



To: Brian Stone, Chief of Staff, U.S. National Science Foundation
Suzanne H. Plimpton, Reports Clearance Officer, U.S. National Science Foundation

From: Woodwell Climate Research Center

Date: August 24, 2026

Re: NSF Guidance on Financial Assistance - Docket ID No. NSF-2026-OTR-0001-0002

Woodwell Climate Research Center (Woodwell) appreciates the opportunity to comment on the National Science Foundation's (NSF) notice of the *NSF Guidance on Financial Assistance*.

For more than 40 years, Woodwell has dedicated itself to objective scientific analysis for the benefit and safety of people and nature. The science we conduct seeks to mitigate and adapt to the amplified threats of extreme weather events, wildfire, food insecurity, and others due to our changing climate. These threats pose immense economic consequences. Thus, not only do we have traditional STEM scientists, but also economic experts that ensure accessible and applied research. We understand the direct economic and societal impacts that our research has on the American people, and we understand that these benefits extend not only from the subject matter of our organization but from all scientific exploration and innovation in the fields of foundational science, technology, and engineering, amongst others.

Woodwell strongly opposes NSF's notice of *NSF Guidance on Financial Assistance*, and specifically the sections outlined below (Guide 2 Sections A and C, Guide 8 Section F, Guide 9 Section D, Guide 12 Section A, and Guide 25 Section A). The proposal claims to align with the National Science Foundation Act of 1950, which explicitly states the NSF's mission and purpose as "To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..." However, the draft of *NSF Guidance on Financial Assistance* explicitly states, and continually reiterates, that the document revisions defer to the proposed revisions to the Office of Management and Budget's (OMB) Uniform Guidance as outlined in 91 FR 32198. The overriding of the bedrock peer-review process of federal grantmaking with the decisions of political appointees outlined in this OMB proposal directly contradicts NSF's mission. The space of federally funded scientific research is already heavily regulated, and this proposed revision threatens to suffocate it beyond recovery. This increase in faulty, politically motivated science would negatively impact American livelihoods, the economy, and national security.

Guide 9 Section D - Reconsideration for Proposals Declined or Returned without Review

Guide 9 Section D aligns with provision §200.202 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. Section D states "the scientific and technical merits may be examined within the context of budget availability and program priorities" in the context of a fair and reasonable NSF review. The OMB proposal requires every grant program to be designed so its goals "align with administration policies and priorities." Taken together, it is clear the Administration seeks to align



research with its own interest areas, manipulating scientific investment for partisan priorities. Tying federal financial assistance to the shifting priorities of any given political administration inherently threatens the continuity of essential, objective research and risks defunding critical studies based on partisan agendas. Subordinating independent, data-driven scientific inquiry to political mandates undermines scientific integrity, jeopardizes vital longitudinal datasets, and ultimately deprives policymakers and the public of the unbiased evidence necessary to effectively combat the very real escalating, evolving, and emerging concerns related to climate, public health, biomedical research, technology, and others that may be inconvenient for an administration's agenda.

Guide 2 Section A - Categories of Funding Opportunities

Guide 2 Section A corresponds to provision §200.204 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. Section A outlines “targeted solicitations” that are beyond the scope of the *NSF Guidance on Financial Assistance*, and lists 2 CFR 200 as an authority that governs Guide 2. By allowing for exceptions to not post grant opportunities on [Grants.gov](https://www.grants.gov) under the condition that the head of an agency subjectively deems the opportunity as serving the “national interest,” this provision in the OMB proposed rule sows distrust within the scientific community and the general public. Transparency is an underpinning of scientific integrity. In order to best serve the national interest, the selection process should be open to competition. Candidates hand-picked by the agency will create grantees who are subject to the political whim of the Administration, rather than to the true “national interest” of the American people. Moreover, this provision fundamentally contradicts the “aim to ensure that basic American principles of equality and equal opportunity are upheld throughout all stages of the award making process” that is advertised in the OMB proposed rule, as all applicants are not equitably provided the opportunity to apply for these specific grants.

