



URGE Demographic Data for the USGS

In this deliverable, the USGS Woods Hole URGE Pod presents a summary of our bureau's public demographic data and the USGS goals for diversity and inclusion, as well as an analysis of several notable findings. Links to the full demographics database and the Diversity and Inclusion Plan are also included. During our engaging discussion groups, many barriers to achieving representation were pointed out. At the end of this deliverable, we discuss these obstacles and give our suggestions to help the USGS overcome them to become an agency that reflects the diversity of the Nation. These suggestions will be presented to USGS leadership for consideration.

USGS Demographics

Demographic data for the USGS can be found here: <https://www.fedscope.opm.gov/> - Federal Workforce Data provided by the U.S. Office of Personnel Management (OPM). The Employment and Diversity "Data Cubes" contain numerous options to search the Federal Government's employee demographics data; however, the interface makes it difficult to create and compare meaningful data queries.

Accession/Separation data (tracking the demographics data of new hires, in-agency transfers, and those leaving the employment of the federal government) go back to 2005; this includes gender but not ethnicity/race demographic data. On the main Fedscope webpage, quarter-to-quarter data only goes back five-quarters (to Dec 2019) and year-by-year data only goes back to 2016. Employment trends (including gender trends) starting in 2006 are available here: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.fedscope.opm.gov/) and diversity trends starting in 2006 are available here: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.fedscope.opm.gov/).

How do USGS racial/ethnic demographics compare to the total U.S. population and to other federal agencies?

In 2020, just under 60% of the U.S. population was White and just over 40% was Minority (<https://www.pbs.org/newshour/nation/3-ways-that-the-u-s-population-will-change-over-the-next-decade>). The demographic data for the USGS show that during this same year, Whites made up 85.2% of the USGS workforce while Minorities only made up 14.3%. The minority group that is most represented in the USGS is the same group that has the highest representation in the U.S. (Hispanic/Latino), although in the USGS, its percentage is only a quarter of its percentage of the total U.S. population (Figure 1).

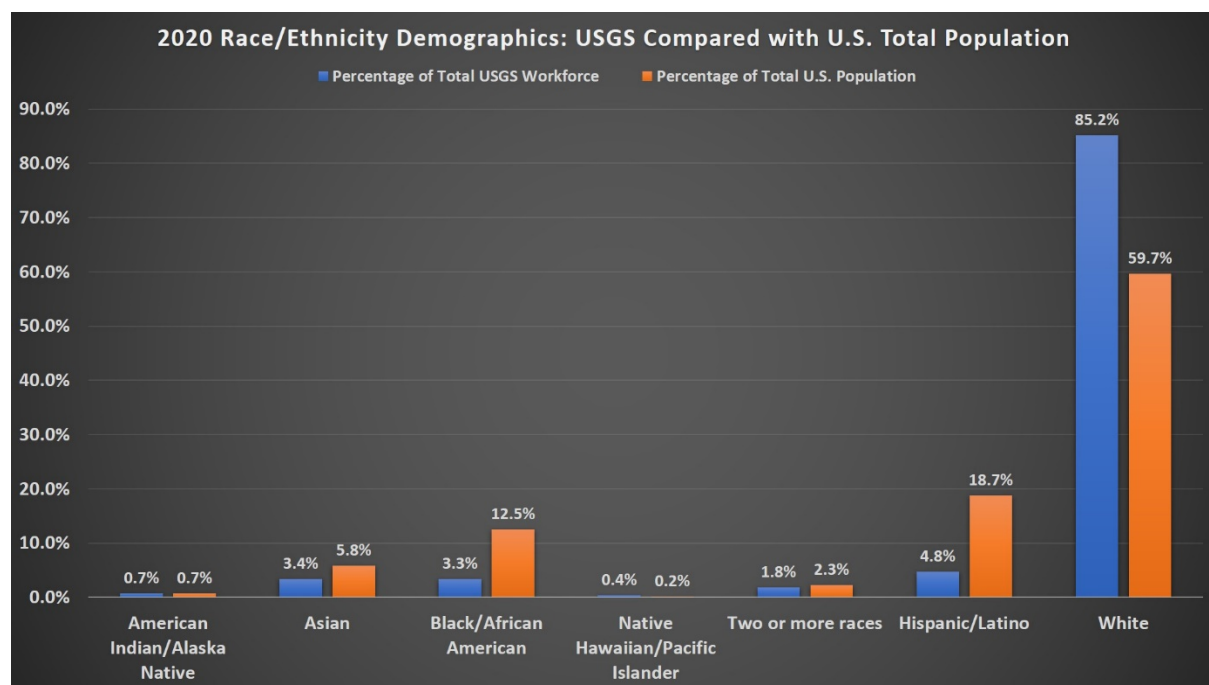


Figure 1. Percentage of USGS workforce compared with U.S. total population by race/ethnicity. In 2020, minorities made up 40.3% of the U.S. population, but only 14.3% of the USGS workforce. USGS demographic numbers are from September 2020: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.opm.gov/fedscope/). U.S. Population data are from the U.S. Census Bureau via: <https://www.pbs.org/newshour/nation/3-ways-that-the-u-s-population-will-change-over-the-next-decade>.

