URGE Demographic Data for University/Organization – Session 3 Deliverable

This is what was found by **EPSP Pod 1** at the **American Geophysical Union (AGU)** on demographic data (public and internal facing) as well as stated goals for representation, and/or proposals to collect and report demographic data.

[The following information primarily pertains to gender because there is currently no publically available data for AGU pertaining to race and ethnicity. Data exist for gender and career stage only.].

- **The link(s) to demographic data at our organization are here:**
    - Link 1 to report page - Link 2 to reports page - AGU and Section demographics for Gender for 2018 and for union wide honors for 2014-2019.
      Data should be produced yearly, but no reports beyond 2018 are currently available.
    - Link to Ford et al - Analysis of past invited speaker demographics
      The most detailed analysis of speaker demographics was produced by Ford et al. Detailed demographic data are not publically available (AGU dashboard will track progress and provide demographic data, implementation appears delayed as the dashboard was supposed to be public by 12/2020). The limited gender demographic data may be due to the ease with which some information may be personally identifiable. Demographic data based on other categories is currently not available.

EPSP Section Gender & Career Stage Demographics

EPSP	Student	Early Career	Mid-Career	Experienced	Retired
Female	43.10	33.96	25.56	15.83	6.72
Male	55.86	65.06	73.15	83.78	92.54
Prefer not to answer	1.04	0.98	1.29	0.39	0.75

Numbers represent percentages of each category. Total number of members in each career stage are not provided publically. From Ford et al. (2018), women represent 28% of the AGU membership, and submitted 32% of all abstracts over the 2014-2016 Fall meetings. EPSP's section numbers (compiled from the public abstract database) roughly confirm these AGU wide numbers and trends hold at the section level. Just over 40% of AGU members are non-US residents as of 2019 (Diversity in the Geosciences a look at the data and the actions of the community).

EPSP Section Awards

Key stats and notable observations for the Early Career Award

- Two of the 11 awardees were female. The EPSP section is 34% female at the Early Career stage, but only 18% of the awards went to females.

- The first six award winners were male, there was a 7.5% chance of this occurring assuming a random process and the stated demographic breakdowns of the Early Career members (34% female, 65% male).
- Considering Ph.D. and postdoctoral mentors, there were 2 female mentors out of 22 possible mentors. There are 16 unique mentors out of 22 possible mentors.
- Considering Ph.D. and postdoctoral institutions of the award winners, there are 14 unique institutions out of 22 possible institutions.
- One award winner is nonwhite.

Key stats and notable observations for the Career Award

- Two of the 11 awardees were female (18% of the awards). The EPSP section is 16% female at the Experienced Career stage.
- The first eight award winners were male, there was a 25% chance of this occurring assuming a random process and the stated demographic breakdowns (16% female, 84% male at Experienced stage).
- There are currently no nonwhite winners of the Career Award.
- Considering award winners current and Ph.D. institutions, there are 15 unique institutions out of 22 possible institutions.

EPSP Section Leadership Committees

Key stats and notable observations for the EPSP leadership committees

- Leadership committee is composed of 51 individuals, with 55% male and 45% female. Students make up 9 of the 51 members.
- The leadership committee is 86% white, not including students it is 97.7% white. All nonwhite members of the leadership committee are Early Career.
- Members on the leadership committee are overwhelmingly from US based institutions (92%) and universities (98%).

- **How does your organization compare to others, or to the field as a whole?**

  According to Ford et al. AGU's gender demographics are similar to other Earth Science related fields of study and organizations. Non-gender demographic data is not available. Within AGU the EPSP section is about average when compared with other sections. AGU and our section is not diverse ethnically or racially.

  AGU has recently increased its efforts to ensure diversity for awards at the organization level. EPSP's section specific awards do not reflect the diversity of the section at the Early Career stage. Recent actions were to form a canvassing committee to increase nominations of women and URM. The eligibility of the award was changed from five to ten years post degree.

- **Public goals on demographics or increasing representation:**

  AGU has public goals and an action plan. The EPSP section does not currently have its own plan separate from AGU.

  AGU has five goals comprising three objectives each. The five goals are:

  1. Diversity and inclusion are widely recognized within the AGU community as essential features of excellence in the Earth and space sciences.
  2. AGU provides a safe, welcoming environment and cultivates an inclusive culture that supports the success of every individual AGU member and their science.