Guide 8 Section F - Funding Recommendation, Award Decision, and Pre-Award Review

Guide 8 Section F corresponds to provision §200.205 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. Section F “describes how NSF program directors make funding recommendations that are reviewed by NSF leadership.” Granting political appointees the authority to review and potentially cancel federal grants introduces dangerous partisan bias into the scientific process, threatening to derail critical, long-term research that may be politically inconvenient but is vital for national and global security. This section fundamentally undermines scientific independence, degrades the integrity of federal financial assistance, and jeopardizes our nation's ability to respond to evolving and emerging threats, like the climate crisis, with unbiased, data-driven solutions.



Guide 25 Section A - Suspensions and Terminations

Guide 25 Section A corresponds to provision §200.340 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. This section outlines that NSF may suspend or terminate an award for various reasons, including “changes in priorities.” Complex scientific inquiry inherently requires multi-year planning, continuous data collection, and significant, sustained resource investment. Broadening federal agencies' and political appointees' authority to unilaterally terminate grants for reasons unrelated to grantee performance or compliance, such as shifting administrative priorities, introduces uncertainty into the research ecosystem. Similar attempts to freeze grants for subjects and institutions disliked by and unaligned with the Administration throughout 2025 resulted not only in tremendous economic losses and waste of previously approved investments, but also a critical loss of scientific knowledge.

By subjecting researchers to the whim of the Administration, scientists will hesitate to publish findings important to the American people that challenge the status quo and may inform necessary scientific revisions to long-term policies. By suffocating any hint of scientific dissension, the Administration will promote faulty science that will put America's scientific reputation, as well as American lives, in harm's way. To preserve the continuity, stability, and global competitiveness of American scientific innovation, we urge the removal of these expanded termination powers to ensure that merit-based research is protected from abrupt and unwarranted cancellations.

Guide 12, Section A - Basic Considerations (Cost Principles and Allowability)

Guide 12 Section A corresponds to provisions §200.432, §200.454, and §200.461 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. To determine if a cost is allowable, the *NSF Guidance on Financial Assistance* directs the applicant to “confirm that the cost is consistent with 2 CFR 200.” These revisions significantly limit, or openly ban, the use of federal grant funding to cover the vitally important indirect costs of conference attendance, journal subscriptions, and publications, among others. Woodwell strongly opposes the NSF's deference to the outlined preference towards institutions with lower indirect cost rates in the OMB proposed rule. These costs support the competitive nature of a project through the maintenance of necessary equipment and facilities, as well as public facing collaboration and debate.

Without the opportunity to share research with other experts and the general public, researchers lose out on vital knowledge and feedback that leads to improved and more legitimate scientific conclusions. Without the financial ability to publish findings, a scientific experiment may never be reproduced and thus not be seen as a legitimate basis on which to conduct additional research on complicated topics. The myriad of indirect costs necessary for a successful project present extraordinary financial barriers that will make the federally funded research landscape inherently inequitable, shutting out scientists and institutions who would not otherwise be able to afford these assets.



Guide 2 Section C - Eligibility

Guide 2 Section C corresponds to provision §200.220 of 2 CFR 200 of the OMB Federal Financial Assistance proposed rule. This section generally prohibits the spending of federal funds in relation to foreign collaboration, and outlines the extensive process by which applicants must justify foreign collaboration if their project requires it. These restrictions, including on travel or indirect costs, would severely inhibit the ability of the United States to scientifically compete on a global scale and to work with international counterparts who often have specific skills or resources that facilitate and amplify scientific outcomes and innovation. The most pressing scientific challenges of our time, from tracking global climate patterns and biodiversity loss to mitigating public health crises, are global and rely on the exchange of data, resources, and expertise across nations.

Prohibiting federally funded researchers from partnering with international colleagues would isolate the American scientific community, deny experts access to vital global datasets and specialized facilities, and severely stifle innovation. Such a restrictive mandate threatens to dismantle decades of cooperative progress and will inevitably force the United States to cede its position as a global leader in scientific discovery.

