

# DIVERSITY IN THE GEOSCIENCES



**Position Summary.** The Geological Society of America (GSA) is committed to constructing an environment in which all can thrive by building an inclusive, equitable, and accessible professional community that engages diverse students, professional and academic geoscientists, and the communities they serve.

This position statement lays out actions that GSA is undertaking and recommending to institutions and geoscientists to support increased diversity in the geoscience community through cultural change, including (1) focusing on diversity-driven demographic data collection, measurement, and reporting; (2) prioritizing diversity in leadership and decision making; (3) focusing on systemic change; (4) engaging, empowering, and holding accountable the geoscience community.

## CONCLUSIONS AND RECOMMENDATIONS

GSA is committed to fostering a geoscience community that reflects the diversity of our society. To achieve representative diversity in the geosciences, leaders and members of the geoscience community must model, and advocate for, equitable and inclusive practices.

GSA's vision defines diversity broadly to encompass all expressions of human identity and the full spectrum of personal, cultural, professional, and socioeconomic statuses. To disrupt structures of exclusion, GSA and geoscience organizations must adopt strategies that prioritize people from the most marginalized groups and focus on racial disparity without tokenizing geoscience community members or asking an unfair amount of effort toward diversity issues. GSA recognizes that equality is not synonymous with equity. Therefore, striving toward a diverse community, GSA prioritizes inclusion to welcome members of historically underrepresented and the most marginalized groups.

Geoscientists within GSA and other organizations, whether they are professionally affiliated with academia, government, or industry, should collectively work to address issues related to diversity in the geosciences and in their home institutions. To do so, GSA recommends the following actions:

- **Focus on demographic data collection, measurement, accountability, and reporting.** GSA recommends adopting evidence-based strategies, transparency, and accountability in efforts to increase justice, equity, diversity, and inclusion. Organizations should track the implementation of actions in priority areas to measure the impact on stakeholders and functions and effectively communicate progress and adjustments in approach.
- **Prioritize diverse leadership and decision making.** GSA and geoscience organizations should prioritize diversity and equity throughout, especially in positions of power and leadership, decision making, and standard setting, including honorees, awardees, and in recruitment and hiring. As scientists and leaders bring their perspectives and identities to the decisions that determine the future of the community, those decision makers should reflect the diversity of the community itself.
- **Focus on systemic change.** GSA and geoscience organizations should weave justice, equity, diversity, and inclusion into the operations, policies, and norms associated with all governance, services, programs, activities, and events. GSA's initiatives such as On To the Future and Respectful, Inclusive Scientific Events (RISE) demonstrate programming that can contribute systemic change and diminish barriers to career progression. An integrated approach will elevate the importance of this work and, coupled with the measurement and reporting focus described above, will enable ongoing monitoring to help

ensure sustained, impactful change. Additionally, GSA views efforts toward diversity as an imperative and high-priority aspect of the leadership role.

- **Engage, empower, and hold accountable the geoscience community.** GSA and geoscience organizations must engage geoscientists to take ownership of this challenge of increasing diversity and understanding of its value. GSA and geoscience organizations should provide practical guidance and engagement opportunities empowering geoscientists to contribute to systemic and cultural change that foster a sense of belonging for all identity groups. The community must hold one another accountable through mechanisms such as GSA’s Code of Conduct. Responsibility for this work must be shared without overburdening minoritized people through strategies such as self-education, staff training, co-leadership of projects (see resources list below), and valuing DEI work in hiring, promotion, and tenure (see [https://rock.geosociety.org/net/documents/gsa/positions/pos2\\_proContrib.pdf](https://rock.geosociety.org/net/documents/gsa/positions/pos2_proContrib.pdf)).

To attract and retain scientists in a healthy and supportive professional community, organizations and individuals must foster a culture of inclusion and a sense of belonging for all.

## RATIONALE

Geosciences are critical to society, now more than ever, as humanity faces urgent threats to biodiversity and the sustainability of civilizations. Yet the current and future contributions of geosciences to society are limited by having one of the lowest diversities among STEM fields. Geoscience lags other disciplines with respect to racial and ethnic representation (Bernard and Cooperdock, 2018; Dutt, 2020; McDaris et al., 2018) and while white women have experienced gains, women geoscientists remain underrepresented in academia (Holmes and O’Connell, 2003) and continue to experience bias and harassment (Societies Consortium on Sexual Harassment in STEMM, 2020; St. John et al., 2016). Geoscientists face barriers based on race, gender, gender identity, sexuality, physical ability, neurological difference, citizenship, religious, socioeconomic and other factors, which are exacerbated in field settings (Berhe et al., 2022; Carabajal et al., 2017; Olcott and Downen, 2020). The exclusion of minoritized groups from scientific research, knowledge, and associated power harms our science and is unethical (Bhatti, 2019; NASEM, 2020, 2021; Raja et al., 2022). The lack of diversity and inclusion places the future of the geoscience enterprise at risk.