3. AGU members are empowered to be effective and impactful change agents for diversity and inclusion within the Earth and space science community.
4. AGU embraces and fulfills its role as a leader and advocate for promoting diversity and inclusion in the Earth and space sciences worldwide.
5. AGU operates as a model organization for advancing diversity and inclusion in science.

There are a diverse and broad set of actions put forward within the strategic plan, however they are light on concrete or numerical commitments and lack timelines/dates signifying when the action will be completed by. In this sense the goals are not entirely measurable.

- **Policy or proposed policy for collecting demographic data at your organization:**

  Goal 5. Objective 1: "Collect and report ongoing demographic information regarding key parameters related to membership, governance, meetings, publications, and honors" These data are intended to be released annually.
  In the case that the AGU data are not released timely, the EPSP section should collect its own member demographic data for: section members, all leadership committees, awards, session conveners & chairs, first author abstracts at the fall meeting, and allocation of oral and invited speakers. Currently, we have informally collected these data in regards to gender and international affiliation (see linked section data above).

- **What did you learn about other organizations (or in general) while investigating demographic data?**

  Numerous organizations have supportive public facing statements, but few details on concrete actions or action plans that provide sufficient details to determine when/if such plans are effective (e.g. an absence of benchmarks).

Resources and examples provided by the URGE Team.

- AGI - "Diversity in the Geosciences – a Look at the Data and the Actions of the Community"-https://www.americangeosciences.org/webinars/diversity-geosciences-look-data-and-actions-community
- Creating and Promoting Gender Equity and Diversity in Professional Geological Societies - https://eartharxiv.org/repository/view/2060/
- https://diversity.ldeo.columbia.edu/seminardiversity - Increase diversity in seminars
- https://www.nature.com/articles/d41586-019-03784-x - No all-male panels
- http://www.ohrc.on.ca/en/policy-and-guidelines-racism-and-racial-discrimination/part-3-%E2%80%93-guidelines-implementation-monitoring-and-combating-racism-and-racial-discrimination - more information on collection of demographic data in Canada.

Signatures of Approval by Podlet 1

Colin Phillips, Andrew Moodie, Claire Masteller, Alison Duvall, Kimberly Hill, Kristin Sweeney, Noah Snyder, Cindy Palinkas, Lisa Tranel, Julia Carr, Anastasia Piliouras

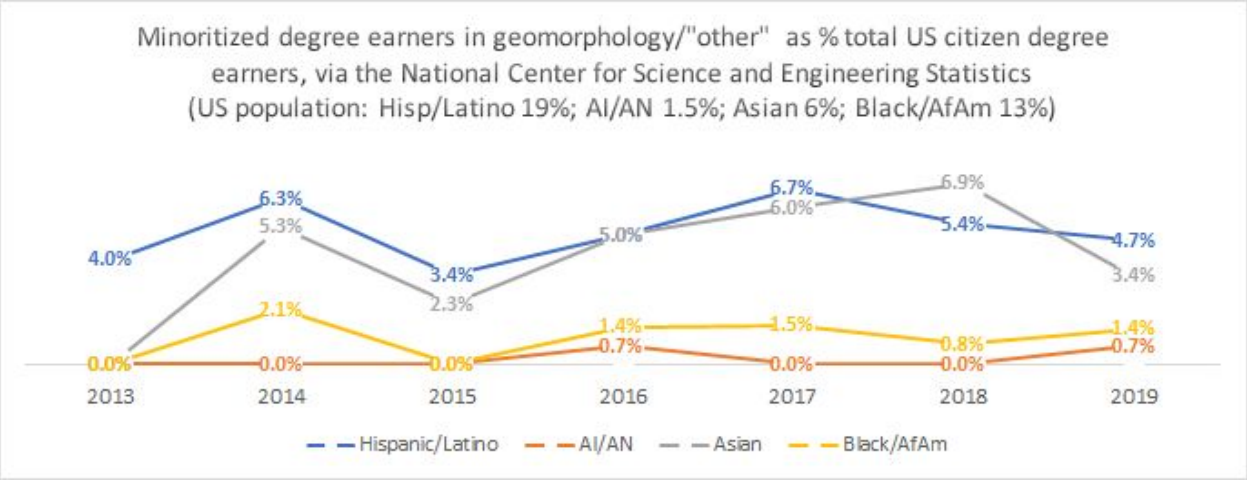
Final version of Deliverable 3, EPSP Podlet 2

