Geoscience Resources on Opportunities in the Workforce

grow-geocareers.com

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Introducing GROW, a new career tool for the geoscience community

I. The Motivation: preparing students for success in the geoscience workforce

II. The Project: the goals and phases of the NSF INTERN project

III. The Outcomes: how to use GROW to support your students
The workforce is growing, and graduates are getting non-academic jobs.

I. The Motivation

Projected Geoscience Workforce Changes by Occupation 2018-2028

Changes in occupational status, Feb 2020 - Mar 2022
Recent geoscience graduates, Classes of 2014-2021

Source: AGI Geoscience Workforce Program; Data derived from the U.S. BLS Employment Projections
Geoscience students learn transferable skills suited to a range of jobs outside of academia in industry, government, policy, and other sectors.

Non-academic career resources for students exist but these resources do not sufficiently reach their audiences.

Academic mentors often do not have experience or resources to help students navigate the non-academic workforce.

What job opportunities do I have other than being a professor?
I. The Motivation

How can we more effectively:

- provide students with a current and complete understanding of the workforce and its varied opportunities?
- give concrete, specific, actionable guidance to students who are looking for jobs?
- emphasize transferable skills and adaptability in a changing workforce?
I. The Motivation

How can we more effectively:

- provide students with a current and complete understanding of the workforce and its varied opportunities?
- give concrete, specific, actionable guidance to students who are looking for jobs?
- emphasize transferable skills and adaptability in a changing workforce?
Three phase proposal:

I. Assemble and evaluate existing geoscience career resources

II. Create new resources based on identified gaps (e.g., licensing, mentor connections, specific job information)

III. Disseminate widely through targeted distribution
II. The Project

Developing and Disseminating Information Resources on Non-Academic Careers in the Geosciences

NSF INTERN Project

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UC Santa Cruz

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Project Consultant
Colorado School of Mines

Adina Paytan
GEOPAths PI
UC Santa Cruz

American Institute of Professional Geologists
INTERN Host
I. Assemble and evaluate existing geoscience career resources

- **What kind of information is provided?**
  Is it general (geoscience) or specific to a sector (e.g., industry) or position (e.g., museum curator)?

- **Is the resource **current or outdated**?**

- **Is the format accessible?**

- **Does the resource represent diverse identities and perspectives?**

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II. Create new resources based on identified gaps

What should this tool look like?

**Audience:**
undergraduates and graduates, and their
departments/mentors

**Scope:**
exploring options to applying for jobs

**Access:**
easy to navigate content with clear messaging,
not a link farm
II. Create new resources based on identified gaps

- **Sector-specific information:**
  describe what kinds of jobs are available, what preparation is needed, how to get started

- **Licensing information:**
  assemble previous webinars, create FAQ snapshot, provide library of links to ASBOG information.

- **Ask an Expert:**
  new career profiles

  - Megan Sever
    Communication

  - Crystal Tulley-Cordova
    Tribal government

  - Kathleen Quardokus Fisher
    Education
II. Create new resources based on identified gaps

- **Ask an Expert:**
  - New career profiles spanning all sectors
  - Q&A focused on navigating non-linear career paths, adaptability, and transferable skills
  - Options for networking and learning more: LinkedIn, Twitter, email

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II. Create new resources based on identified gaps

Designed website to host all new content with external links to existing resources.

Resources organized by audience, career development stage, and workforce sector.

grow-geocareers.com
III. Disseminate widely through targeted distribution
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Supporting your students with GROW

Geoscience Resources on Opportunities in the Workforce

A collection of non-academic career resources for geoscience students, mentors, and departments. Use this tool to discover career pathways, explore occupations, view career profiles, and learn how to find a geoscience position that fits your skills and interests.

For geoscience students  For geoscience departments
III. The Outcomes

For departments
- Earth Science Literacy
- Transferrable Skills
- Evolving Workforce
- Career Values
- Diversity & Inclusion
- Unearth Your Future

For students
- Find a Community
- Advice from Grads
- Career Pathways
- Career Profiles
- Jobs by Sector

Unearth Your Future
The geoscience workforce has a place for you.

