

Federally Employed Women Virtual STEM Day September 22, 2021

*The U.S. Geological Survey isn't just geology
All STEM fields are represented, and we have
field opportunities!*

BY SHANNON MAHAN, RESEARCH GEOLOGIST,
Director of the USGS Luminescence Geochronology Laboratory
U.S. GEOLOGICAL SURVEY, DENVER, COLORADO





How women are lost in the "pipeline" of careers in sciences

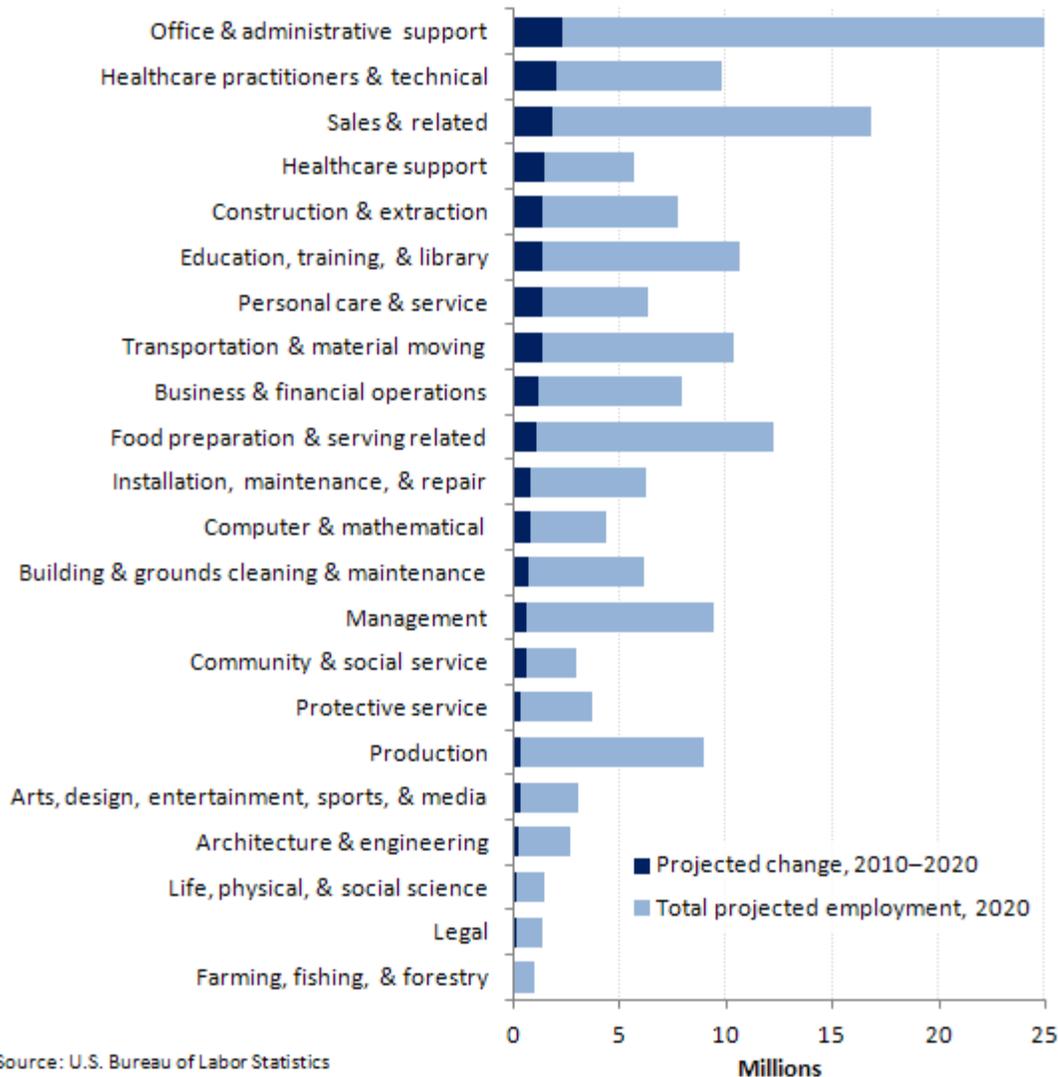
- Inadequate compensation after three years
- Lack of career advancement
- Insufficient recognition
- Inadequate professional development opportunity
- Boredom or "performs miracles on demand for no rewards"
- No flexible childcare or hours or locations

Why women would stay

- Good relationship w/ manager and co-workers (women)
- Compensation (men) having a mentor (women)
- Clear goals that are challenging
- Work flow you can manage (Time, it's all about time!)
- Desirable working hours (flexi, flexi, flexi!)
- Benefits (includes internal rewards)
- Short, predictable commute when needed in office or lab (25 minutes or less)

Employment projections by occupational group, 2010-2020

Projected 2020 employment and 2010–2020 change in employment, by major occupational group



The USGS career paths are as varied as:
 seismologist, engineer, geophysicist, wildlife biologist, hydrologist, chemist, hydrologist, programmer, software developer, geographer, editor, botanist, and that's off the top of my head.
 There is more, much more.

