A Career in Geosciences

What Do Geoscientists Do?

Geoscientists gather and interpret data about the Earth and other planets. Geoscientists study the processes and the history of the Earth. They use their knowledge to increase our understanding of Earth processes and to improve the quality of human life.

- They find adequate supplies of natural resources, such as ground water, petroleum, minerals and soil, and assist the development of natural resources in ways that safeguard the environment.
- Geologists aid in reducing the impacts of natural hazards such as volcanic eruptions, earthquakes, floods, landslides, hurricanes, and tsunamis on society.
- They determine geological controls on natural environments and habitats and predicting the impact of human activities on them.
- Hydrologists (geoscientists who specialize in water) maintain the quality of water supplies.
- They monitor the quality of the environment (physical) and enforce environmental-quality regulations.

The field of geosciences is broad and diverse with many disciplines.
Here are some of the major geoscience disciplines:

→ **Geology**
→ **Geophysics**
→ **Hydrology**
→ **Planetary Science**
→ **Marine Science**
→ **Environmental Science**

Environmental geology

Geochemistry

Geophysics

Different Kinds of Geoscientist....

- **Economic geologists** explore for and develop metallic and nonmetallic resources; they study mineral deposits and find environmentally safe ways to dispose of waste materials from mining activities.
- **Engineering geologists** apply geological data, techniques, and principles to the study of rock and soil surficial materials and ground water; they investigate geologic factors that affect structures such as bridges, buildings, airports, and dams.
- **Environmental geologists** study the interaction between the geosphere, hydrosphere, atmosphere, biosphere, and human activities. They work to solve problems associated with pollution, waste management, urbanization, and natural hazards, such as flooding and erosion.
- **Geochemists** use physical and inorganic chemistry to investigate the nature and distribution of major and trace elements in ground water and Earth materials; they use organic chemistry to study the composition of fossil fuel (coal, oil, and gas) deposits.
- **Geophysicists** apply the principles of physics to studies of the Earth's interior and investigate Earth's magnetic, electric, and gravitational fields.
- **Hydrogeologists** study the occurrence, movement, abundance, distribution, and quality of subsurface waters and related geologic aspects of surface waters.
- **Hydrologists** are concerned with water from the moment of precipitation until it evaporates into the atmosphere or is discharged into the ocean; for example, they study river systems to predict the impacts of flooding.
- **Marine geologists** investigate the ocean-floor and ocean-continent boundaries; they study ocean basins, continental shelves, and the coastal environments on continental borders.
- **Mineralogists** study mineral formation, composition, and properties.
- **Oceanographers** investigate the physical, chemical, biological, and geologic dynamics of oceans.
- **Paleontologists** study fossils to understand past life forms and their changes through time and to reconstruct past environments.

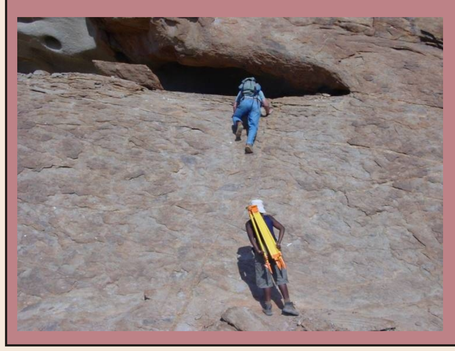
Palaeontology

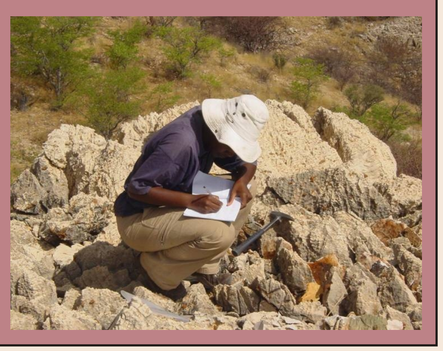
Where Do Geoscientists Work?

Geoscientists often divide their time among work in the field, the laboratory, and the office. Field work usually consists of making observations, exploring the subsurface by drilling or using geophysical tools, collecting samples, and making measurements that will be analyzed in the laboratory. In the office, they integrate field and laboratory data to prepare reports and presentations that include maps and diagrams that illustrate the results of their studies. Such maps may indicate possible occurrence of ores, coal, oil, natural gas, water resources, or indicate subsurface conditions or hazards that might affect construction sites or land use. They are employed by the exploration companies, the mining and petroleum industry, consulting firms, government agencies, tertiary institutions and other private organizations e.g. museums.

More information about geosciences in Namibia can be found at:
http://www.mme.gov.na/gsn/default.htm

Field Mapping





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Source of data: http://www.earthsciencesworld.org/careers/