Publicly available data on race and ethnic identity in earth surface processes

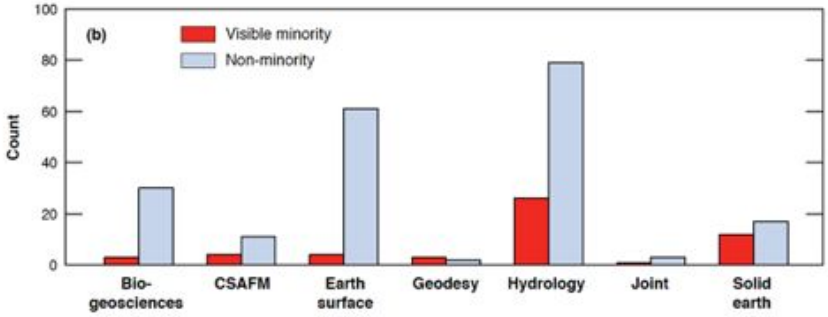
The short answer is that **AGU and EPSP do not publicly report the number of minoritized scientists in their membership or conference activities.**

However, there are a few sources of information from which we can define membership in the larger surface processes community in the US:

US PhD earners: National statistics of geology subfields implies no change in number of PhDs in geomorphological fields earned by underrepresented groups in the last decade, and in particular Black and Latinx PhD earners are a considerably smaller proportion of degree earners compared to US population proportions. Based on the fact that the number of US citizens earning PhDs in this subfield is about 100 a year, numbers for minoritized scientists are single-digits annually.



Canadian Geophysical Union: a survey of the 2017 annual meeting of the CGU found the following breakdown of whether the person presenting the science was a “visible minority”:

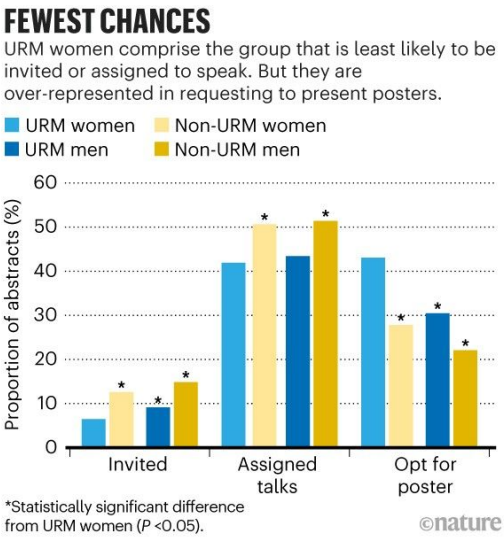


These data show that scientists presenting “earth surface” content were proportionally more white than any other category of geoscience content.

These observations, combined with the “gray” data we identify below, tell us that the people conducting and presenting geomorphology are predominantly white.

“Gray” data: connecting self-identified ethnicity data to AGU and EPSP abstracts and awards