Increasing diversity benefits such efforts by driving innovation (Hofstra et al., 2020; Nielsen et al., 2017); improving problem solving, research team productivity, and impact (Horwitz and Horwitz, 2007); benefitting geoscience education and public science literacy (Feinstein, 2010; Snow and Dibner, 2014); increasing the relevance of science to marginalized populations (Dietze et al., 2019; Stewart and Valian, 2018); and expanding the workforce. With escalating climate and disaster hazards that continue to disproportionately impact the most marginalized populations, these benefits are vital to the ability of the geosciences to address the challenges of the future. Key examples are the emergent role that geoscientists can play in assessing disproportionate community impacts around earth science issues and environmental injustice, engaging local communities in the research process, and centering Indigenous knowledge in research and decision making.

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## ABOUT THE GEOLOGICAL SOCIETY OF AMERICA

The Geological Society of America (GSA), founded in 1888, is a scientific society with over 18,000 members from academia, government, and industry in more than 100 countries. Through its meetings, publications, and programs, GSA advances the geosciences, enhances the professional growth of its members, and promotes the geosciences in the service of humankind. GSA encourages cooperative research among earth, life, planetary, and social scientists, fosters public dialogue on geologic issues, and supports all levels of earth-science education. Inquiries about GSA or this position statement should be directed to Susan Lofton, [slofton@geosociety.org](mailto:slofton@geosociety.org).

## STRATEGIES FOR GSA AND IT'S MEMBERS TO HELP IMPLEMENT RECOMMENDATIONS

To facilitate implementation of the goals of this position statement, GSA recommends the following actions to increase the involvement of geoscientists in local, regional, statewide, and federal diversity policy decisions:

- Engage in the work being done by geoscience-related organizations toward increasing diversity, such as but not limited to:
  - **500 Queer Scientists:** <https://500queerscientists.com>
  - **ADVANCEgeo:** <https://serc.carleton.edu/advancegeo/index.html>
  - **American Indian Science and Engineering Society (AISES):** <https://www.aises.org/>
  - **Asian American and Pacific Islanders in Geoscience:** <https://www.aapigeosci.org>
  - **Association for Women in Geoscience (AWG):** <https://www.awg.org/>
  - **Black in Marine Science:** <https://www.blackinmarinescience.org>
  - **GeoLatinas:** <https://geolatinas.org/>
  - **International Association for Geoscience Diversity (IAGD):** <https://theiagd.org/>
  - **National Association of Black Geoscientists (NABG):** <http://www.nabg-us.org/>
  - **Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS):** <https://www.sacnas.org/>
  - **Society of Latinxs/Hispanics in Earth and Space Science (SOLESS):** <https://ciresdiversity.colorado.edu/soless>
  - **The Geoscience Alliance:** <https://geosciencealliance.org/>
  - **Unlearning Racism in Geoscience (URGE):** <https://urgeoscience.org/>
- Seek opportunities to communicate effectively the value of a diverse workforce and of implementing suitable diversity practices to all levels of government, to private industry, and to academia. Geoscientists are encouraged to work with the media in addressing critical diversity issues. Geoscientists who are engaged in diversity projects are encouraged to share their experiences.
- Participate in professional forums for community discussions on the importance of a diverse workforce and of implementing suitable diversity practices.
- Provide readily accessible print, web, and personnel resources to members that support geoscientists' communications with decision makers regarding the value of a diverse workforce and of implementing suitable diversity practices. Considerable expertise and resources are available to members through GSA's Geology and Public Policy Committee (GPPC) and GSA's Geology and Society Division, and these entities can assist with the development of relevant materials.
- Identify legislation that affects diversity and alert the GPPC, Geology and Society Division, and GSA's Associated Societies if action by the GSA membership and affiliated organizations can help improve the basis for diversity decisions. The GPPC, Geology and Society Division, and Director of Geoscience Policy, working with GSA members, can also bring this position statement to the attention of lawmakers when legislation affects diversity.
- Publish articles that demonstrate the impact and importance of addressing diversity, equity, inclusion, and justice issues in geoscience.
- Fairly select individuals with intersectional identities from diverse communities for organizing committees, invited speakers, and nominees for offices and special prizes. Provide equitable compensation and support in these processes whenever possible.
- Continually practice strategies to increase diversity, cultural awareness, inclusive behavior, and bystander intervention.

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