



This map builds on the Tectonic Plates map by adding sea floor age data. Note that the youngest sea floor ages are found at the mid-ocean spreading ridges, where new rock is constantly coming up from under the crust to heal the rifts formed as tectonic plates move away from one another. Most new crust forms at these mid-ocean spreading ridges.

The crust ages as it moves away from the spreading ridges, and eventually gets pushed back into the Earth in a subduction zone. Because oceanic crust subducts more easily than continental crust, all of the sea floor eventually is recycled by subduction while very little continental crust is consumed in subduction. The result is that the oldest oceanic crust is still much younger than the oldest continental crust.

The oldest sea floor in the world is found in the Mediterranean Sea. The next oldest sea floor ages are found in the northeastern Atlantic and the northeastern Pacific, far from any spreading ridges. The northeastern Pacific also has a long convergent boundary, where some of the oldest sea floor is now being subducted back into the interior of the Earth. In areas where spreading rates are slow, sea floor age changes quickly as you move away from the spreading ridge. Conversely, in areas where spreading rates are fast, sea floor age changes more slowly as you move away from the spreading ridge.

# SEAFLOOR AGE

Plate Boundary - Referenced from Bird, Peter (2003) An updated digital model of plate boundaries. (Orogen boundaries omitted).

Plate Convergence Vectors - Referenced from United States Geological Survey; Convergence data are shown by arrows describing direction and speed, relative to the plate across the boundary.

Plate Divergence Vectors - Referenced from Digital Tectonic Activity Map; Divergence data are shown by double arrows describing direction and speed.

Sea floor Age - Referenced from Muller, R.D., M. Scrolias, C. Galin, and W.R. Rose (2005) Age, spreading rates and spreading symmetry of the world's ocean crust. *Geochem. Geophys. Geosyst.*, 9, Q04006. doi:10.1029/2007GC001743.

Projection: Robinson (World)

Produced by California Institute of Technology Seismological Laboratory  
April 2009