The range of countries that fall under this provision of banned collaboration under the label of “Foreign Country of Concern” is exceptionally wide and highly variable over time: the qualifying characteristics are those countries considered foreign adversaries or those subject to sanctions or restrictions related to national security, defense, or intelligence activities. Under the OMB proposed rules, even the 17 European Union countries subjected to semiconductor export restrictions¹ at the end of the Biden Administration would be banned from scientific collaboration. While protecting national security remains an integral priority as researchers navigate foreign partnerships, this proposed rule oversteps its bounds. Woodwell encourages the NSF to carefully weigh the considerations of each partnership, rather than implement this blanket rule. The limited outlined exceptions, as dictated by a political appointee, are not sufficient to protect international collaboration.

These revisions would override the existing processes to prevent undue influence or security threats, as well as the processes for granting exceptions. Specifically, the restrictions would disqualify federally-funded research from the fundamental research exclusion. This exclusion has long exempted basic or applied research from export control regulations to allow for the free exchange and publication of research results. Instead, researchers would need to apply for licenses at the State Department and the Commerce Department’s Bureau of Industry and Security. The proposed changes would significantly increase the costs, timelines, and workloads of international collaboration for these researchers as well as these federal agencies.

¹ Dunn, J. (2025). *EU joins industry backlash against Biden’s AI Chip export restrictions*. CIO.



Impacts on Climate Resilience and Risk Mitigation

In the field of climate science and risk mitigation, this proposed *NSF Guidance on Financial Assistance* would have exceptionally deep impacts. Although research activities such as extreme weather tracking and preparedness, affordable livelihoods, and critical infrastructure are all vital to the lives of everyday Americans, this Administration has a documented history of repressing these efforts, including the proposed dismantling of the National Center for Atmospheric Research, the attempted dismantling of the Ocean Observatories Initiative, and the defunding of the Arctic Research Commission.

Over the last two decades, arctic air temperatures have increased at a rate nearly twice the global average, accelerating the degradation of permafrost and glacial ice.^{2,3,4} Woodwell research has found that regional impacts include habitat loss, degraded water supplies, disruptions to the cultural traditions and livelihoods of northern communities, and population displacement.^{5,6} The negative effects also extend well beyond Arctic communities, as sea level rise, disrupted hydrological cycles, and infrastructural damage threaten the national security of the entire country.^{7,8} Further, the Arctic region operates as a carbon sink, storing massive amounts of greenhouse gases in its soil.⁹ As the region experiences higher temperatures and the thawing of its soils, the rate of greenhouse gas emissions increases, further accelerating the rate of permafrost thaw and the resulting negative impacts. All of these effects are compounded by higher rates of wildfire in the Arctic-boreal region due to rising temperatures, more frequent lightning storms, and increasingly dry climatic conditions.¹⁰

Like most climate sciences, permafrost thaw is not constrained by political boundaries. This means that international collaboration is critical to our work at Woodwell. This is especially true of our Arctic partnerships with communities across Alaska, Canada, Mongolia, and more as we study traditional wildfire mitigation tactics and permafrost thaw across the Arctic region. Under intermediate to high emissions scenarios respectively, Woodwell research estimates future infrastructural damage from

² Hugonnet, R., McNabb, R., Berthier, B., et al. (2021). Accelerated global glacier mass loss in the early twenty-first century. *Nature*. 592. Pp. 726-731. DOI: 10.1038/s41586-021-03436-z

³ Intergovernmental Panel on Climate Change (IPCC). (2019). The Ocean and Cryosphere in a Changing Climate: Special Report of the Intergovernmental Panel on Climate Change. *Cambridge University Press*. DOI: 10.1017/9781009157964

⁴ Smith, S. L., Romanovsky, V. E., Isaksen, K., et al. (2021). [Arctic] Permafrost. In J. Blunden & T. Boyer (Ed.), *State of the Climate in 2020*. (pp. S293-S297). Bulletin of the American Meteorological Society. DOI:10.1175/2021BAMSStateoftheClimate.1

⁵ Webb, E., Liljedahl, A., Cordiero, J., et al. (2022). Permafrost thaw drives surface water decline across lake-rich regions of the Arctic. *Nature Climate Change*. 12, pp. 841-846. DOI: 10.1038/s41558-022-01455-w

⁶ Wolken, G. J., Liljedahl, A. K., Brubaker, M. et al. (2021) Glacier and Permafrost Hazards. *NOAA Technical Report OAR ARC ; 21-13 - Arctic Report Card 2021*. DOI: 10.25923/v40r-0956

⁷ Ibid.