ENVIRONMENTAL SCIENTISTS AND GEOSCIENTISTS (36% WOMEN) + ALL OTHER PHYSICAL SCIENTISTS (61% WOMEN)

MEN \$69,000 + \$76,000
WOMEN \$25,000 + \$76,000 (START MUCH LOWER)

What is the Department of the Interior?

My DOI Career - Are you looking to change career paths? Do you know someone looking to join the DOI family? Check out the Featured Occupations section of the [My DOI Career homepage](#).

We are spotlighting in-demand positions and linking directly to current USA Jobs announcements at the bottom of each featured occupation page.

Bureaus & Offices

The U.S. Department of the Interior is a Cabinet-level agency that manages America's vast natural and cultural resources. Our department employs some 70,000 people, including expert scientists and resource-management professionals, in eleven technical bureaus:

- [Bureau of Indian Affairs](#)
- [Bureau of Indian Education](#)
- [Bureau of Land Management](#)
- [Bureau of Ocean Energy Management](#)
- [Bureau of Reclamation](#)
- [Bureau of Safety and Environmental Enforcement](#)
- [Bureau of Trust Funds Administration](#)
- [National Park Service](#)
- [Office of Surface Mining Reclamation and Enforcement](#)
- [U.S. Fish and Wildlife Service](#)
- [U.S. Geological Survey](#)



The department was created on March 3, 1849

In addition to our eleven bureaus, there are a number of offices that fall under the Office of the Secretary, the Assistant Secretary for Policy, Management and Budget, Solicitor's Office and Office of the Inspector General:

- [Department of the Interior Offices](#)

We all want our work to have meaning, purpose, and to pay us adequately.

we all have a stake in the future of our country. no matter your political party or zip code, your ancestral heritage or income level, we all must take the formidable challenges that lie ahead seriously, and we will take them head-on, together.

together, we will work to honor our nation-to-nation relationship with tribes, address the climate and nature crises, advance environmental justice, and build a clean energy future that creates good-paying jobs and powers our nation.

the change we need will take hard work and perseverance, but I know that together there is nothing we cannot accomplish.

DEB HAALAND, SECRETARY OF THE INTERIOR



What is the USGS? The largest earth science agency in the world



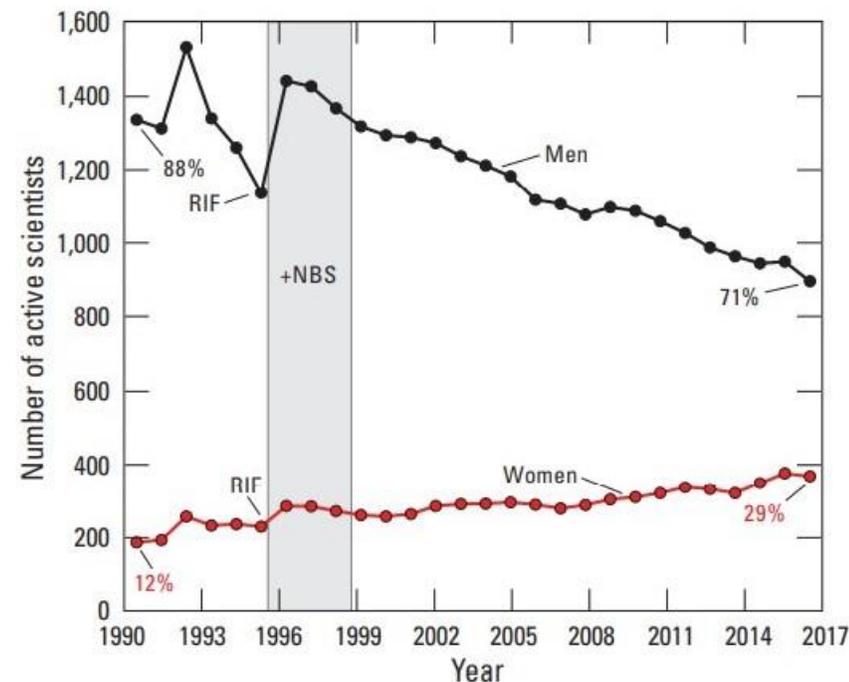
- The United States Geological Survey (USGS) is a scientific agency of the United States government. **The scientists of the USGS study the landscape of the United States, its natural resources, and the natural hazards that threaten it.** The organization's work spans the disciplines of **biology, geography, geology, and hydrology**. The USGS is a fact-finding research organization with no regulatory responsibility.
- The USGS is a bureau of the United States Department of the Interior; **it is that department's sole scientific agency.** The USGS employs about 8,670 people and is headquartered in Reston, Virginia with major offices near Lakewood, Colorado (Denver Federal Center), and Moffat Air Field, California.
- The current motto of the USGS, in use since August 1997, is "science for a changing world". The agency's previous slogan, adopted on the occasion of its hundredth anniversary, was "Earth Science in the Public Service". It was founded in 1879.

