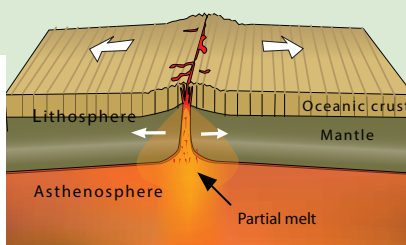


Map of Major Tectonic Plates



Divergent Boundaries & Spreading Zones

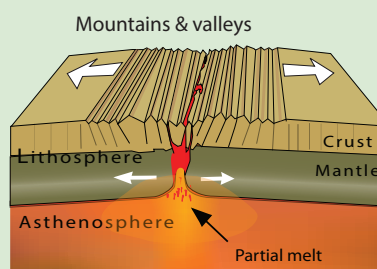
Spreading center—Fast



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



Tectonic Plates and Select Great Earthquakes and Volcanoes

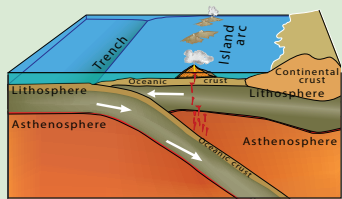


Most of the world's earthquakes and volcanoes are found at or near the boundary between two tectonic plates. Friction between the plates keeps them from sliding. When the frictional strain is overcome, the ground suddenly snaps along faults and fractures releasing energy as earthquakes. Volcanoes occur at divergent margins (where magma rises and erupts); at convergent margins (where an oceanic plate dives beneath another plate; magma forms in the continental plate above the diving oceanic plate), and less commonly as hot spots (where magma melts through a plate, such as Hawai'i).

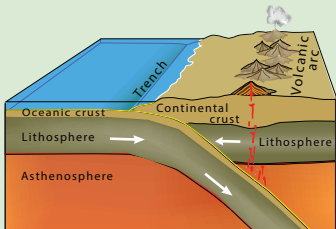


Convergent Boundaries

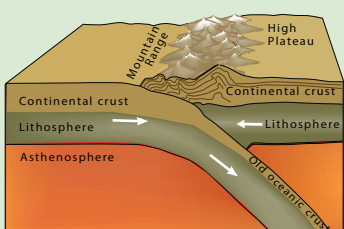
When two plates move toward each other, crust is destroyed as one plate dives (is subducted) beneath the other. The location where sinking of a plate occurs is called a subduction zone.



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)

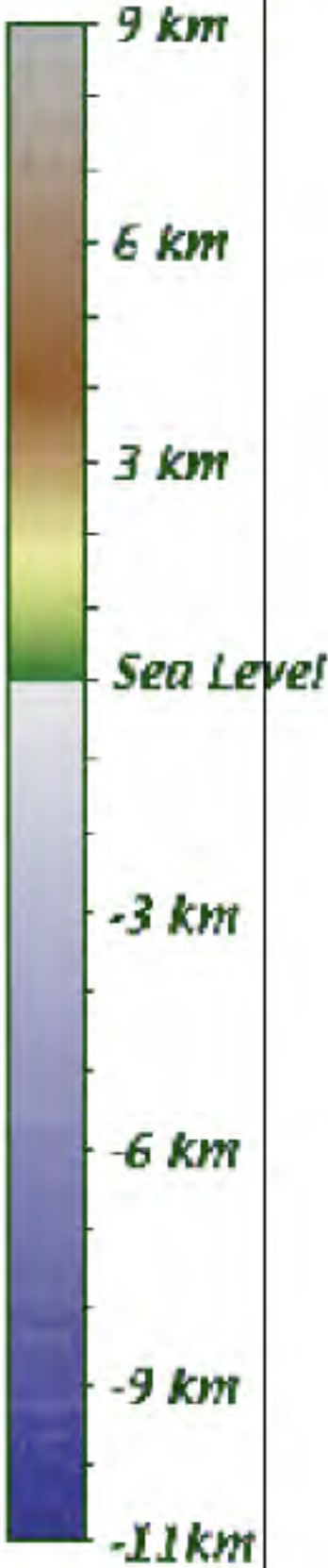


Continent-Continent: Two thick continental plates collide and buckle into high mountains. (ex: Himalaya Mountain Range.)

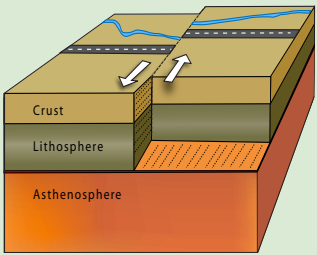
anoes.



Elevation Scale

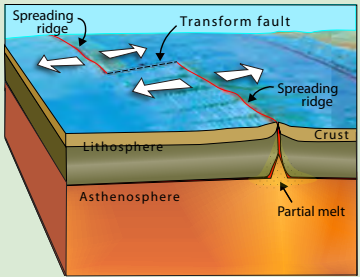


Transform Boundaries



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)