We also looked at racial/ethnic data for three other federal agencies: National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), and Fish and Wildlife Service (FWS) to determine whether the USGS is unique in its lack of diversity. Though these three other federal agencies are also all overwhelmingly dominated by White employees, comparatively, the USGS has the lowest percentage of minority employees (Figure 2).

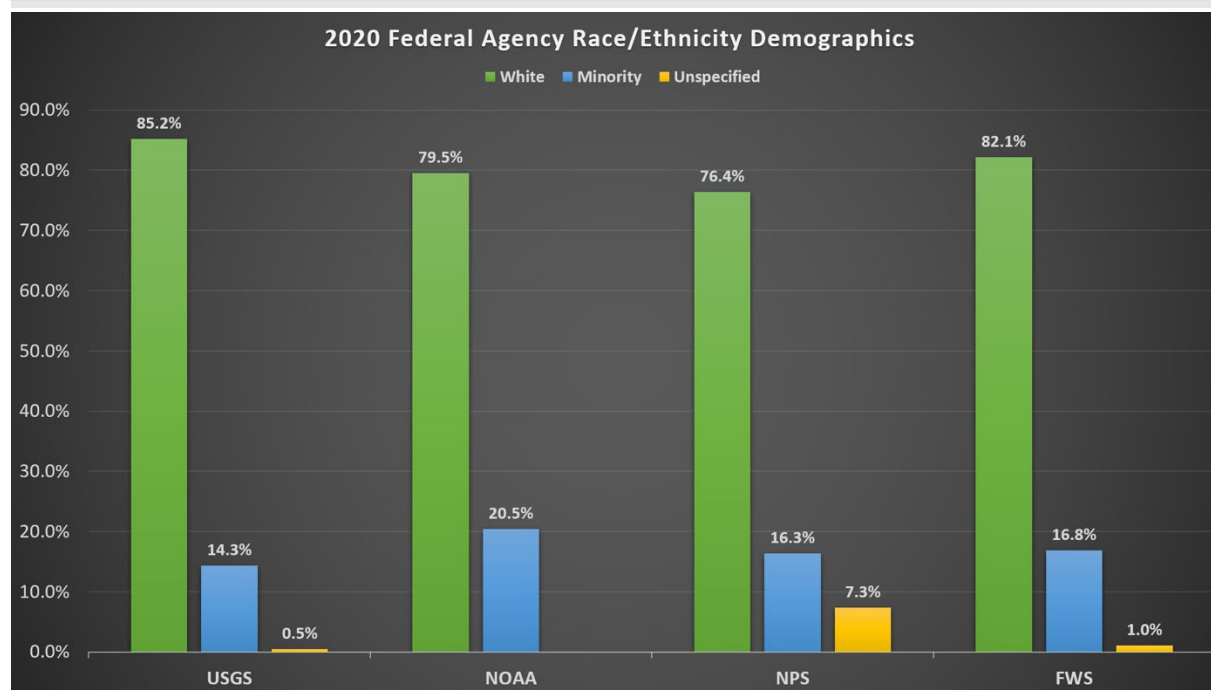


Figure 2. Percentage of White, Minority, and Unspecified employees for four federal agencies: U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), and Fish and Wildlife Service (FWS). All four agencies are lacking in racial/ethnic diversity, the USGS being the least diverse. Data are from September 2020: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.opm.gov/fedscope/).

USGS gender demographics trends in hiring and supervisory status

It was noted in our discussion that people identifying as White women may have benefited the most over the past couple decades from efforts to improve diversity in the workplace. In order to see what progress has been made for gender equity and then consider what might have worked for recruitment and retention of female-identifying employees, we first looked at some of the available demographics data to compare recent female to male hiring trends at USGS. Figure 3 shows overall and permanent hiring trends for Fiscal Years 2005-2020. While the graphs show better overall parity in terms of gender than we see in race/ethnicity, there was a wider gap for permanent USGS hires, suggesting males continue to be favored in long-term career advancement at the USGS.