What can you do with your geoscience degree? The common perception of a geoscientist as a hammer-toting outdoorsperson is not always representative of what a geoscientist actually does. In fact, many geoscientists do not conduct field work or study rocks. The broad skills gained from a geoscience degree can be transferred to many other fields, such as law, medicine, finance or journalism. Your geoscience degree can support you in finding a job that fits your interests and career goals.

Find your fit  Advice from recent grads
Find your fit

To meet the challenges of the future, we need a diverse geoscience workforce. Your individuality and life experiences make you uniquely equipped to have an impact in the geosciences.


**Get advice from your peers.** The profiles below highlight recent geoscience graduates who have found employment in a range of geoscience positions. [See what’s possible for you!](https://www.grow.org)
Find your fit

Find support and share experiences in one of many organizations and societies for geoscientists.

- American Indian Science and Engineering Society
- Institute for Tribal Environmental Professionals
- Geoscience Alliance
- Indigenous Women in Science Network
- Society of Latinxs/Hispanics in Earth and Space Science
- Latinas in STEM
- GeoLatinas
- Society for Advancement of Chicanos/Hispanics and Native Americans in Science
- National Association of Black Geoscientists
- Black in Marine Science
Explore Geoscience Career Pathways

Who are geoscientists? What do they do? How can you get started in this field?

What can I do with a geoscience degree?

GEOSCIENCE OPPORTUNITIES

Research, Industry, Government, Academia, Nonprofit & MORE

IRIS Geoscience Careers—Parts 1 & 2. What can I do with my degree in geoscience?
Explore Geoscience Career Pathways

- Finding Your Fit
  - AGU Webinar

- Think Outside the Box
  - IRIS Webinar

- Geoscience Careers
  - AGI video & brochure

- AGI Career Compass
  - Infographics

- B.S.
  - Broad education in geoscience. Typically required for entry-level positions in industry, government, education, and non-profit sectors.

- M.S.
  - Further training in a geoscience sub-discipline. Required for some entry-level positions. Most likely to promote career growth.

- Ph.D.
  - Specialization and original research in a geoscience sub-discipline. Required for most academic and research scientist positions.

- Licensing
  - Required in some states for geologists that offer services to the public. Uses the ASBOG Fundamentals of Geology Exam.

- Certifications
  - Further preparation for advancing a geoscience career (for example, science communication programs or Geologist in Training Certification).

- Professional degrees
  - For those interested in environmental law or medical geology.
Explore Geoscience Career Profiles

Select collections below to learn more about the career paths and day-to-day work life of geoscientists with unique backgrounds and skills, working in a variety of fields and occupations.

Collection by SAGE 2YC
What do you do and how did you get there? Find answers to these questions and more in interviews with geoscientists working in a variety of sectors.

Collection by PROGRESS
Identify with a geoscientist through stories featured by Promoting Geoscience Research, Education & Success (PROGRESS).

Collection by UNAVCO
Watch a video playlist of geoscience career spotlights by UNAVCO, featuring a science writer, a polar field engineer, a museum curator, and more!
Explore Geoscience Career Profiles

Select collections below to learn more about the career paths and day-to-day work life of geoscientists with unique backgrounds and skills, working in a variety of fields and occupations.

- **By Teach the Earth**
  Covers a variety of jobs, emphasizing education and outreach.

- **By On the Cutting Edge**
  Perspectives from geoscience employees & employers.

- **By EGU GeoLog**
  Highlights geoscientists who took non-linear career paths.

- **By Eos**
  "Choose Your Own Geoscience Adventure" features scientists who took unique paths.

- **By EEEK**
  Natural-resource focused, including park rangers & naturalists.

- **By Rock Head Sciences**
  Features a variety of geoscientists and graduate students.

- **By Fossil Guy**
  Interviews with paleontologists about their jobs and fossils.

- **By UIC Earth & Environmental Sciences**
  Video collection of UIC alumni working in industry.

- **By SSA At Work**
  Features seismologists working in various research positions.

