Comment of the American Geophysical Union regarding the Office of Management and Budget (OMB) proposed rule to revise the Guidance for Federal Financial Assistance

The American Geophysical Union (AGU) is the world's largest non-profit scientific association representing a global community of more than half a million people working in Earth and space science. The following comments express strong concern with the proposed regulations and the changes they will represent to the functioning of strong, merit-based science in the United States.

AGU serves as a pathway for scientists to disseminate their research to colleagues and the public through publications, conferences, and collaborations with communities, universities, and NGOs throughout the globe. Our 24 top quality research journals, including *Geophysical Research Letters* and *Earth's Future* and the dedicated professionals who sustain them play a vital role in ensuring high-quality peer review leading to cutting edge research. Our scientific conferences, including the world's largest annual gathering of Earth and space scientists, enable scientists to share methods and early results, to collaborate on new proposal ideas, to mentor and find employment. And by connecting scientists with policymakers, educators, and the public, AGU has helped ensure that innovations in fields like satellite observation, atmospheric modeling, and computer science reach the people and institutions who can put them to use—strengthening public safety, economic resilience, and scientific literacy nationwide.

For over a century, AGU has helped translate scientific discovery into public benefit across the United States. AGU journals have informed early warning systems for hurricanes and wildfires, guided water resource management in drought-prone regions, and advanced our understanding of climate risks facing coastal communities and infrastructure. AGU-published findings have also been instrumental in sharing space science research, publishing discoveries that have deepened our understanding of planetary formation, space weather, and the solar system — knowledge that supports the U.S. space exploration enterprise.

These practices are real life demonstrations of "gold standard science." Unfortunately, the OMB's proposed rule to revise Guidance for Federal Financial Assistance, while expressing commitment to a vague notion of gold standard science, would prove extremely harmful for the scientific enterprise and its concomitant benefits for America.

Specific sections of concern and negative impacts on Americans, their health, and the economy:

I. **Political review of grant proposals sections 2 CFR § 200.205 (Merit Review), §200.204 (Notices of Funding Opportunities: New Restrictions and Controls) and § 200.340 (Termination and Suspension)**

AGU has deep concerns about political review superseding scientific peer review. The concept of "merit review" has always meant evaluating the soundness of scientific design and the ability to answer important questions through rigorous and reproducible scientific inquiry. The American merit review system and the resulting scientific successes are considered the gold standard across the world and as such has been duplicated globally. We question whether political appointees of any Administration – not just the current one – will have the expertise to independently judge the potential of proposals. If the goal is gold standard science, any policy or political review should be done in full coordination with and informed by scientific review.

The gold standard science process currently used involves multiple rounds of leading experts determining which proposed studies have merit and would most benefit our national science priorities: national security, resource management, public health, and more. This also includes funding basic research that must be conducted to achieve transformational results, often in unforeseen ways. For example, GLP-1 medications got their start from research on anglerfish, while studies of ancient mud ultimately led to the development of fracking for oil and gas extraction.

Without scientific review at the forefront of decision-making, potential additional outcomes and benefits of proposed scientific research may go unrecognized and public benefits for the U.S. lost.

Two other provisions are deeply concerning. One allows agency heads to exempt grant opportunities from public notice in the name of national interest. Beyond the lack of transparency and the undefined nature of what constitutes national interest, we're concerned that this provision would allow political appointees to essentially pick winners and losers for grant opportunities.

That taxpayer dollars would be used to fund scientific research for only Administration priorities at that time would massively reduce transparency for and accountability to the American public and their congressional representatives. With the gold standard science merit review process currently

in place, appropriations bills, solicitations for proposals, and peer reviewed articles all serve to add daylight for funding decisions. That could all be lost.

The provision allowing for any grant to be terminated at will without rationale or justification is also deeply concerning. Effective studies often take significant amounts of time both to plan and to implement, especially with regard to natural systems that involve complex processes and timelines that are not within our control. To cut off a study before it has an opportunity to contribute to scientific knowledge would amount to a massive waste of investment of taxpayer money.

Moreover, the knowledge that a study could be cut off at any time would likely create a chilling effect for the development of proposals; a scientist is likely to think twice about developing such a time consuming and complex research plan if it has a likelihood of not being given a chance to succeed.