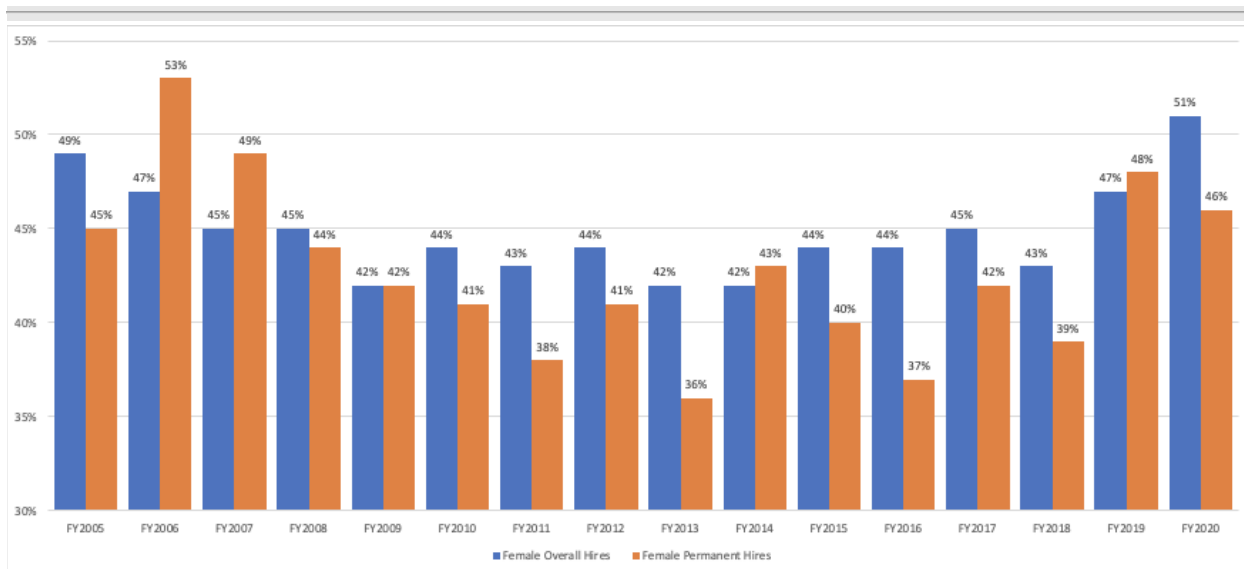


Figure 3. Percentage of USGS overall and permanent female hires annual totals from Fiscal Year 2005 to Fiscal Year 2020 for the entire USGS workforce (all jobs, grades, and appointment lengths). Data are from September 2020: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.opm.gov/fedscope/). For comparison, females make up 51.1% of the total U.S. population.

We also looked at the gender disparity of employees in supervisory positions at the USGS. Figure 4 shows the breakdown of women to men as supervisors across the USGS as well as supervisor status of those in STEM positions. The data show that there is still a large gap favoring male employees to hold supervisory positions with an even wider gap in the STEM Occupations supervisory positions. We also see that over the past 5 years, there does not appear to be much indication that this disparity is moving towards better gender equality.

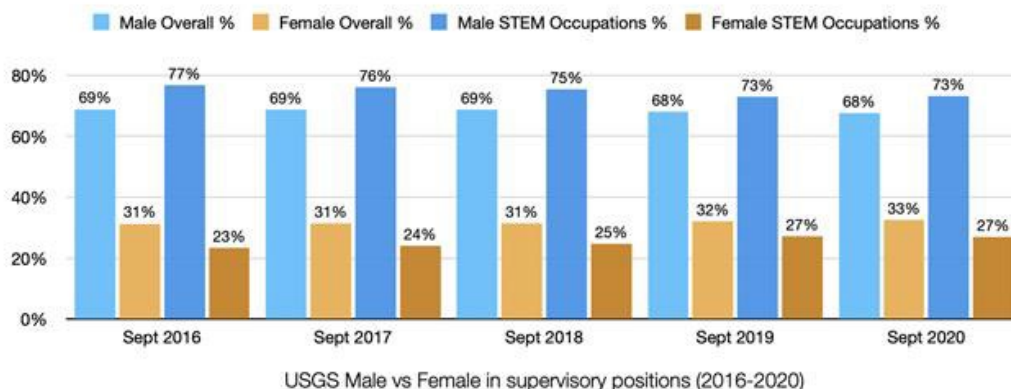


Figure 4. Percentage of supervisory positions occupied by male versus female employees. Comparison is made Survey-wide (first two columns for each year) and for STEM-specific positions (second two columns for

each year). Data are from: [Federal Workforce Data: FedScope \(opm.gov\)](https://www.opm.gov/fedscope/). For comparison, females make up 51.1% of the total U.S. population.

USGS Goals for Increasing Representation

The most recent document we found stating the USGS's *general goals* for diversity is the 2010 [USGS Diversity Statement](#). This memorandum states that:

- “The USGS is committed to seeking out and retaining a highly skilled and diverse workforce....”
- “We must strive to create and foster a supportive and understanding environment in which each employee can realize maximum potential, regardless of differences.”
- “We are committed to employing the best people to do the best job possible and recognize the importance of reflecting the diversity of our customers and our Nation.”