#1a. Getting hired means having a resume in USAJOBS

In 1990, only 12% of RGE scientists were women; by 2017, the percentage of women had more than doubled to 29%. If these trends continue, the numbers of male and female RGE scientists will be roughly equal in less than two decades.

Age composition: **From 1990 to 2017, the average age of RGE scientists was 50 years, with a range of 22 to 92 years.** The average age increased until 2007, then leveled out at 51–52 years. The recent increase in age variability is due to an increase in both younger and older RGE scientists; that is, **age diversity has been increasing.**

Female Research Scientists were on average younger than their male counterparts; the average age of male Research Scientists was 51 years while that of female scientists was only 46 years.



The USGS is male, old and White. It should reflect America. It should also include women and gender neutral, people of color and younger demographics.

Figure 2.6. Line graph showing the number of male and female U.S. Geological Survey employees in research, development, and senior scientist positions who were active in each year from 1990 through 2017. The gray rectangle labeled “+NBS” indicates the effect of the integration of the National Biological Survey employees in 1996. The 1995 points labeled “RIF” indicate effects of a reduction in force.

#1b. Getting hired means having a resume in USAJOBS

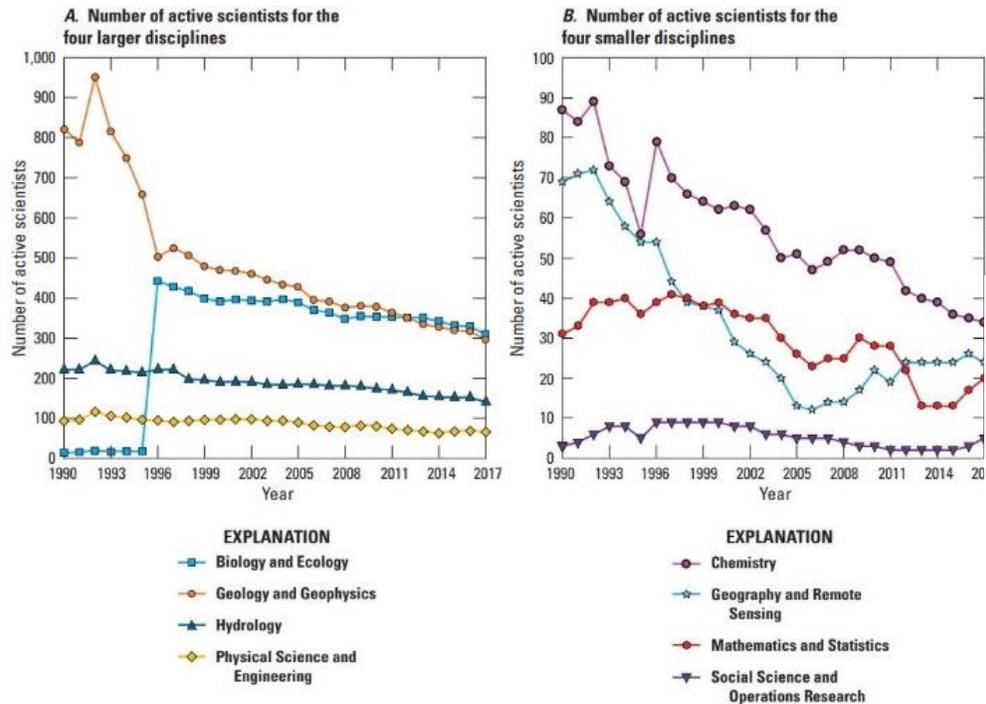


Figure 2.5. Line graphs showing the number of U.S. Geological Survey research, development, and senior scientists who were in each of eight disciplines in each year from 1990 through 2017. The graphs have different scales because four disciplines had significantly more members than the other four. A, Number of active scientists for the four larger disciplines; B, Number of active scientists for the four smaller disciplines.

The USGS has eight main science disciplines. But no cool uniforms like NPS, some areas of FWS or some areas of law enforcement or regulation. We are not a regulatory agency. We do wear lab coats in the lab.

