

JOB DESCRIPTION: Geophysicist

Introduction

A geophysicist is someone who studies the Earth using gravity, magnetic, electrical, and seismic methods. Some geophysicists spend most of their time outdoors studying various features of the Earth, and others spend most of their time indoors using computers for modeling and calculations. Some geophysicists use these methods to find oil, iron, copper, and many other minerals. Some evaluate earth properties for environmental hazards and evaluate areas for dams or construction sites.



Research geophysicists study the internal structure and evolution of the earth, earthquakes, the ocean and other physical features using these methods

Geophysicists use radar, dynamite, computers, and maps in the course of their work. Other intricate equipment includes magnetometers for studying magnetic fields and gravimeters for studying the earth's gravitational pull.

Geophysicists who work for mining, oil, and natural gas companies usually look for deposits of petroleum or minerals. They locate areas where there is a high probability of finding these deposits. For example, they measure and chart the sound waves created by explosions. The information they obtain from their tests and equipment readings helps them to determine the kinds and patterns of rock beneath the surface. Then they can advise company executives who decide whether to open a mine or drill a well. Readings taken from devices that measure magnetic forces also help geophysicists find out what is under the ground and sea.

Education

To become a professional geophysicist, a bachelor's degree is necessary. Because geophysics is a broad science drawing from many fields, a bachelor's degree in geology, chemistry, mathematics, or engineering can qualify candidates for a beginning position or for graduate work in a branch of geophysics. Positions in research and exploratory geophysics often require at least a master's degree. Instructors of geophysics in four-year colleges usually need a doctoral degree.

High school

It's best to take as many math and science classes as possible, as well as computer science. If your high school offers earth science or any other earth-focused sciences, take them.

College

A strong background in sciences, with emphasis on math, physics and geology is important. Students with physics majors often have an easier time in graduate school than those with only a geology major. The more experience you can get with various computer platforms and software programs, the better. Computer skills are a must. A graduate degree is required for most geophysics jobs.

Graduate School

Many universities offer graduate degrees in Geophysics, and it mostly depends on what area of geophysics you are interested in. Find out what various professors are interested in at different university departments. You can do this by looking at department WebPages or reading various geophysical journals.

Geophysics covers a broad range of earth science and offers a variety of options. This list includes some, but not all, of the divisions of geophysics:

Seismologists

[Seismological Society of America](#)

Marine geophysicists

[MIT-WHOI Joint Program](#)

[MarineCareers](#) - interviews and profiles

Exploration geophysicists

[Prospects Web](#) - description of survey field seismologist

Petroleum geophysicists

[Society of Exploration Geophysics](#)

Mining geophysicists

[Society of Exploration Geophysicist](#)

Environmental geophysicists

[Society of Exploration Geophysics](#)

Atmospheric physicist

[American Meteorological Society](#) - career guide

Gravity geophysicist

Magnetic geophysicist

[What is Geomagnetism](#)

Electromagnetic geophysicist & Electrical geophysicist

[Links to more Geophysicist Information click below:](#)

Earth Science Careers NASA: <http://kids.earth.nasa.gov/archive/career/>

<http://www.agiweb.org/workforce/careers.html>

[Links to more Information click below:](#)

Schools: <http://guide.agiweb.org/ggd/index.html>

<http://www.agu.org/>

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