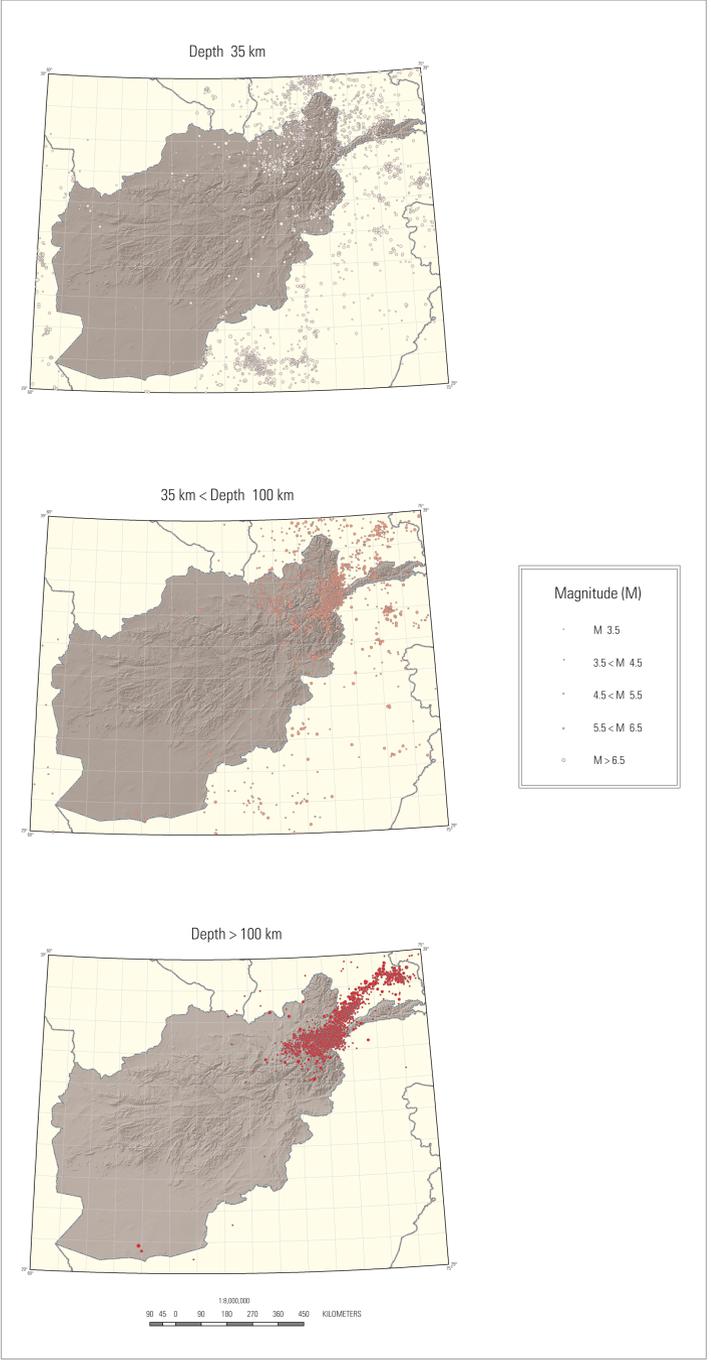
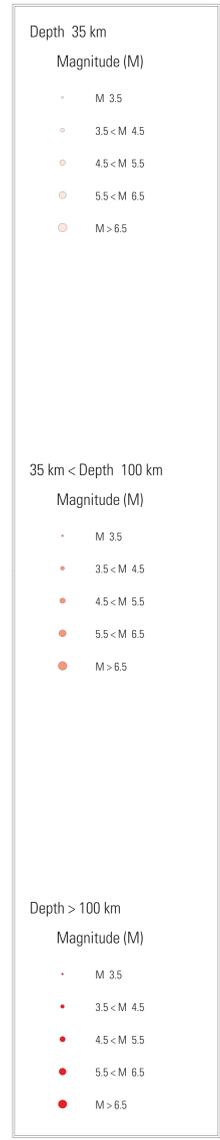
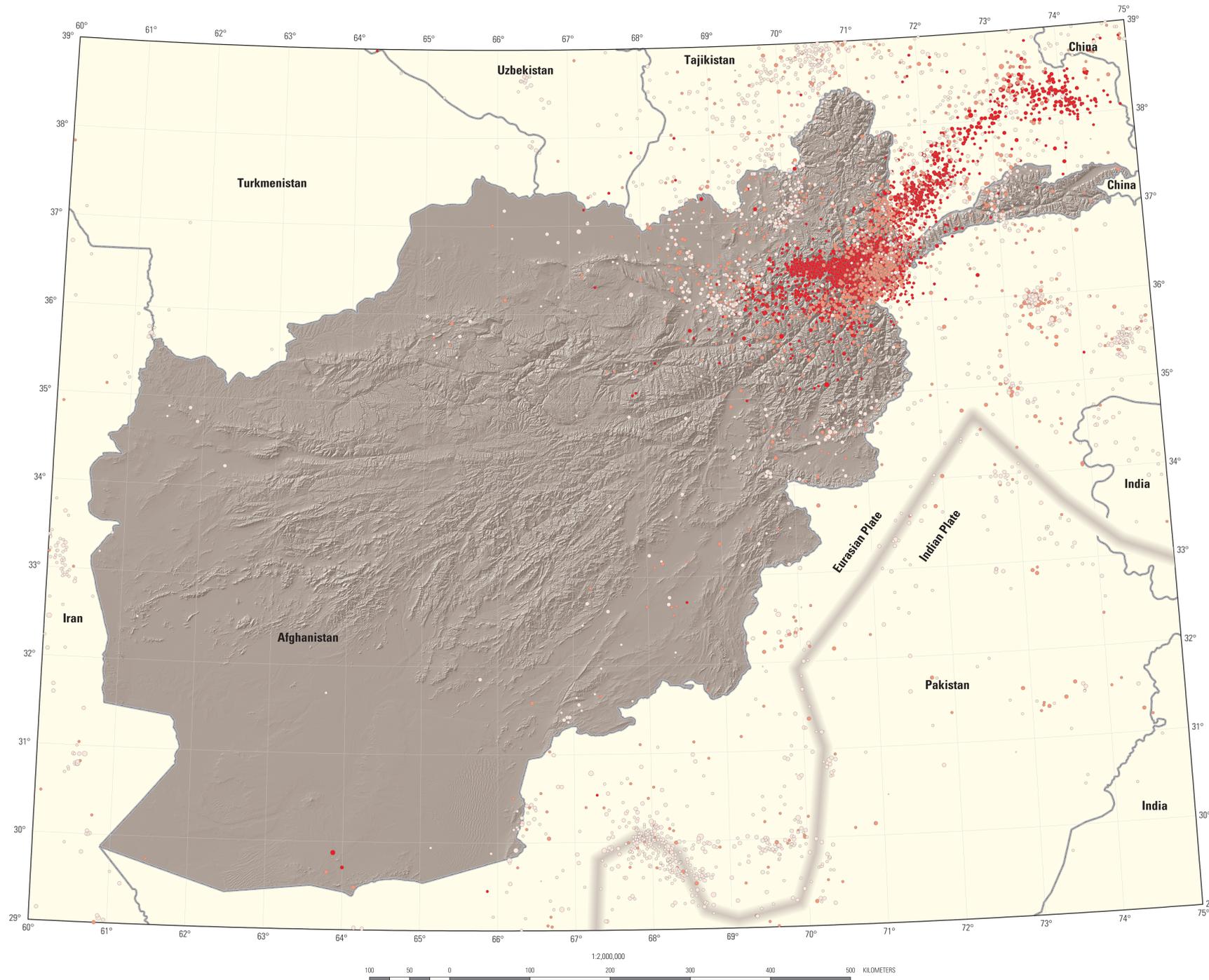