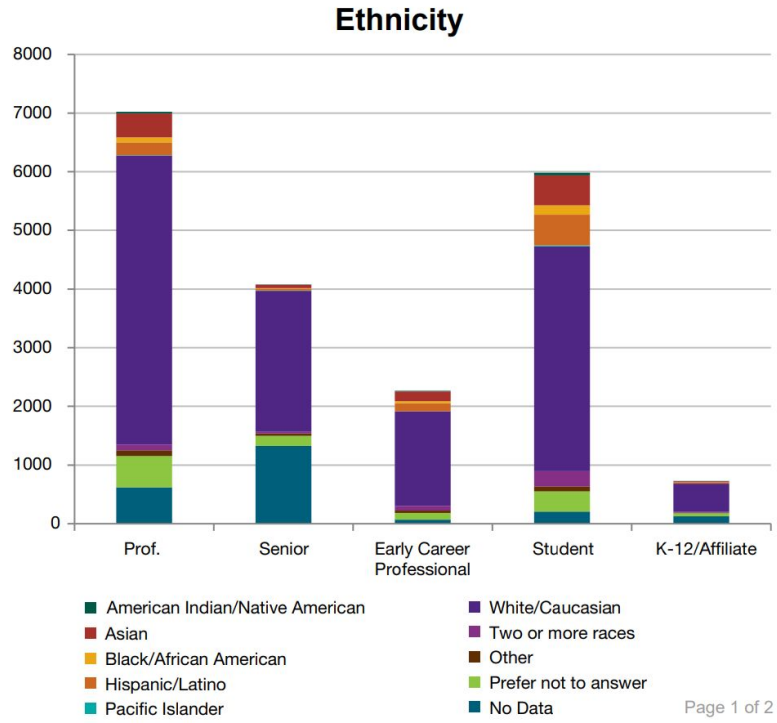
Another short answer: **we cannot perform an analysis on historical trends of ethnic or gender data for EPSP awards and conference activity because self-reported identity metrics are not currently available to anyone in the section.** Although section and OSPA award winners are announced publicly on EPSP’s website and author information for oral and poster sessions are visible to conference registrants, we recognize that we cannot ascertain accurate gender and ethnicity data from names alone. That being said, EPSP awards qualitatively present predominantly as male and overwhelmingly as white.
However, it is theoretically possible to connect presenting US-based authors at AGU’s Fall Meeting to self-identified demographic data as demonstrated by the Ford et al., 2019 data analysis (and in an analysis of AGU journals). AGU members may choose to self-identify with gender and ethnic information:



Therefore, data for EPSP-related session conveners, invited speakers, presenters, and Outstanding Student Presentation Award (OSPA) participants and judges (plus EPSP committee membership) *exists*, but as of March 1 2021 that data was not accessible to section leaders or decision-makers. In fact, EPSP membership data concerning ethnicity was not available to section presidents upon request (data on gender were available to sections).

How does AGU's data availability compare to other geoscience-related organizations?

The Geological Society of America (GSA) provides a comprehensive data summary publicly available with membership breakdown by race/ethnicity, gender, age, and career stage (https://www.geosociety.org/documents/gsa/about/MbrDemographics.pdf). However, these data do not appear to be broken out by division (section equivalent at GSA).



Additional society data availability:

- Society for Sedimentary Geology (SEPM)
    - Data summary publicly available, but no demographic data beyond region and career stage. (https://sepm.org/files/18319article.is1vlp8kazjw81u5.pdf)
    - Paper by Fernandes et al., 2020 has analysis of SEPM demographics - https://eartharxiv.org/repository/object/90/download/175/
    - Leadership by gender, race
- American Association of Petroleum Geologists (AAPG)
    - No demographic data publicly available
    - Annual report has lists and photos of officers, past and present
- National Association of Geoscience Teachers (NAGT)
    - Small data summary publicly available, but no demographic data beyond region and career stage. https://d32ogoqmya1dw8.cloudfront.net/files/nagt/about/2020_annual_membership_report.pdf

What are AGU's stated goals for diversity and data collection, and are they meeting those goals?

As part of AGU's Diversity and Inclusion Strategic Plan adopted December 2018, one of the five goals, the objectives of that goal, and action items are listed verbatim:

Goal 5: AGU operates as a model organization for advancing diversity and inclusion in science

- Objective 1: Increase the use of demographic measures and data to inform decision making about AGU diversity programs and to regularly monitor progress in achieving results.
    - Collect and report ongoing demographic information regarding key parameters related to membership, governance, meetings, publications, and honors
    - Survey the D&I attitudes and needs of the AGU membership worldwide, using appropriate evaluation expertise
    - Proactively encourage members to update their AGU profiles with relevant diversity indicator information
    - Monitor and report annually to the AGU Council and the Board on the state of diversity in AGU operations
- Objective 2: Increase representation of historically underrepresented groups in all aspects of AGU operations (e.g., publications, meetings, leadership, honors, AGU headquarters staff).
    - Encourage diversity in how sessions are organized at AGU meetings, including session conveners, session chairs, first-author abstracts, and oral session presenters
    - *Provide all AGU leadership team members, committee chairs, journal editors, and senior AGU staff with biannual ethics, implicit bias, and related D&I training, as a condition of service, and make this training available online* (emphasis added)
    - Recruit diverse membership on selection committees and meeting sessions
    - Evaluate current mechanisms for selecting honors and explore new approaches that will minimize bias
    - Set benchmarks for participation of early-career scientists in committees and sessions in meetings
    - Create new incentives to encourage participation in AGU operations

With respect to measuring the success of Objective 1, AGU has thus far failed to make demographic data easily accessible to members, including section committee members that would benefit from having this data (ethics of anonymity with small sample sizes notwithstanding). For tracking Objective 2, no benchmarks have been disclosed besides a general intention to "increase diversity" in many aspects of AGU. No "targets" have been set.