The USGS [Diversity and Inclusion Plan, Fiscal Year \(FY\) 2010 – 2015 \(usgs.gov\)](#) (DaIP) is a detailed plan that lists three *measurable goals* for diversity and inclusion in the USGS as well as the metrics for tracking progress in achieving these goals. The opening section of the document states: “Simply put, leveraging diversity and inclusion is the right thing to do. As the demographics of our Nation change, so will our workforce and so must our approach to diversity.” Here we list the three goals and some of the measures for monitoring progress in achieving the goals. For full descriptions of the goals, strategic initiatives, and metrics, see the full plan.

Strategic Goal 1: Retain and Recruit.

Measures for Goal 1:

- Increase in the diversity of USGS student employees.
- Increase in the percentage of employees in groups with low participation rates.
- Increase in the retention of employees in groups with low participation rates.
- “Percent of improvement in USGS’s ‘Best Places to Work’ results in the following areas: Effective Leadership/Empowerment; Support for Diversity; and Work/Life Balance.”

Strategic Goal 2: Be Accountable and Responsible.

Measures for Goal 2 include:

- Percent of managers that complete annual diversity training.
- “Percent of improvement in USGS Federal Employee Viewpoint Survey results in these areas: Creativity and innovation are rewarded; policies/programs promote diversity in the workplace; and managers/supervisors work well with employees of different backgrounds.”

Strategic Goal 3: Understand, Engage, Include, and Share.

Measures for Goal 3 include:

- Increased understanding of diversity and inclusion principles (from training evaluations).
- Number of employees who receive diversity and inclusion training.
- Number of diversity related activities and events.
- “Percent of improvement in USGS Federal Employee Viewpoint Survey results in the following areas: Creativity and innovation are rewarded; policies/programs promote diversity in the workplace; managers/supervisors/team leaders work well with employees of different backgrounds; and supervisors are committed to a workforce representative of all segments of society.”

Is the USGS achieving its goals?

While we do not have access to all of the data necessary to assess progress for *all* of the measures for the three goals listed in the USGS’s Diversity and Inclusion Plan, FY 2010-2015 (DaIP), we were able to find data to assess progress for *some* of the measures.

Measure for Strategic Goal 1: Increase in the percentage of employees in groups with low participation rates.

Using federal diversity data from [Federal Workforce Data: FedScope \(opm.gov\)](https://www.opm.gov/federal-workforce-data/), we were able to analyze the racial/ethnic demographics for the USGS from 2006-2020 (14 years). The strategies employed for Goal 1 did not produce a consistent increase in the percentage of each minority group. While there was a very slight increase in the percentage of Hispanic/Latino and More than One Race employees, the percentage of both American Indian/Alaska Native and Black/African American employees decreased over the last 14 years. (Figure 5). A look at the percentages of all minority and white employees shows a slight positive trend in the number of minority employees from 2006-2020 (Figure 6).