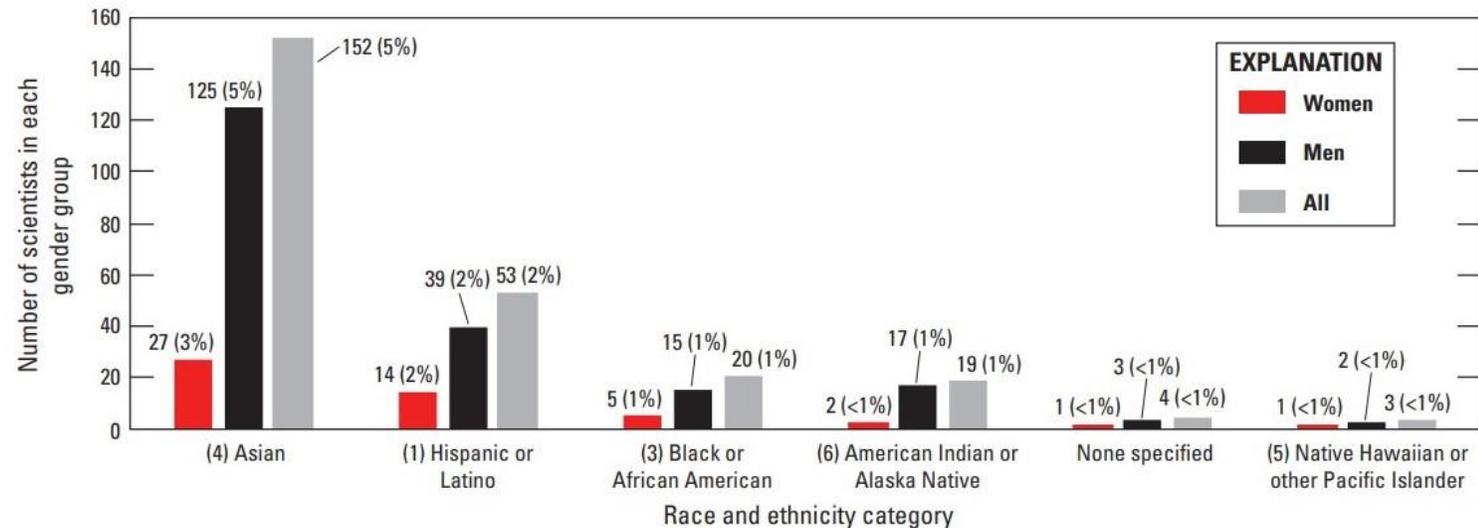
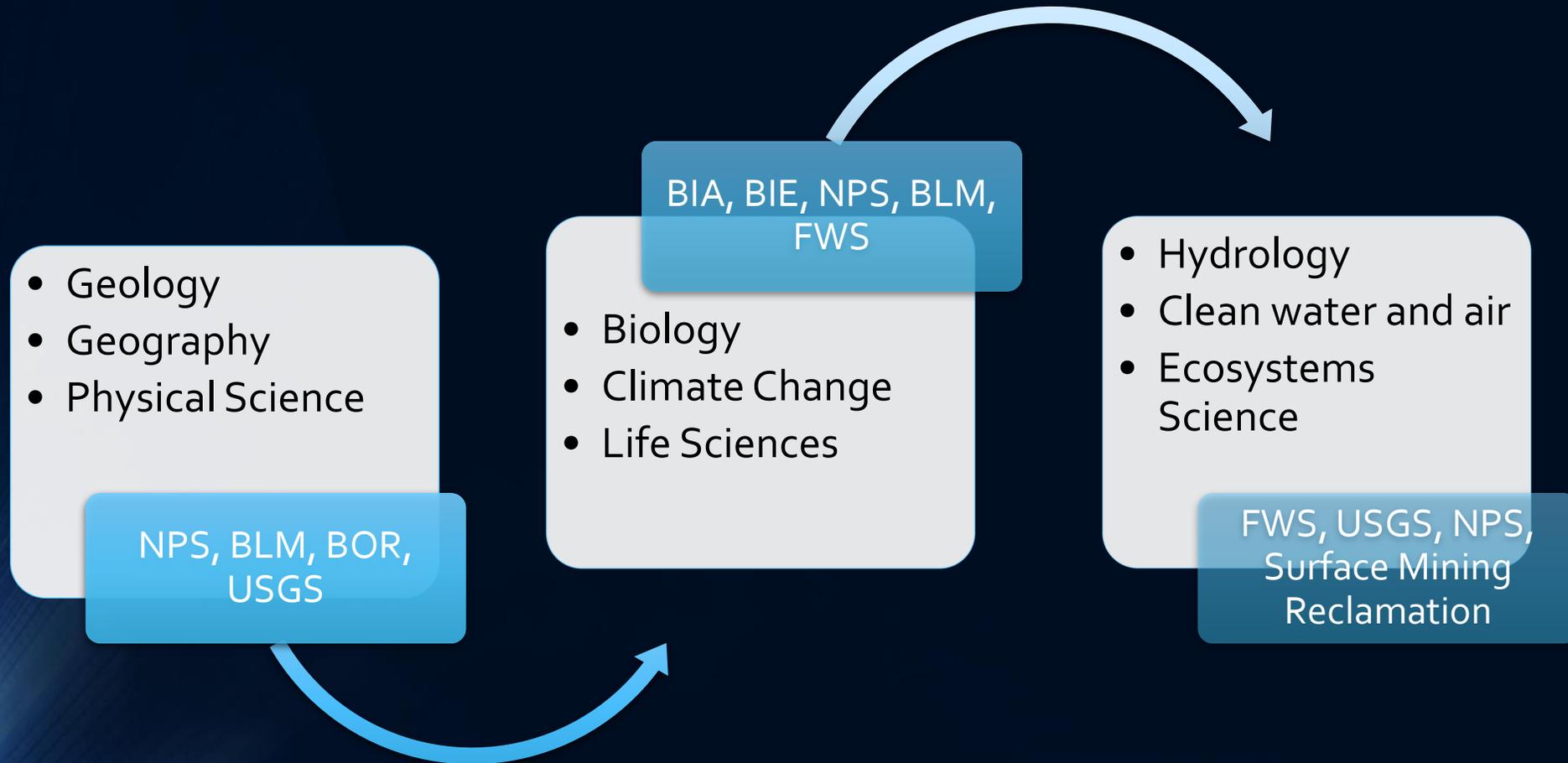


