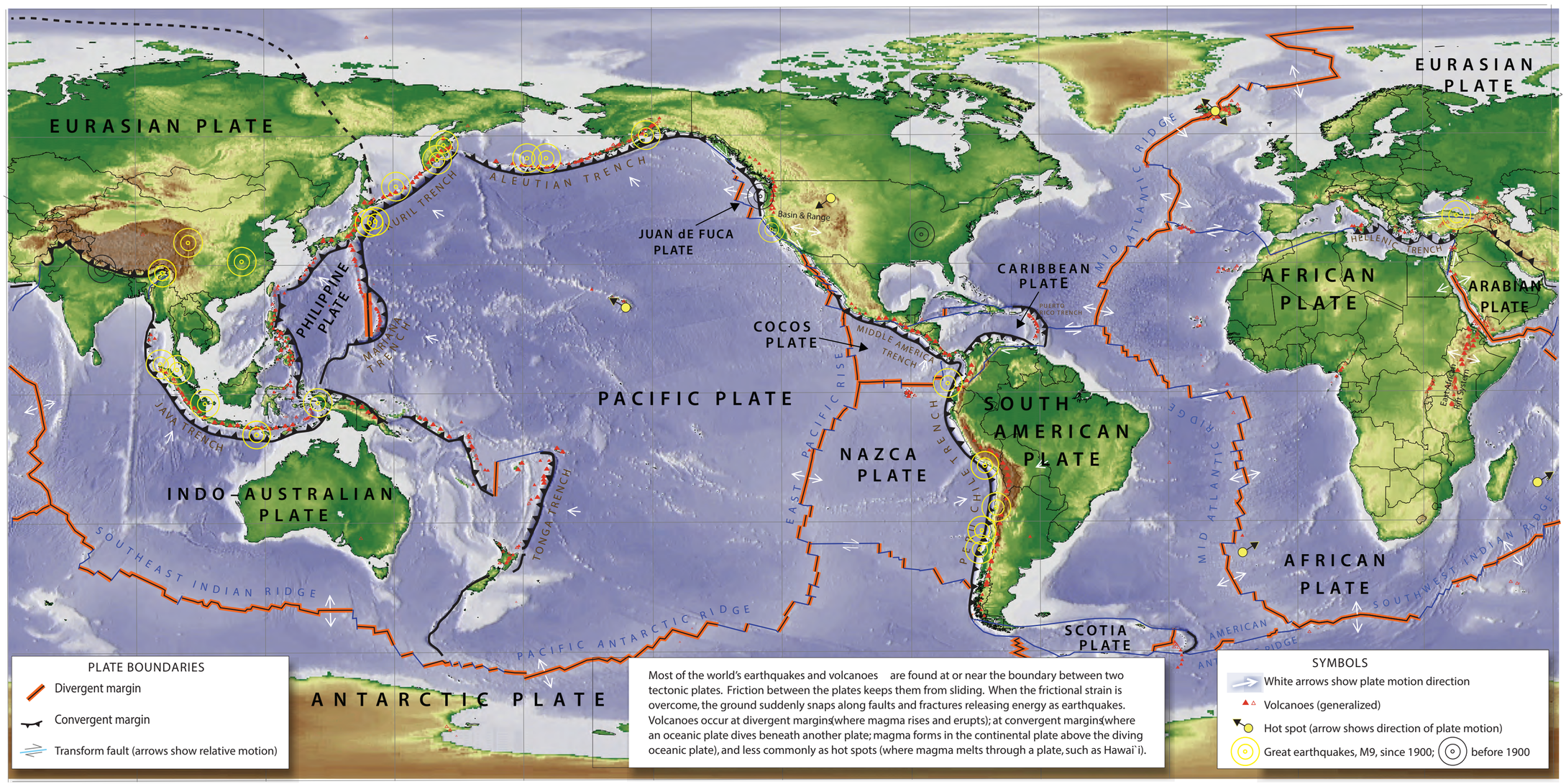
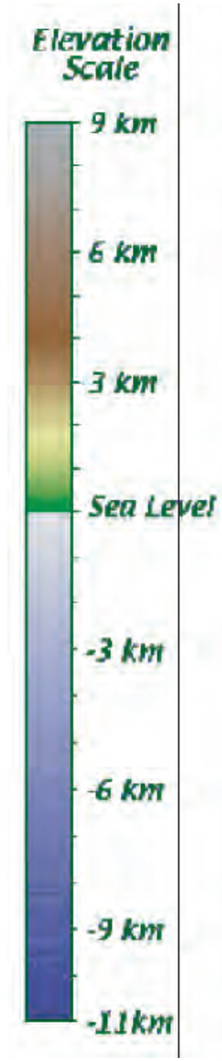
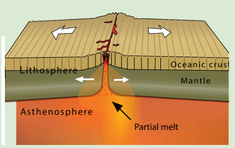
Map of Major Tectonic Plates and Select Great Earthquakes and Volcanoes.





Divergent Boundaries & Spreading Zones

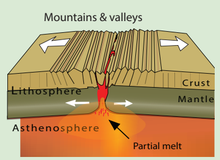
Spreading center—Fast



Divergent boundaries occur mostly along spreading centers where the magma rises forming new crust. (Ex. East Pacific Rise, Mid Atlantic Ridge.)

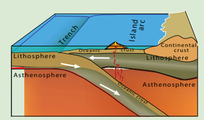
Spreading zones (no graphic) on continents create parallel mountains and valleys as the crust pulls apart (ex: Basin & Range, U.S. and the Great Rift Valley, Africa.)

Spreading center—Slow

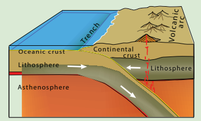


Convergent Boundaries

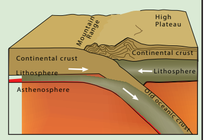
When two plates move toward each other, crust is destroyed as one plate dives (is subducted) beneath the other. The location where sinking of a plate occurs is called a subduction zone.



Ocean-Ocean —Ocean plate dives beneath another ocean plate; volcanic island chain forms above the zone (ex:. The Marianas)

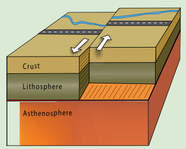


Ocean-Continent: Ocean plate dives beneath a continental plate. Volcanic mountain chain forms inland. (ex:. Cascade Range, Sumatra, Japan)



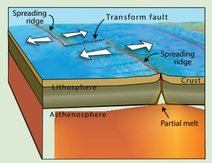
Continent-Continent: Two thick continental plates collide and buckle into high mountains. (ex: Himalaya Mountain Range.)

Transform Boundaries



Strike slip faults result from two plates moving horizontally in opposite directions (ex: San Andreas Fault, California).

As surrounding plates are driven by deep forces to move apart or crunch together, the in-between areas are pushed around on the surface. This forces them to slide past each other horizontally.



Transform faults are where two plates are moving away from a spreading ridge and fracture zones develop (ex: ocean floor)

Background map courtesty of Scott Walker (Digital Cartography Specialist, Harvard College Library); graphics and tectonic & volccanic features by Jenda Johnson (Volcano Video & Graphics)