II. Impact on the Functioning of Science 2 CFR § 200.432 (Conferences), § 200.454 (Memberships and Subscriptions), § 200.461 (Publication Costs), § 200.206 (Risk Assessment), and § 200.450 (Issue Advocacy)

The provisions calling into the question the ability for researchers to use grant funding for essential elements of conducting scientific studies – such as publishing their work in peer reviewed journals, attending scientific conferences, and being a member of scientific associations would also greatly hamper the quality and effectiveness of taxpayer funded science. These costs are – and should be – an integral component of any scientific grant.

The publication of scientific papers in journals, such as those run by AGU, is fundamental to the scientific enterprise and to gold standard science. The professional coordination and oversight carried out through publication are essential for high-quality peer review and for weeding out scientific misconduct. Publication also allows for deeper recognition and connection within the scientific community and has often led to the breakthroughs and innovations that contribute to American economic success. The review and publication process is a crucial part of the research cycle and is an essential way for scientists to demonstrate progress and impact delivered on their proposals.

The peer review process, however, takes work. AGU engages more than 1,000 practicing researchers each year as editors to review more than 24,000 article submissions. In 2025, we reviewed 6,438 manuscripts with a corresponding author in the US and arranged for 12,695 completed reviews of those manuscripts. While there may be some concept that scientific papers could be

simply posted online to generate peer review, experience has shown that such work generally fails to find the right researchers or reviewers without expert editors to shepherd the process.

One of the best ways to make taxpayer funded results available to the broader public is to publish them in open access journals. Disallowing federal grants from being used for most publication costs and open-access fees [**200.461**] is a restriction that would directly limit the ability of many scientists to disseminate federally funded research in accessible, peer-reviewed outlets, and would undermine both scientific transparency and public benefit. Distribution of research findings through peer-reviewed journals that publish under open access licenses increases the likelihood that other researchers will test the validity of the finding and build on work to generate new discoveries. These proposed restrictions would disproportionately burden those without substantial institutional resources, including early-career investigators and researchers at public or smaller institutions. They would also reduce the impact, reach, and rigor of federally funded science.

Attending conferences plays a similar, if not broader, role for the scientific community. Conferences enable scientists to receive feedback at the early stages of scientific research, to share breakthroughs, methodologies, and best practices, to collaborate with colleagues, to work across disciplinary divides, and to develop promising new research proposals and ideas. They also serve as one of the most important ways students and early career scientists can find mentors and network for their emerging careers. At AGU's annual conferences in 2024 and 2025, students made up approximately a third and early career students between 20 and 25 percent of all attendees. Federal grants for science would be significantly less effective and represent a lower return on investment if they didn't consider money to attend scientific conferences. In addition, requiring scientists to obtain pre-approval from federal agencies to use their funding to attend conferences [**200.432**] would threaten the ability of the scientific community to share results for the benefit of society, and create needless bureaucracy.

Most scientists belong to at least one scientific association and federal grants for science need to recognize association memberships as an essential element of gold standard science. Scientific associations such as AGU play a unique role in the scientific community by providing connective tissue and a network that cuts across geographies, disciplines, and career stages. By being members of

associations, students and scientists at the early stage of their careers learn not just scientific but professional skills, find mentors and collaborators, develop new ideas and secure jobs. Senior professionals connect across different areas of science, leading to new ways of thinking and new research, and find students and others to help them and to mentor. And beyond publications, conferences, and networking, AGU also provides our members with additional resources and trainings and helps to communicate the value of their work. Given all these services, AGU membership fees are incredibly low and represent a high return on investment. Most scientists belong to at least one scientific association and federal grants for science need to recognize association memberships as an essential element of gold standard science.

An increasingly significant part of science is sharing the results with the public and communities where scientists conduct research. As written, we're concerned that these provisions **(§200.421) (§200.450)** will lead scientists and researchers to preemptively self-censor and stop publicly communicating about their taxpayer funded research out of fear that they could be perceived as conducting advocacy. This will stop the dissemination of critical decision-making information to communities and industries who could most benefit from their research, severely limiting the impact and return on public investment in science.

Additionally, this could potentially limit scientists' ability to engage with their elected officials and legislators. Science is an increasingly important part of decision-making at all levels of government, impacting economic, national security, and public health issues. Limiting, even unintentionally, scientists' ability to freely and openly share their research and insights will negatively impact society.

III. International Collaboration and Broadening Participation in Science 2 CFR 200.202(e) (Research Eligibility), 200.220 (Covered Foreign Collaborations), 200.300 (Statutory and National Policy Requirements), and 200.218 (Disparate Impact Liability)

The provision restricting collaborations with researchers in other nations is particularly counterproductive to gold standard science.