Figure 2.3. Bar graph showing numbers and percentages of nonwhite U.S. Geological Survey (USGS) scientists in 3,115 research, development, and senior scientist positions by gender in several race and ethnicity categories. Labels for bars show the number and percentage of scientists in each category. Percentages are given by gender subset as the percentage of 789 positions for women, 2,326 positions for men, or 3,115 positions for all. In order to show details for the nonwhite categories, no bars are shown for the 92 percent of positions occupied by white scientists. The categories are based on those defined by the U.S. Equal Employment Opportunity Commission (<https://www.eeoc.gov/employers/eeo1survey/2007instructions.cfm>). The data are from the USGS Office of Diversity and Equal Opportunity (DEO) dataset for 2002–2017.

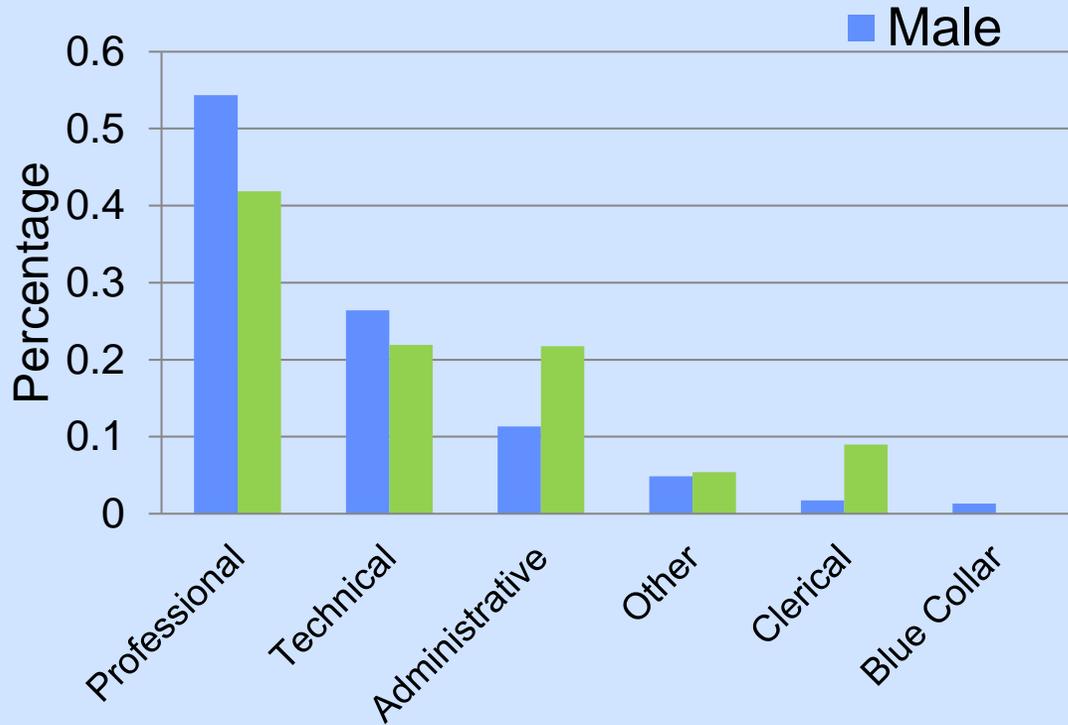
#2. Get a Bachelors of Science Degree and work through agencies



Career Connectiveness at the USGS and Dept of Interior

#3. Pursue higher educational degrees once hired, you will also be more focused on what you like