What can EPSP do to improve demographic data collection, and what goals can be set for the section?

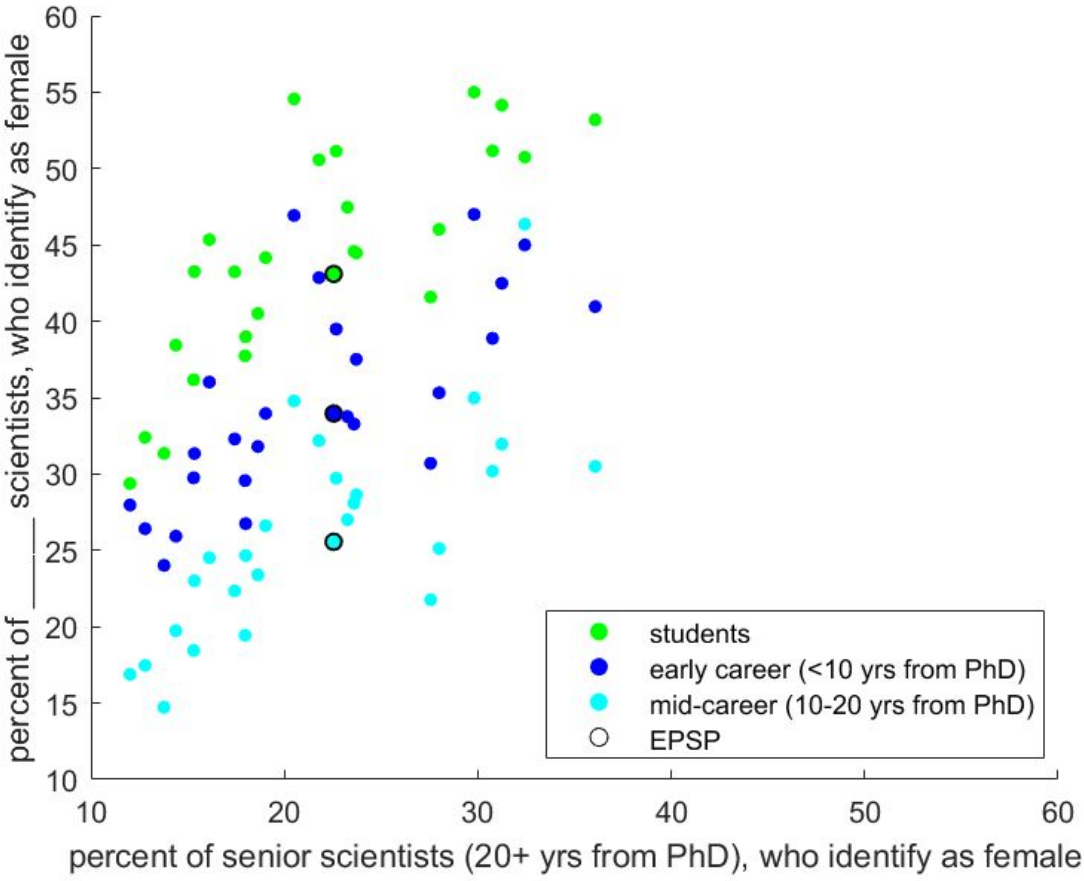
1. Future EPSP DEI committee members will request data from AGU about demographic data for section membership and abstract/session chairing/speakership/OSPA information from Fall Meeting. Data will be discussed and analyzed with the guidance of

AGU's staff for ethical considerations, perhaps in tandem with training alluded to in AGU's goals statement.