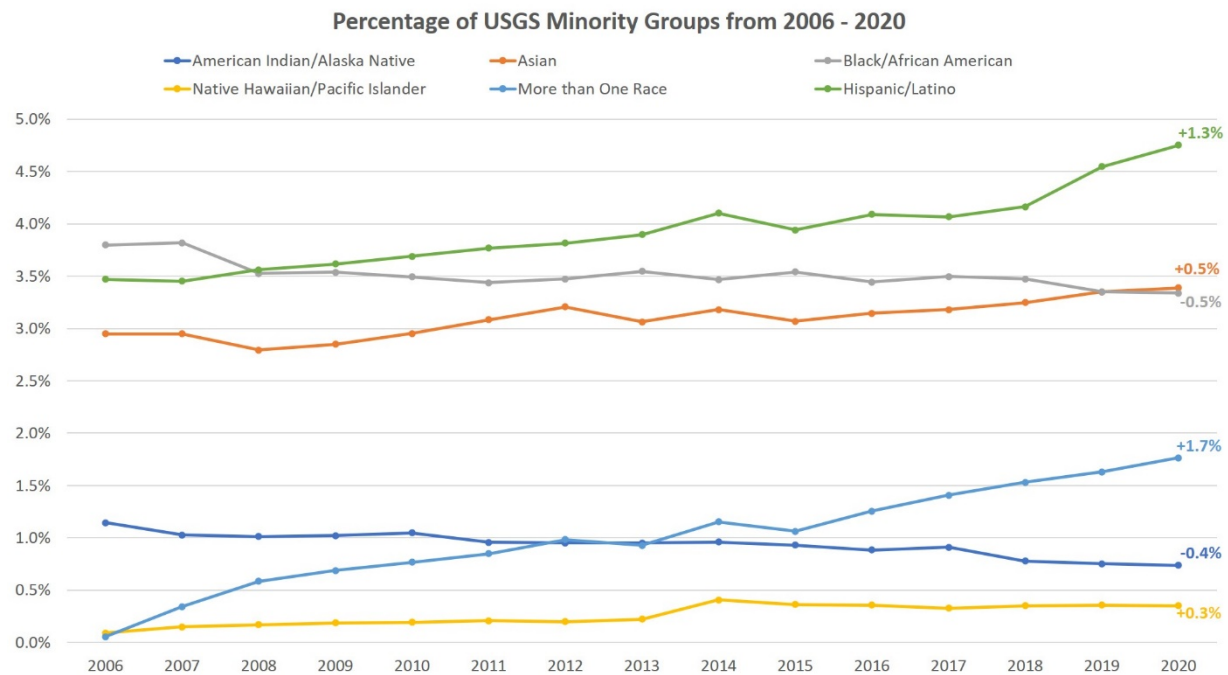


Figure 5. Percentage of USGS Minority groups from 2006-2020 across all jobs within the USGS. Changes are modest (<2%) over the 14-year time span, with some groups seeing a decrease in their employment numbers. Numbers on the right side of the plot indicate the overall change in percentage for each group across this time span.

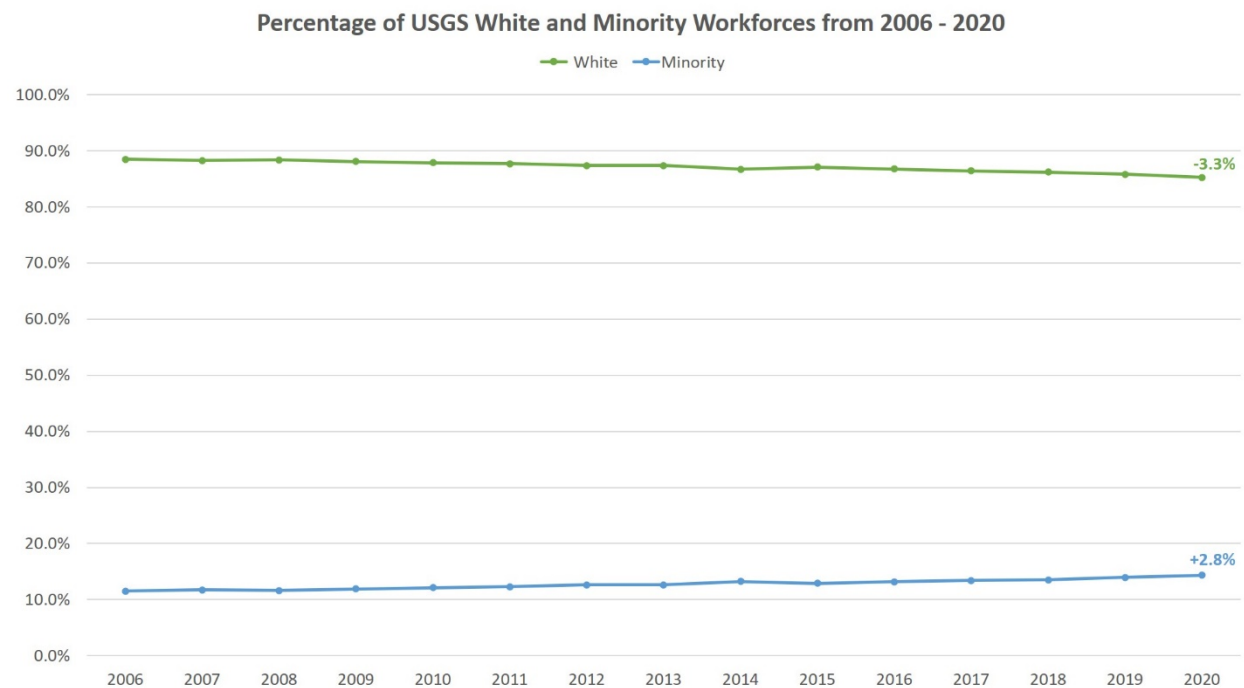


Figure 6. Percentage of minority and white workforces in the USGS from 2006-2020. Numbers on the right

side of the plot report the overall change in percentage over this 14-year period. Data are from September of each year and were obtained from [Federal Workforce Data: FedScope \(opm.gov\)](#). From 2006-2020, the percentage of minority employees increased at an average rate of 0.2% per year. At this rate, it would take well over a century (~130 years) for the USGS workforce to reach parity with general population percentages. Furthermore, this trend is not necessarily representative of upper level science positions. For example, the overall minority representation for GS13-15 is only 4%, and of the 238 employees at the GS-15 level, only 2.5% are from minority groups (6 Asian and 6 Hispanic/Latinx).