2015 - USGS Employees (Perm & Temp)



The USGS PATHWAYS program is designed to get students into careers such as Presidential Management Fellows (PMF) and Recent Graduates Program. E-mail pathways@usgs.gov

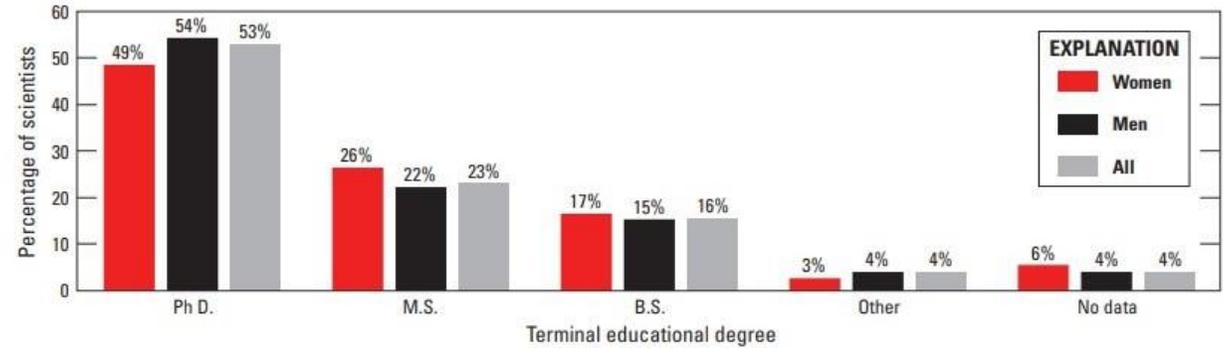


Figure 2.1. Bar graph showing percentages by gender of 4,520 U.S. Geological Survey research, development, and senior scientists holding different terminal educational degrees. The bars show the highest degrees attained as Ph.D., doctor of philosophy; M.S., master of science; B.S., bachelor of science; and other. The data are from the Federal Personnel and Payroll System (FPPS) dataset for 1990–2017.

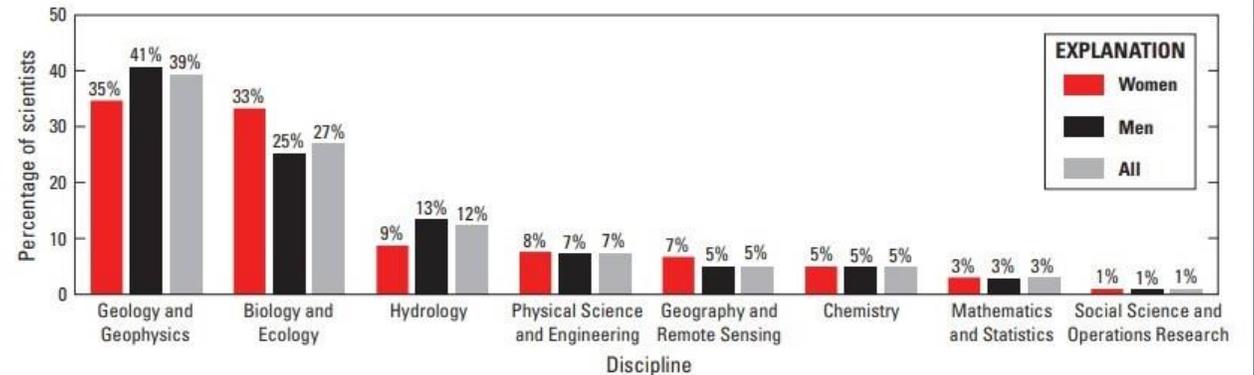


Figure 2.2. Bar graph showing percentages by gender of positions in eight scientific disciplines held by 4,520 U.S. Geological Survey research, development, and senior scientists. The data are from the Federal Personnel and Payroll System (FPPS) dataset for 1990–2017.

#4. Find a Mentor

- Science faculty asked to review a job application for lab manager
- Name on the resume was either John or Jennifer
- More likely to hire, collaborate with, and mentor John
- Also more likely to pay John more
- **REGARDLESS OF GENDER OF THE REVIEWER**
- Over 19 similar studies with this same result across ~30 years and still have same bias as early studies.

It's bad for Jennifer, but also the lab: since a factor other than skill was (unconsciously) at play, the best person wasn't necessarily chosen.



First Tribal Policewoman: Julia Wades in the Water

Julia Wades in the Water's bravery opened the door for many more women to serve in law enforcement throughout Indian Country. A member of the Blackfeet Indian Nation, she retired in the 1930s after 25 years of serving Indian Country Law Enforcement. Her commitment and determination to serve has inspired many. It may have all started with her, but since then, women throughout Indian Country have continued her legacy by making law enforcement their career choice. Photo: University of Alberta.