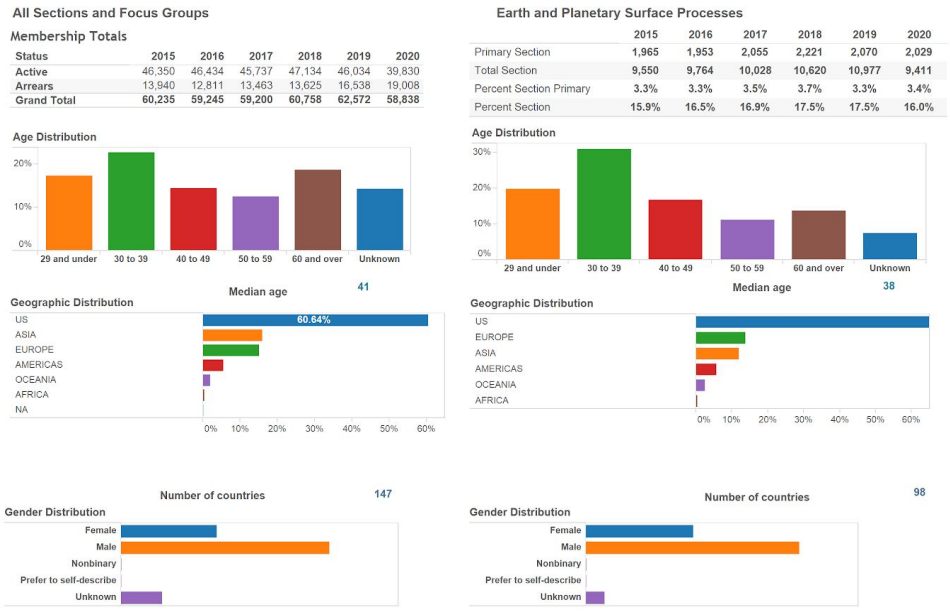
2. EPSP will ask AGU staff collecting demographic data to allow people to self-report as more than just male and female ("other", "choose not to report," etc.).
3. If data cannot be provided to the broader community EPSP will request AGU provide a statement about how the data is being collected and being used. Can AGU tell us how the data is being used to address the aforementioned goals?
4. Request EPSP committee members and medal winners self-report demographic information and make this information available on the EPSP website.
5. Publish a yearly report summarizing membership, speakers, award demographics (similar to the Cryosphere annual report). Also include data collected each year on a dashboard-like platform on the EPSP website.
6. Increase transparency on a number of EPSP activities for which minoritized scientists might be recruited (i.e. chairing sessions, nominating for awards, committee membership and activities), and recommend that section members mentor minoritized scientists to conduct these activities through invitations as co-chairs etc.
7. Encourage EPSP committees and session chairs to support minoritized scientists at all career stages with invited speakerships, award nominations, and student support (e.g. an annual email from the president reminding potential session conveners about Ford et al. study findings, historical EPSP demographics and balancing oral presentations in their sessions) (see note in "Gender-related data for EPSP/AGU").
8. Set measurable incremental goals for increasing diversity in speakers and invited presentations (e.g., increase minority or female speakers by a certain percentage each year until the percentage is the same or greater as the broader AGU EPSP membership).
9. Set goals for minoritized scientist representation in EPSP committees (e.g. 20% of committee members should self-identify as URM).

