



Educational Topic

Geomorphologist

Related Job Titles:

Geologist, Geological Scientist, Geoscientist, Earth Scientist

Job Description:

Geomorphologists study the surface features of a planet and the processes that created them. The landforms and landscapes they study may be as small as a landslide or as large as an entire planet! They work to figure the ways that landforms, regions, and planets are changed by climate, and by geologic processes such as the wearing away of rock by wind, water and ice, or chemicals. They study these changes over periods of time that range from days to millions, even billions, of years.

Interests / Abilities:

- Are you interested in volcanoes?
- Do you enjoy the open air and four-wheel-drive travel?
- Are you interested in what goes on inside the Earth?
- Would you like to visit countries around the world?
- Do you like camping?
- Do find it fun to play with maps and various devices?
- Do you like to hit rocks so hard they break?
- Would you like meet people from all over the world?
- Do you enjoy solving mysteries?
- Do you like to collect rocks?

Suggested School Subjects / Courses:

- Earth Sciences
- Physics
- Math
- Other Science courses (chemistry, astronomy, planetary science, courses involving laboratory research and fieldwork)
- Geography
- Computer skills are a must!
- Another course that can help greatly is English, to help with written and verbal communication in the reports, meetings, and presentations that are a part of many careers.
- As in other sciences, a second language is very valuable because geologists do a great deal of traveling.

Education / Training Needed:

Geomorphologists begin their careers with a bachelor's degree in *Geology*, *Geochemistry*, *Geophysics* or a related science. A strong background in math, science, and geography is necessary. You may need a master's or Ph.D. for advanced geology research. Project managers and consultants may also be expected to have further education, and possibly, *Business Administration* courses. Part-time fieldwork and laboratory work during college is highly recommended to gain hands-on experience. Field experience is invaluable to your studies and to your later career.

Areas of expertise:

- *Process Studies and Systems Analysis*: using fieldwork, computers, and laboratory work to study planetary processes like weathering, the formation of soil, and the flow of water
- *Climatic Geomorphology*: studying how changes in the weather over short and long periods of time have caused changes in a planet's landscape
- *Geomorphological Mapping*: using field work and remote sensing, such as satellites and aerial photographs, to make maps of features on a planet, and then using those maps to help determine the processes that created the landscape
- *Tectonic Geomorphology*: study of the way landforms, landscapes, and plate tectonics work together to create surface features on a planet

Additional Resources:

- **American Geological Institute**
<http://www.agiweb.org/>
- **Astrobiology Summer Academy**
<http://academy.arc.nasa.gov/>
- **Graduate Student Researchers Program**
<http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/Graduate.Student.Researchers.Program.Brochure/.index.html>
- **MATHCOUNTS Competition**
<http://mathcounts.org/>
- **Minority University Research and Education Programs**
<http://mured.nasaprs.com/>
- **NASA Cooperative Education Program for college students**
<http://spacelink.nasa.gov/Educational.Services/NASA.Education.Programs/Student.Support/NASA.Cooperative.Education.Program/.index.html>
- **NASA SHARP Internship Program for high-schoolers**
<http://www.mtsibase.com/sharp/>
- **NASA Student Employment**
http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- **NASA Student Involvement Program student contests**
<http://www.nsip.net/index.cfm>
- **National Science Foundation**
<http://www.nsf.gov>

What can I do right now?

- Call the American Association of Science and Technology Centers for information on science museums in your area that you might visit. (202) 783-7200
 - Join a local environmental club or organization.
 - Take summer jobs or internships at parks, laboratories, museums, or camps.
 - Participate in science fair projects.
 - Start a rock collection and learn about the rocks you gather.
 - Obtain a geology field guide and use it when you travel.
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- **Student's Guide to Astrobiology**
<http://www.astrobiology.com/student.html>
 - **Tech-Interns.com**
<http://www.tech-interns.com/>
 - **U.S. Geological Survey**
<http://www.usgs.gov>

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 - http://ehb2.gsfc.nasa.gov/edcats/educational_topic
 - Your evaluation and suggestions are vital to continually improving NASA educational materials.
 - Thank you.
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<http://quest.nasa.gov/people/index.html>