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professional geologists
in all specialties of the science

What Is Geology and What Do Geologists Do?

The importance of geology and geologists to our society is often poorly understood and seldom considered. Geology is the body of knowledge that deals with the materials and structure of the solid earth and how it changes, and has changed, through time. By utilizing the technological knowledge obtained through geology, we are able to locate mineral and energy resources which are critical to our economic success, as well as minimize and prevent financial losses associated with natural disasters. It is the role of the geologist to research and assess the quantity, quality, availability, and recoverability of natural resources, and in conjunction with geological engineers, locate, evaluate, and develop cost-effective methods of extracting them. In addition, geologists collect data for use in environmental and resource conservation, land use and management, and global ecosystem research and testing.

When people think about geology, the first things that come to mind are rocks, earthquakes, and dinosaurs. Encompassing more than just these things, the realm of geology plays an essential part in manufacturing such varied and diverse products as paper, plastic, make-up, pharmaceutical supplies, and computer components. Natural resources, and therefore geology, are intrinsically linked to every nation's economy; the more natural resources a country possesses and is able to utilize, the more wealthy they will be on a global scale. The importance of the geologist within this economic perspective cannot be underestimated. Geologists are involved in every aspect of locating, removing, refining, and utilizing earthen resources, as well as responsibly managing the land where resources are found, both pre- and post-use. They develop a conceptual understanding of

sites and potential processes that control the occurrence and transport of materials and contaminants for purposes of determining the stability and suitability of localities under consideration for urbanization and/or waste disposal. Geologists are also charged with considering and estimating the magnitude of effects that humans will have on the natural surroundings in which they reside.



The world in which we live is a very dynamic system. Many geologic activities, such as earthquakes, volcanic eruptions, floods, and landslides, can be hazardous to populations and property; through researching and studying the locations, frequencies, and concentrations of these events, geologists are able to pinpoint



areas of increased incidence, and therefore advise against building in such zones, or suggest ways to prevent disasters from taking place at sites where development has already occurred. In addition to natural processes, human-induced problems can come about through industrialization via the removal, displacement, and cultivation of soils and rock materials, in the building of roads, cities, and pastureland. Geologists monitor the erosion and landslide potential of these activities before, during, and after land development initiatives in order to predict and prevent foreseeable problems.

An understanding of geology has led to our country's increased ability to productively locate, utilize, and manage our abundant natural resources, as well as reduce the risks posed by geologic hazards to both property and life. Technological need and advancement are for certain, and so geologists continue to develop more and more cost-effective and efficient methods of unearthing our planet's hidden potential. As long as we continue to depend upon natural resources for our economic, societal, and literal survival, there will be a need for geology and geologists.