Other data relevant to this report

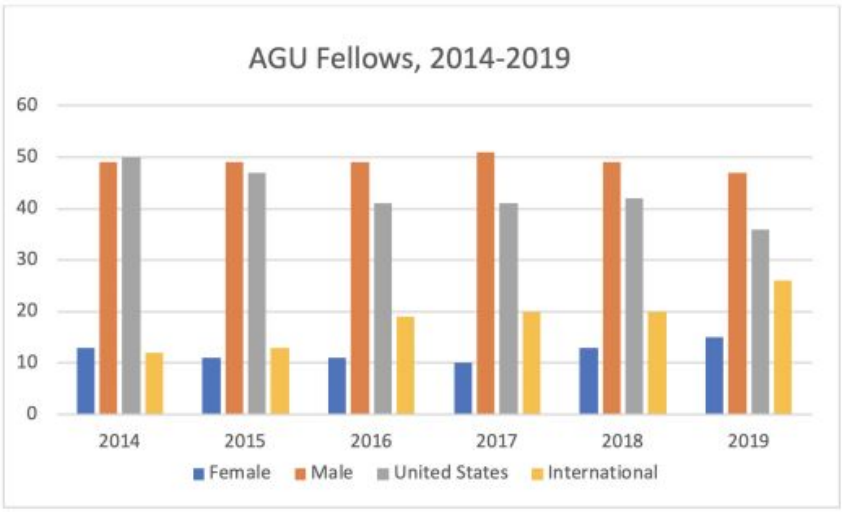
Gender-related data for EPSP/AGU

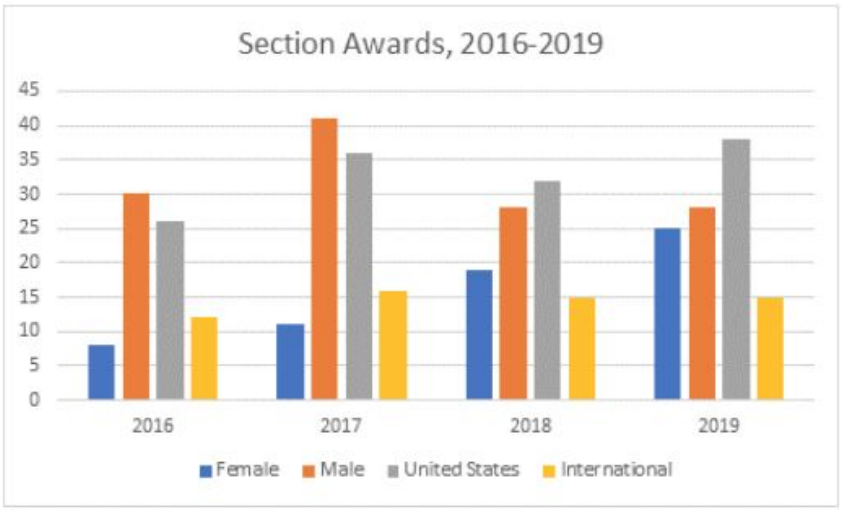


Reported gender data for AGU sections plotted as a fraction of student/early career/mid-career scientists, who identify as female versus fraction of senior scientists who identify as female. Across AGU sections, there is a positive trend in each of the career stages before experienced scientists with an increasing fraction of experienced scientists. The gender identification of section membership by career stage reveals that more senior women in the section is correlated with more women in all career stages. This could imply a “trickle-down” effect of mentorship, representation, etc. EPSP middle of the road for these stats. It would be useful to get race/ethnic self-identification data for a similar analysis, with the implication that more senior underrepresented scientists in a section likely leads to more URMs in all career stages and that minoritized scientists at all levels should be supported with visibility, awards, etc. The data was taken from the publicly available 2018 Section membership demographics and only two gender categories were reported as female and male with an option to not answer. Currently, only the female data is used. However, there is an opportunity to better represent gender identity in further reports.



Demographic data collected by AGU for EPSP Section and for all AGU members, 2015-2020 (shared via Michele Koppes on 03.01.21.)





-

Plots are pulled directly from the AGU 2014-2019 [Honors Program Diversity Report](#).

- Studies that use AGU gender data for meetings and AGU journals:
    - Ford et al 2018: Gender inequity in speaking opportunities at the American Geophysical Union Fall Meeting (https://www.nature.com/articles/s41467-018-03809-5)
    - Ford et al 2019: Women from some under-represented minorities are given too few talks at world's largest Earth-science conference (https://www.nature.com/articles/d41586-019-03688-w?fbclid=IwAR0ZRLSekkPXvFX6C19BdaxU7PXfGVCmQnSy1xwvGnAlB7c30-5sx87Zz7c)
    - Lerback & Hanson 2017: Journals invite too few women to referee (https://www.nature.com/news/journals-invite-too-few-women-to-referee-1.21337)

Signatures of approval by Podlet 2

Joanmarie Del Vecchio
Karin Lehnigk
Russell Callahan
Robert Mahon
Julia Cisneros
Hima Hassenruck-Gudipati
Risa Madoff
Jeffrey Kwang
Leonard Sklar
Kyle Straub
Xin Sun
Dorothy Merritts
Lisa Luna
Danica Roth
Udita Mukherjee
Michele Koppes
Jessica Gagliardi
Nicole Gasparini