Measure for Strategic Goal 1: “Percent of improvement in USGS’s ‘Best Places to Work’ results in the following areas: *Effective Leadership/Empowerment*; *Support for Diversity*; and *Work/Life Balance*.”

The USGS’s Best Places to Work (BPTW) report for the years 2003-2019 can be found at: [Best Places to Work in the Federal Government](#). Note, that for the three categories listed in the DaIP, data are not available for 2004, 2006, or 2008. “The majority of the data used to develop these rankings was collected by the Office of Personnel Management (OPM) through its [Federal Employee Viewpoint Survey](#).” The scores for the categories “are calculated by averaging the percentage of positive responses to questions across 10 aspects of the employee experience, including effective leadership, employee skills–mission match, pay, and work–life balance. The percentage of positive responses is calculated by dividing the number of employees who answered a question positively by the total number of employees who completed the survey. This differs from OPM’s methodology, which divides the number of employees who answered a question positively by the number of employees who answered that particular question. Because of this difference, the percentage of positive responses to a question calculated by the Partnership may be slightly lower than what is calculated by OPM”, [Methodology • Best Places to Work in the Federal Government](#).

The percentage of positive responses over the timeframe of the DaIP (2010-2015) *decreased* for all three categories of interest: *Effective Leadership/Empowerment*, *Support for Diversity*, and *Work/Life Balance*. The percentage of positive responses for all three categories *also decreased* for the most recent time period (2018-2019). Only when we look at the full timespan of data do we see any increases in positive responses. *Effective Leadership/Empowerment* went up by 5.5% between 2003 and 2009 and *Support for Diversity* increased by 0.8% (Table 1).

In addition receiving a score for each category for each year, the USGS is also compared to over 400 other agencies and is placed in one of four quartiles: Lower Quartile (0-25%), Below Median (25-50%), Above Median (50-75%), and Upper Quartile (75-100%). For all years surveyed, the USGS has never been in the Upper Quartile for any of the three categories listed in the DaIP. In fact, both *Support for Diversity* and *Work-Life Balance* were in either the “Below Median” or “Lower Quartile” categories every year.

Best Places to Work Category	2018 – 2019	2003 – 2019	2010 – 2015	Additional Information
Effective Leadership: Empowerment	-2.4%	+5.5%	-0.7%	For each year surveyed, the USGS was either in the Above Median (50-75%) or Below Median (25-50%) category. From 2012-2019, the USGS was consistently in the Above Median category.
Support for Diversity	-1.7%	+0.8%	-3.1%	For each year surveyed, the USGS was either in the Below Median (25-50%) or Lower Quartile (0-25%) category.
Work-Life Balance	-0.7%	-1.4%	-0.6%	For each year surveyed, the USGS was either in the Below Median (25-50%) or Lower Quartile (0-25%) category.

Table 1. Results for USGS Strategic Goal 1 (Retain and Recruit). Numbers report the percent change in positive responses over the year range given in top row. Though marginal gains have been made regarding perceived empowerment and effective leadership over the long term, personal views about support for diversity and work-life balance have been trending negatively over the past decade.

Measure for Strategic Goals 2 & 3: *“Percent of improvement in USGS Federal Employee Viewpoint Survey results in these areas: Creativity and innovation are rewarded; policies/programs promote diversity in the workplace; and managers/supervisors work well with employees of different backgrounds; and supervisors are committed to a workforce representative of all segments of society.”*

The Federal Employee Viewpoint Survey (FEVS) is administered annually by the U.S. Office of Personnel Management (OPM). All full-time, part-time, permanent, and non-seasonal USGS employees are given the opportunity to complete the survey. This survey “assesses levels of employee engagement and satisfaction, and provides feedback on employee perceptions of leadership, work environment; rewards and recognition for professional accomplishment; opportunity for professional development and growth; and opportunity to contribute to achieving the organization’s mission”, [Federal Employee Viewpoint Survey \(FEVS\) \(usgs.gov\)](https://www.usgs.gov/federal-employee-viewpoint-survey-fevs). Survey response choices were: *Positive, Neutral, or Negative*, and sometimes *Do Not Know, No Basis to Judge, Choose Not to Participate, Not Available to Me, Unaware of Programs, or No Support Required*. “Positive, Neutral, and Negative percentages are based on the total number of responses (N) that are in these three categories.”, [2019-USGS-FEVS-Results.pdf \(amazonaws.com\)](https://www.amazonaws.com/2019-USGS-FEVS-Results.pdf).

Positive response percentages for the four areas listed in the measure are available for the years 2012-2019 and are shown in Figure 7. Over these eight years, positive response for “policies/programs promote diversity in the workplace” decreased while positive response in the other three areas increased.