First Woman Director of the USGS: Marcia K. McNutt

In 2009, Marcia K. McNutt became the first woman director of Interior's U.S. Geological Survey 130 years after its founding in 1879. During her four years at USGS, McNutt -- a noted marine geophysicist -- was involved in a number of major scientific events and advances. She went on to become the first woman elected president of the National Academy of Sciences, which was established in 1863 by an Act of Congress and signed by President Abraham Lincoln as a private, nongovernmental institution to advise the nation on the subject of science or art. Photo: DOI.



First Woman Geologist at USGS: Florence Bascom

In 1896 -- long before the more-publicized "firsts" for women in the 20th and 21st centuries -- Florence Bascom became U.S. Geological Survey's first female geologist. She was also the first woman to receive a Ph.D. from Johns Hopkins



University. Bascom combined her teaching career with active field and laboratory work for the USGS in the Piedmont region near Philadelphia for 40 years.

In 1896, Florence Bascom became U.S. Geological Survey's first female geologist. She was also the first woman to receive a Ph.D. from Johns Hopkins University. Bascom combined her teaching career with active field and laboratory work for USGS in the Piedmont region near Philadelphia for 40 years. Photo: DOI.

Women of Interior

#5a. There are many ladders within the government science



[Save this search.](#) We'll email you new jobs as they become available.

Public Notice for Direct Hire - VHF (Fish Biologist)
National Oceanic and Atmospheric Administration
 Department of Commerce
 Location Negotiable After Selection, United States

Starting at \$64,649 (ZP 3-4)
 Permanent • Full-time

[Open 09/01/2021 to 09/21/2021](#)

Wildlife Biologist (Central Flyway Representative)
U.S. Fish and Wildlife Service
 Department of the Interior
 Location Negotiable After Selection, United States

Starting at \$108,885 (GS 14)
 Permanent • Full-time

[Open 09/17/2021 to 09/30/2021](#)

Regional Director - Rocky Mountain Region
Geological Survey
 Department of the Interior
 Denver, Colorado

Starting at \$172,500 (ES 00)
 Permanent • Full-time

[Open 08/30/2021 to 09/30/2021](#)

Biological Sciences Family
Department of the Air Force - Agency Wide
 Department of the Air Force
 Location Negotiable After Selection, United States

Starting at \$19,543 (GS 1-15)
 Multiple Appointment Types • Multiple Schedules

[Open 08/30/2021 to 09/30/2021](#)

- ### Hiring path
- [Select all](#)
- Open to the public (14)
 - Federal employees (40)**
 - Competitive service (8)
 - Excepted service (7)
 - Internal to an agency (4)
 - Career transition (CTAP, ICTAP, RPL) (15)
 - Land & base management (6)
 - Armed forces (16)**
 - Veterans (7)
 - Military spouses (6)
 - National Guard & Reserves (3)
 - Students & recent graduates (3)**
 - Students (2)
 - Recent graduates (1)
 - Senior executives (1)**
 - Senior executives (1)
 - Additional paths (18)**
 - Individuals with disabilities (6)
 - Family of overseas employees (3)

Women of Interior

What would you say was the greatest challenge of your career?



< I had a baby in 2020. Having a child while still doing field work is rather challenging. Having to pump in the field was not something I thought about, not to mention being pregnant while doing field work. My supervisors were all amazing and supportive, but I wish there were resources for field techs who have experienced these challenges.

Kaitlin Laabs, Hydrologic Technician, New England WSG, USGS

> My greatest challenge of my federal career so far has been to navigate the complex social and emotional needs of our Native Youth. They are the most resilient, brave and creative humans I have ever had the honor to work with. Helping them heal and find themselves is both the greatest challenge and the best honor. **Niky Poole-Marquez, Residential School Counselor, BIE Chemawa Indian School, Salem OR**

There have been many but with time comes perspective and confidence. I try to turn the mountains into molehills and step over them. **Alison Stockdale, Branch Chief, IRC Washington DC**

> One of the greatest challenges of my federal career has been uncertainties in funding for scientific research, especially for long-term studies that are needed to understand natural processes, which can evolve slowly. But this is not a challenge unique to a federal scientist, but rather, is a universal challenge in scientific research.

Isabelle Cozzarelli, Research Hydrologist, USGS/GEMSC, Reston VA

< As a minority woman in admin support, speaking to large audiences was a challenge for me, not just because of the language, but other factors. When asked to be the Chair for the USGS Professional Latinos Employee Resource Group (ERG), I learned to push myself out of my comfort zone in many areas. I embraced the opportunity and encourage others to connect with an ERG within DOI.

Noelia Garcia, Program Assistant, USGS Reston VA



#5b. Lateral and challenge yourself

A career or career-conditional employee of one agency may transfer, without a break in service of a single workday, to a competitive service position in another agency without competing in a civil service examination open to the public. A transfer eligible may apply under vacancy announcements open to status candidates. An employee may transfer to a position at the same, higher, or lower grade level.