Instrumental Seismicity (1964–2004) of the Afghanistan Region

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Colored circles are the 6,354 instrumentally located epicenters of earthquakes that occurred from 1964 through mid-December 2004. Earthquakes of magnitude less than 4.5 would have been felt only near the epicenters, if at all. Earthquakes of magnitude larger than 6.5 would likely have been felt at locations hundreds of kilometers from the epicenters. Earthquakes in and around the Afghanistan region occur on or near the boundary of the Eurasian and Indian tectonic plates. The two plates are converging towards each other at a rate of about 4 cm/year. The faulting that produces these earthquakes reflects both internal deformation of the two plates and slip on the boundary between the plates.

Instrumentally located earthquakes since 1964 are the earthquakes in the Afghanistan region that have the highest quality locations. These can be used to accurately define seismogenic zones. The largest earthquakes can be felt over a large area; for these earthquakes the epicenters shown on this map are the location of the initiation of rupture. Historically damaging earthquakes, some of which lie outside the seismogenic zones delineated on this map, are shown on plate 2 of this Open-File Report.

Earthquake locations and magnitudes are from the "Summary Catalog of Afghanistan Earthquakes" that is documented in Chapters A and B of this report and included as a digital file on the report CD-ROM. Topography is from the Shuttle Radar Topography Mission (SRTM) Digital Elevation Model of Afghanistan by Chirico and Barrios (2005).

Reference:
Chirico, P.G., and Barrios, B., 2005, Void filled SRTM Digital Elevation Model of Afghanistan: U.S Geological Survey Data Series 130, 1 disc.