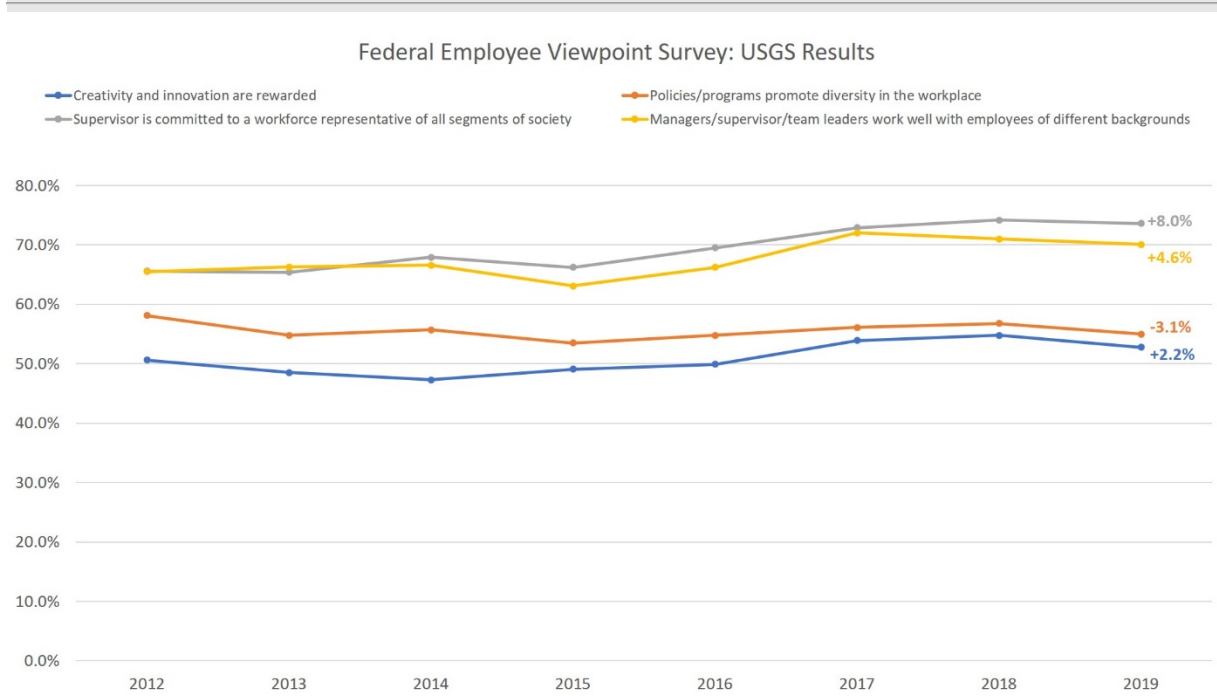


Figure 7. Percent of positive responses for the USGS for four areas of the Federal Employee Viewpoint Survey (FEVS) from 2012-2019. During this time span, the percent of positive responses increased modestly for three out of the four areas. The percent of positive responses to the question of whether policies and programs promote diversity in the workplace decreased by over 3%.

Summary

In 2020, the majority of USGS employees identified as White, making up ~85% of the total workforce, which is 1.4 times higher than the percentage of Whites in the total U.S. population. Of the non-White ethnicities/races represented on the FedScope website, Hispanic/Latino identifying individuals are the next largest group of employees (4.8%), followed by Asian (3.4%) and Black/African American (3.3%). The only ethnic/racial groups to reach or exceed parity with the U.S. population were American Indian/Native Alaskan and Native Hawaiian/Pacific Islander, though these groups represent less than 1% of the population each, so caution should be used in comparing such low percentages. USGS had the highest percentage of White employees of any of the Federal Agencies with similar mandates (NOAA, NPS, FWS) in 2020.

These 2020 demographics stand in contrast to the strategic goal outlined by the (FY) 2010-2015 USGS Diversity and Inclusion Plan (DaIP) to retain and recruit more diverse communities to the USGS Workforce. FEVS surveys reveal that the percentage of USGS employees reporting positive responses in terms of supervisory support and commitment to diversity has increased slowly over the past 7 years and indicate that the DaIP strategic goal regarding understanding, engagement, and

inclusion is being addressed. In contrast, the percentage of positive responses regarding formal policies and programs to support workplace diversification has declined over the last 7 years, illustrating that DaIP strategies for improving accountability and responsibility were not effective. In other words, despite increasing perceived awareness and interest in expanding diversity at USGS, even up to the supervisory level, without tools and programs available to capitalize on this intent, marked progress is not being made to change the racial demographics of USGS.