Who is eligible to transfer?

Present Federal employees who are serving in the competitive service under a career or career-conditional appointment have eligibility for transfer to a position in the competitive service. To transfer, you must meet the qualification requirements for the position.

#6. Be a volunteer in a lab or volunteer for work outside your agency

The USGS has partnerships with several citizen science programs that are appropriate for classroom projects, for individual students, or for anyone who wants a fun and rewarding activity. See the [Citizen Science page](#) on our [USGS Education website](#).

Volunteers assist on some USGS projects. In all cases, the volunteers are carefully trained and are supervised by a federal employee while they work. To ensure quality-control, data collected by volunteers are checked by USGS supervisors.

Volunteers must abide by the same rules, regulations, policies, and laws as employees. Some USGS volunteer opportunities are advertised at [Volunteer.gov](#). Most of those involve working from home or reporting observations that you make on your own time. The USGS also collects data through volunteer [citizen science](#) programs.

Women of Interior

What would you say was the greatest success of your federal career?



< Two year US Peace Corps assignment in Malta and Tunisia. I worked with these governments to establish environmental protection policies and educational programs that survive today more than 25 years later. This experience prompted me to become a public servant and travel lover, exploring other countries, cultures, and people for which I am most grateful. **Paula Estornell, Deputy Director, Program Management Division, OCIO, Washington DC**

> One of my greatest successes is that I have been with the Federal Government for over 35 years! One of the things that I am grateful for are the opportunities that working for the Government have provided. I have successfully navigated two career fields and have had the opportunity to live and travel overseas as a result of working for the Government. That in and of itself has been a success for me. **Tonya Lovelace, Branch Chief, IBC Acquisitions Directorate, Herndon VA**

My proudest moments are when my team and my colleagues are successful. I'm always looking for ways to help make things happen and contribute to the greater good. **Aimee Devaris, Regional Director, USGS Anchorage**



> I am extremely excited about my current project that applies my science discoveries in a web-based tool to help land managers at Saguaro National Park optimize and prioritize their treatments to control invasive [buffelgrass](#). Buffelgrass poses an existential threat to the native flora of the Sonoran Desert, including the iconic Saguaro cactus, by introducing a continuous mat of highly flammable fuel that carries fire through the non-fire adapted ecosystem. **Cynthia SA Wallace, Research Geographer, USGS Tucson AZ**



< I have worked hard and have been lucky to achieve many successes. From being the first Hispanic female Deputy Chief of law enforcement for the US Fish & Wildlife Service National Wildlife Refuge System, to being able to hire new NWRSL officers, watching them grow into their positions and be successful. I had a chance to be detailed to the Federal Law Enforcement Training Center Divisions of Firearms and Behavioral Science where I taught DOI (Bureau of Indian Affairs, Bureau of Land Management, National Park Service Rangers, US Park Police, and USFWS) students and watched them be successful. I would have to say the greatest success of my federal career is all the friends I have made. **Katherine Korte, Deputy Chief, National Wildlife Refuge System Law Enforcement (NWRSL), FWS VA**



#7. Give back to the women that will come after you

Today's USGS workforce of research, development, and senior scientists has a more balanced number of men and women than it had a few decades ago, but overall diversity continues to remain low and inequalities persist.

Most significantly, scientists of color in 2017 still made up only 7 percent of this component of the workforce.

Furthermore, despite the narrowing gender gap and despite women and men having similar promotion rates and similar likelihoods of being promoted, substantial gender differences persist.

Employee Resource Groups (ERGs)



Welcome to the USGS Women in Science Dialogue (WISDom) Employee Resource Group (ERG)

About the WISDom Employee Resource Group (ERG)

October 24, 2019
Employee Resource Groups (ERGs)

WISDom is an employee resource group aimed at improving the working conditions and opportunities for women within the USGS. This website is established to share information among employees in the USGS with the hopes that together we can encourage one another and create awareness of workplace challenges and obstacles--and offer solutions that make the USGS the best place to work for all.

Equality Inclusion
Work

Career
Lists Network
▼

Q + Ally

↳

Professional Latinos

Trans



Contacts

Susan C Aragon-Long

CONCLUSIONS

- ✓ the hardest job you will ever have in the federal government is just getting hired permanently
- ✓ once you have a bachelors level degree you can get hired into an entry level science or technician position and work your way up
- ✓ or you can pursue more education through federal programs designed to keep expertise.
- ✓ find a mentor. actively seek someone you admire and ask them to help you
- ✓ the department of interior offers many science career ladders. use them.
- ✓ volunteer in a government lab or science project. email me for how to do this.
- ✓ give back to the women that will come after you. we need scientists like you.