Geoscience Career Compasses: A Holistic Look at Skill and Competency Development in the Geosciences

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How does a student acquire skills?

co-curricular

It’s up to the student to do more...
This career compass provides options, tips, suggestions, and strategies for how a student can obtain critical skills, experiences, and competencies in order to launch their geoscience career based on their academic standing. The content herein is based on data from the U.S. Bureau of Labor Statistics, interviews with personnel in the occupation, and research on available student opportunities.
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Job Summary

A policy associate specializes in evaluating and shaping science policy through strong communication and networking. Although their tasks vary, most policy associates work in one of four areas: collecting information and evaluating policies, sharing policy information with the public, coalition building with stakeholders, and informing government officials about science and the needs of the scientific community.
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**Undergraduate**
- Congressional Visits Day
- Blog about your participation in policy events
- Conference sessions, workshops, and webinars on geoscience policy; student government, and campus clubs
- Contact state geological survey, department of natural resources, or environmental protection department
- Oak Ridge Institute for Science and Education (ORISE) internship
- Scientific societies, on the Hill, in federal or state agencies, or in local government
- Engage with elected officials offices at the district or state level or in Washington D.C.
- Degree in the geosciences
  - Coursework or minor in a relevant subject like policy
  - Research experience
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Hydrologic technicians gather and investigate data concerning water depth, flow, and quality. They collect water data using accepted industry procedures and equipment. They are responsible for equipment maintenance, decontamination and calibration to ensure the highest quality data are collected. Hydrologic technicians collect groundwater, stream, and lake samples for chemical or biological analysis and conduct field tests on these waters. They keep notes, check computations, and gather information for computer software analysis, and they enter data and prepare data for publication. They provide concise and actionable observations in the field and communicate that information to their supervisory personnel. Much of the technician’s work is done outdoors in undeveloped and sometimes difficult terrain under all weather conditions.

Undergraduate

- Geoscience professional society conference
- Clubs, student government, or geoscience professional societies
- Hone skills through public speaking or science communication courses, conference presentations
- Events, activities, and technical sessions at professional society conference
- Geoscience internship with a non-profit, for profit organization or company, research institution, or a state or federal agency.
- First Aid/ AED/CPR training
- OSHA HAZWOPER training
- Geologist in Training Certification or Professional Geologist license (ASBOG Fundamentals of Geology Exam and/or the Practice of Geology Exam)
- Associate’s or bachelor’s degree in Earth science, geosciences, or any natural science
- Writing course outside the discipline (business or environmental law) or technical writing course
- Basic understanding of GIS and GPS
- Course work in math, hydrogeology, chemistry, environmental compliance and regulations, environmental engineering, applied geology, or microbiology
- Develop excellent note-taking skills
- Field experiences
- Research experiences
- Instrument experiences with emphasis on data collection, data quality, and data reliability (mechanical aptitude is a plus)
- Write a senior thesis

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Geoscience Policy Associate
Oceanographer
Hydrologist
Atmospheric Scientist
GIS Professional
Planetary Scientist
Geophysicist
Data Scientist
Hydrologic Technician
Engineering Geology Technician
Science Communicator

K-12 Teacher
Science Writer
Environmental Geologist
Soil Scientist
Petroleum Geologist
Geoscience Illustrator
Environmental Lawyer
Mining Engineer
Financial Advisor
Information Specialist
others …
How to access these?
https://www.americangeosciences.org/workforce/compass

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Connect us to an alumni in one of these fields?  
Help fact check one?

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Pranoti Asher - PAsher@agu.org
Continue the conversation:

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