Gender has also been a focus of Diversity, Equity and Inclusion efforts at USGS over the last 5 decades. Some progress in gender equality has been made and we should strive to do the same for racial diversification. The percentage of female-identifying hires for all job-types in the USGS has increased over the past three years, and 2020 resulted in the highest percentage of women hired (51%) out of the past 15 years, which indicates that overall recruitment of women has been increased. However, the percentage of women hired for permanent jobs has been consistently lower than the percentage of overall female hires for 10 of the last 15 years. In addition, supervisory positions remain dominated by male-identifying employees (68% in 2020) for the overall USGS workforce, and men make up an even higher percentage of supervisory positions in STEM-related occupations within the agency (73% in 2020). These data illustrate that recruitment strategies for women have helped the USGS make progress in gender equity and may be applicable to help USGS reach its goals for racial diversity. However, retention and recruitment for supervisory and permanent roles remains an area requiring further effort for gender equity and are therefore likely to require extensive efforts for racial parity.

Discussion

In our discussion groups, we attempted to ascertain why the USGS is lacking in diversity. Beyond the ever-present obstacles of unconscious bias that require continued efforts to identify and overcome, we identified some key obstacles in the hiring process that currently hinder the USGS from employing a more diverse workforce. We list these barriers here along with suggestions to help the USGS become a more diverse and inclusive agency.

Barriers to achieving goals

- If talented students are identified through diversity-focused internships, there is a lack of continuity to maintain networking with these students and provide a pathway to hiring. Our hiring process currently lies with the student's "champion" or motivated individuals or groups to seek out, recruit, and create opportunities for these potential employees. The long timeline for federal hiring (5 months or more) can be a barrier for financially insecure applicants. Again, it is highly dependent on individuals and groups to have the motivation and competence to expedite the hiring process.
- The use of self-ranking on applications may disadvantage applicants from minoritized groups who face the added stress of stereotype threat and impostor syndrome, while white

applicants, or applicants who have experience with the Federal hiring policies are more likely to rank their skills and experiences highly.

- The lack of targeted job advertising. When new positions are announced, USGS groups and employees often disseminate job advertisements to colleagues and professional groups with which they are already familiar and/or members. These pre-established networks tend to overwhelmingly favor White applicants.

Suggestions to overcoming barriers and achieving diversity

- Provide specific metrics for increasing numbers of underrepresented groups. The stated goal of “increasing percentage” is too vague and does not provide either specific targets, which ideally would be on par with general population percentages, or timelines for achieving these targets. Periodic (e.g., biannual, quinquennial) review of success in achieving targets could also be implemented to track progress and promote accountability.
- Expand the number of ERG’s (Employee Resource Groups) to increase the sense of belonging for underrepresented groups. ERG expansion could be facilitated by providing a mechanism for institutionally recognizing/incentivizing ERG leaders rather than relying on individuals fortunate enough to have supervisors who decide ERG leadership is a valuable contribution to the USGS. ERG expansion could also involve investigating which other ERGs people want.
- Create mechanisms to incentivize employees for participation in Diversity, Equity, and Inclusion (DEI) outreach and mentorship:
 - Build DEI participation into employee EPAPs and RGE review processes.
 - Formally recognize DEI efforts especially with regards to promotion and awards.
- A common theme in the “Barriers to achieving goals” is that progress is made only when there is a champion, a motivated individual willing to take on support activities that are above and beyond what is listed in their own duty structure. This is true for the barriers for supporting individuals, but also true in hiring and other broad efforts that require networking. In all cases, progress can only be made if you “know the right person.” What follows are suggestions for institutionalizing support activities that are currently engaged in only by those motivated individuals operating above and beyond their specified duties:
 - Implement outreach programs to connect our scientists and the mission of our bureau to surrounding communities, particularly young students. Inspiring students, building their confidence, letting them see themselves in the geosciences represent vital steps in growing the pipeline of future applicants¹ from which the USGS can draw.
 - Implement recruiting strategies targeted for different GS levels that would remove barriers to minoritized groups. For example, building on existing connections with City College of New York, University of Puerto Rico Mayaguez, and Tennessee State University, as well as certain tribal colleges by partnering with additional minority serving institutions, including Historically Black Colleges and Universities, Hispanic-

serving institutions, tribal colleges and universities, and Asian American and Pacific Islander serving institutions¹.

- Improve mentorship to increase continuity between temporary positions and permanent employment.
- Increase use of programs such as Pathways to allow students and early career employees to improve skills and continue their education.
- Increase use of diversity-based Pathways programs for hiring and allow for sharing Pathways students across the DOI. Currently, individuals who can be hired through Pathways but have no job opening in their local center can be hired elsewhere within the federal system if “they know the right person” who happens to be aware of both the open position and the applicant. Institutionalizing the advertisement of positions and candidates can empower individuals to act on their own behalf.

¹ Dutt, K. Addressing racism through ownership. *Nat. Geosci.* **14**, 58 (2021).
<https://doi.org/10.1038/s41561-021-00688-2>