Various scientific studies have confirmed that some of the most cited and most impactful scientific articles are those that have authors that cut across

international boundaries. There are several reasons for this fact – from the additional resources and scientists from other locations bring to the breadth of the topics covered to the increased network of scientists likely to find the studies. According to a 2023 NSF report, positive outcomes from international collaboration include future workforce training, advancing domestic science excellence, better distribution of knowledge, and strengthening scientific and diplomatic relations, among other factors. Science is a global enterprise, and draconian restrictions on cross-border collaboration will only impair American strength.

International scientific collaboration in particular is essential for national security, which depends on studies of the role of weather and climate in human migration, resource needs, and military deployments, for example; public safety and health, which benefits from understanding earthquakes, tsunamis, volcanic activity, air quality patterns, water resources, and more; and our economy, which requires knowledge of impacts associated with global disease vectors for livestock and human health, and the role of oceans and atmosphere in shipping and fisheries, just for a start. Of papers published in 2025 in AGU journals, 1,942 had only US authorship, but 2,263 were international collaborations that included US-based authors.

For example, all of the recent advancements in AI weather models, such as those developed by Google DeepMind (WeatherNext/GraphCast), Nvidia (FourCastNet), and Microsoft (Aurora), and AI models in general come from collaborations amongst global research communities and have benefited from datasets provided to the U.S. by international partners. Removing these collaborations will have immediate and widespread impacts on U.S. capabilities to provide and develop high-quality weather models and will impact the sectors that rely on accurate forecasts, such as the military, American agriculture, and the airline, shipping, and insurance industries.

By severely restricting federal funds not only for direct partnerships with foreign nationals, but even for the ability for programmatic funds to be spent on the basic aspects of international collaboration, this proposal will fundamentally undermine our health, safety, security, and economic well-being.

Increasingly, the scientific infrastructure needed to support ground-breaking and transformative science is cost prohibitive for any one nation. For example, NASA's space mission partnerships with India, Japan, and the European Union space agencies have allowed us to cost share Earth and space missions

ensuring data continuity of vital measurements. Furthermore, when U.S. scientific infrastructure has been discontinued or overburdened, international partnerships have allowed important scientific research and STEM education efforts to continue, including access to scientific ocean drilling platforms and research vessels.

In addition, the prohibitions against funding for efforts to broaden participation in science flies in the face of seeking out the best talent wherever it may lie. Years of legal efforts to broaden participation in science to the brightest minds in rural areas and cities with lower access to institutional resources, for example, would be penalized by this proposal. Moreover, some of the provisions (**200.339 Remedies for Noncompliance**) are so severe as to invite wholesale attacks on the very researchers that are essential for American prosperity and the success of the Administration's visions. Any individual could not only sue for any *perceived* violation of the regulation, but the full force of the U.S. Department of Justice could be deployed in support of such suit. This is an outrageous proposal that must be dropped.

IV. Administrative and Other Burdens

The collective effect of this proposal, if codified, will not be to improve the merit of science funded by taxpayer dollars but to impose numerous additional requirements and burdens on the scientific enterprise held to the standards of a largely undefined "gold standard science" or to mercurial Administration political priorities.

Institutions will have to deploy resources and staff to review this 400-page document for every proposal that is even submitted to the Administration and attorneys to defend against wrongful challenges. Researchers will have to ascertain how to comply with vague or completely opaque considerations of what will be eligible to fund, determine whether it is feasible to design studies that could withstand the uncertainty of grants being pulled, and, even for those who ultimately receive funding, how to reach colleagues and remain effective without a reliable way to pay for publishing, association membership, attendance at conferences, or the ability to collaborate across borders, just for starters. And associations will have to find ways to continue to offer cutting edge peer review, conferences, networking, and other resources with reduced resources and for scientists that are no longer reliably reachable.

> Meeting the new mandates created by the proposed rule will be challenging enough for larger institutions; smaller institutions, local communities, small businesses, and individuals would likely be discouraged from applying all together.

Taken collectively, the provisions in the proposed regulations will limit agency flexibility to effectively engage with the scientific community and stakeholders to fund the best science and will impair the most positive outcomes for Americans. Simply put, this proposal, if implemented, will undermine the American scientific enterprise and global leadership.