- **By AMS**
  Includes meteorologists, researchers, engineers, and a storm chaser!

- **By AVGS**
  Features geoscientists from the major employment sectors.

- **By Science Societies Career Center**
  Highlights soil scientists, as well as agronomists and crop scientists.

- **By transverse RANGES**
  Long-form interviews with geoscientists from a variety of fields.

- **By PES NOVA**
  Video profiles of scientists at work, and at play.

- **By GS of London**
  UK-focused with international applicability, all sectors.

- **By AAG & MCOE**
  Geoscientists discuss their paths into geography.
III. The Outcomes

Jobs by Sector

- Government
- Industry
- Education
- Communication
- Non-profits
- Policy

Get Started
- Ask an Expert
- Explore Employers
- Career Preparation
Explore government positions

The U.S. Department of the Interior (which includes the Bureau of Land Management, National Park Service, United States Geological Survey, and additional bureaus) hosts a useful tool for finding federal government positions based on career level, work setting, and your strengths. Search positions to get an idea of the types of jobs suited to your skills and preparation.

Keep in mind that similar government positions can also be found in the divisions of natural resources, environmental protection, transportation, and education (just to name a few) in state, local, and tribal governments, as well as in national laboratories and local agencies.

Learn about employers

Positions and work responsibilities differ between agencies and organizations. Visit the career pages of various government employers for a deeper look at available occupations, mission statements, and current initiatives. This list is by no means comprehensive, but provides examples of the types of places a geoscientist might work.

Gain insight from government employees

Visit the Ask an Expert page to read Q&A format advice from geoscientists working in government roles. Contact these experts to learn more about their jobs and expand your network. Employers to learn about geoscientists working in government roles.

Prepare to apply

Visit the Career Preparation page to learn how to apply for government jobs, such as navigate the federal job search.

Search for jobs

View a list of job boards where geoscience jobs are commonly posted, plus advice for successful job searching with keywords. You can find federal government jobs on USAJOBS, while most state, local, and tribal governments have their own job portals.
Geoscience Jobs in Government

Get Started  Ask an Expert  Explore Employers  Career Preparation

Crystal Tulley-Cordova
Principal Hydrologist
Navajo Nation Dept. of Water Resources

Gari Mayberry
Natural Hazards Team Lead
United States Geological Survey

Dena Smith-Nufio
Program Director
National Science Foundation

Bhavna Arora
Research Scientist
Lawrence Berkeley National Laboratory

Emily Osborne
Research Scientist
National Oceanic and Atmospheric Administration

Karen McLaughlin
Principal Scientist
Southern California Coastal Water Resource Project

Adam Ringler
Physical Scientist
United States Geological Survey

View Q&A  View Q&A  View Q&A  View Q&A  View Q&A  View Q&A  View Q&A
Federal Government

If you are interested in working in the federal government, learning how to navigate the job search is important. Start with the basics of searching the federal hiring website (USAjobs.gov) and applying with this IRIS tutorial. Also read the Union of Concerned Scientists’ guide to Becoming a Federal Scientist.

Next, check out the federal Pathways Program, which offers opportunities for students and recent graduates to get their foot in the door with paid internships and early career employment. Visit the resources below to learn more about programs that can help you find a career in the federal government.
Ready to apply?

Check out the American Association of Petroleum Geologists Career Learning Center and Incorporated Research Institutions for Seismology Career Resources for advice on writing job applications and preparing for interviews.

For more resources, check out your university’s career center or library. Most universities have published guides for resume/CV writing, interviewing, negotiating, and more. You can also look online for contacts in your campus career center or reach out to mentors for support with your applications.
Supporting your students with GROW

I. Visit grow-geocareers.com/forgeodepartments and review resources for supporting student success and retention in the geosciences

II. Share the website with students and help them navigate to useful sections depending on their career development stage.

III. If you have resources to add, please share those! We will also continue to update Ask an Expert and Advice from Recent Grads.
Thank you!

Contact: Madison Wood, mamwood@ucsc.edu