



Careers in Geology

I'm sure many of you out there want to be a geologist when you grow up. But, how much do you really know about geologists? For a geologist, the whole Earth is a laboratory full of opportunities to observe the Earth processes in action. In February 1992, money magazine ranked "geologist" second overall out of 100 best occupations and was in the top nine for "jobs that satisfy." Many geologists work for the federal or state government, many are also self-employed. Geology can be a very rewarding career. In fact in 1991 about 85,000 geologists were working in the United States alone, according to the AGI geoscientific employment and hiring survey. Geologists often specialize in one of many areas. Here is a list of some of the areas, and a description of what they do.

Geologists by themselves study the physical nature, materials, products, processes and history of the Earth.

Mineralogists study mineral composition, formation, and properties.

Soil scientists study soils and their properties to determine how to sustain agricultural productivity and detect and remediate contaminated soils.

Sedimentologists study sedimentary rocks and the processes of sediment formation, distribution, nature, and alteration of sediments. Oil, gas, coal, and many mineral deposits occur in such sediments.

Volcanologists investigate volcanoes and volcanic phenomena to predict eruptions and understand these natural hazards.

Seismologists study the location and force of earthquakes and analyze the behavior of earthquake waves to interpret the structure of the Earth.

Hydrogeologists study the occurrence, abundance, distribution and quality of ground waters and related geologic aspects of surface waters. A hydrologist is concerned with water from the moment of precipitation until it evaporates, or joins the ocean.

Glacial geologists study the movement and physical properties of glaciers and ice sheets.

Marine geologists investigate the ocean-floor and continent boundaries, they also study ocean basins and continental shelves.

Stratigraphers investigate the time and space relationships of rocks, especially the mineral and fossil content of layered rocks.

Structural geologists analyze Earth's forces by studying fracturing, folding, and deformation that has occurred in the Earth's crust.

Engineering geologists apply geological data, techniques, and principles to study rock, soil surficial materials, and ground water. They also investigate geologic factors that affect structures like bridges, buildings, and dams.

Environmental geologists work to solve problems with pollution, waste disposal, urban development, and hazards such as flooding and erosion. They also study the interaction between the different spheres and human activities.

Economic geologists explore for and develop metallic and nonmetallic resources, as well as geologic materials that have profitable uses.

Petroleum geologists are involved in exploration for and production of oil and gas resources.

Planetary geologists study the moon and other planets to understand the evolution of the solar system.

Paleontologists study fossils to understand past life forms and their changes through time and to reconstruct past environments.

Paleoecologists study the function and distribution of ancient organisms and their relationships to their environment.

Petrologists determine the origin and natural history of rocks by analyzing mineral composition and grain relationships.

Geochronologists use the rates of decay of certain radioactive elements in rocks to determine their age and thus help reconstruct the geologic history of the Earth.

Geochemists use physical and inorganic chemistry to investigate the nature and distribution of major and minor elements in ground water and Earth materials.

Geophysicists decipher the Earth's magnetic, electric and gravitational fields. They also apply the principles of physics to studies of the Earth's interior.

Geomorphologists study the effects of Earth's processes and investigate the nature, origin, and development of present landforms and their relationship to underlying structures.

Geodynamacists study plate tectonics, specifically the hows and whys of plate motions and deformations.

While this might be a little over whelming, all you really need to consider is "what's your favorite thing about geology." I, for one, like learning about minerals and such, so I might look into finding out more about mineralogy. I'm sure that rock hounds will be able to choose what you like best too, though it'll probably be hard because everything about geology is so cool!

Source: <http://www.rockhoundkids.com/RK-3-07.pdf>

Rock Hound Kids Newsletter March 2007

Reprinted with permission from Jessy Chekal