

References and Further Reading

Chapter 4: Plate Tectonics

The USGS online text, The Dynamic Earth, by Jacquelyne Kious and Robert Tilling (<http://pubs.usgs.gov/gip/dynamic/dynamic.html>) does a nice job of explaining the historical development of plate tectonics and summarizing the features associated with plate boundaries. Another excellent site for understanding some of the key concepts in plate tectonics is Dynamic Earth (<http://earth.leeds.ac.uk/dynamicearth/index.htm>) by Rob Butler of the University of Leeds, United Kingdom.

Information on the topography of the ocean floor and Earth's magnetic field is available at the National Oceanic and Atmospheric Administration's (NOAA) National Geophysical Data Center (NGDC) (<http://www.ngdc.noaa.gov/ngdc.html>). Check out the maps of the ocean floor and U.S. coastlines available under the link for Bathymetry and Global Relief (<http://www.ngdc.noaa.gov/mgg/bathymetry/relief.html>) and the frequently asked questions about the geomagnetic field (<http://www.ngdc.noaa.gov/geomag/faqgeom.shtml>). Data on the global distribution of earthquakes and volcanoes is available at the USGS sites for Earthquake Hazards (<http://earthquake.usgs.gov/>) and Volcano Hazards (<http://volcanoes.usgs.gov/>).

Our modern understanding of how plate tectonics works is discussed in an online Oceanus article, The Engine that Drives Earth, by Robert Detrick available at the Woods Hole Oceanographic Institutions website

(<http://www.whoi.edu/oceanus/viewArticle.do?id=2438>). How scientists measure present day plate motions is described at NASA's Space Geodesy site, Tectonic Plate Motion (<http://cdis.nasa.gov/926/slrTECTO.html>). You can even calculate the current motion for a point on Earth's surface using a plate motion calculator that asks you to enter your latitude, longitude, and elevation

(http://sps.unavco.org/crustal_motion/dxdt/model/). Using paleomagnetic data from rocks on the continents, scientists can recreate the locations of continents through the last several hundred million years of earth history. For all you visual learners, some of the best recreations of past plate positions are by Christopher Scotese (<http://www.scotese.com/>), check out the animations and predictions of where the continents will be in the future.

Finally, there are several articles in a special edition of Scientific American (Our Ever Changing Earth, 2005) that discuss different aspects of Earth's structure and inner workings that are relevant to this chapter.