⁸ Webb, H., Fuchs, M., Abbot, B., et al. (2025). A Review of Abrupt Permafrost Thaw: Definitions, Usage, and a Proposed Conceptual Framework. *Current Climate Change Reports*. 11(7). DOI: 10.1007/s40641-025-00204-3

⁹ Virkkala, A., Rogers, B., Watts, J., et al. (2025). Wildfires offset the increasing but partially heterogenous Arctic-boreal CO₂ uptake. *Nature Climate Change*. 15, pp. 188-195. DOI: 10.1038/s41558-024-02234-5

¹⁰ Jones, N. (2025). *Lightning Strikes the Arctic: What Will It Mean for the Far North?* Yale Environment 360.

permafrost thaw at \$37 billion to \$51 billion in the state of Alaska alone.¹¹ The potential economic payoff of exploring alternative solutions is only one example of the startling economic benefits of wide-reaching scientific research. Given the Administration's previous threats to atmospheric and Arctic science, it can be assumed that the proposed *NSF Guidance on Financial Assistance* would bolster further degradation of this area of research.

The Critical Role of Federal Financial Assistance to Economic and Global Competitiveness

The NSF grants so far frozen or terminated since 2025 have resulted in economic loss across the United States estimated at \$1.7 billion.¹² The total job loss is estimated at more than 9,000. Texas faces the greatest economic loss of \$162 million and more than 800 jobs lost.¹³ Massachusetts faces an estimated \$62.2 million in economic losses and 327 jobs lost.

Government-wide, no institution is safe from these financial threats: two-thirds of land-grant universities and nearly half of all Historically Black Colleges and Universities have been affected.¹⁴ Even community colleges have had funding targeted for termination. Public universities and colleges suffered the steepest losses, with financial losses from grant disruptions totalling to an estimated \$2.1 billion.¹⁵ According to NSF data, the cancelled grants disproportionately affected early career researchers, women, people of color, and those with disabilities.^{16, 17}

Private funders cannot step in to fill this funding gap. Basic research generates knowledge that diffuses beyond its original source and the current time, ultimately benefiting competitors. This "knowledge spillover" is great for the broader economy and thus broader population, but bad for companies trying to capture a return on their investment, leading the private sector to underinvest.¹⁸

Government investments in scientific research and development are, and have historically been, an integral part of our nation's economy, with returns estimated between 150% and 300% since World War II.¹⁹ In 2024, the knowledge and technology industries in the United States produced \$3.3 trillion in added

¹¹ Manos, E., Witharana, C., & Liljedahl, A. (2025). Permafrost thaw-related infrastructure damage costs in Alaska are projected to double under medium and high emission scenarios. *Communications Earth & Environment*. 6 (221). DOI: 10.1038/s43247-025-02191-7

¹² Grant Terminations Map. *Science & Community Impacts Mapping Project, University of Maryland, College of Computer, Mathematical, and Natural Sciences*.

¹³ Ibid.

¹⁴ Bedekovics, G. & Ragland, W. (2025). Mapping Federal Funding Cuts to U.S. Colleges and Universities. *Center for American Progress*.

¹⁵ Ibid.

¹⁶ Oliveira, D., Huang, Q., Woodruff, T., & Uzzi, B. (2025). How the 2025 NIH grant terminations varied by researchers' demographic groups. *Economic Sciences*. 123 (13). DOI: 10.1073/pnas.2527755123

¹⁷ Mervis, J. (2025). NSF's grant cuts fall heaviest on scientists from underrepresented groups. *Science*. 3888 (6749).

¹⁸ Drake, J. (2025). Trump's NIH and NSF Cuts Estimated to Cost the U.S. Economy \$10 Billion Annually. *Forbes*.

¹⁹ Fieldhouse, A. & Mertens, K. (2023). The Returns to Government R&D: Evidence from U.S. Appropriations Shocks (Working Paper No. 2305). *Federal Reserve Bank of Dallas*.



value, accounting for 11% of the U.S. GDP. From 2017 to 2024, the field's financial contributions to the economy grew faster than the domestic U.S. nonfarm economy as a whole.²⁰

Federally funded research not only yields financial returns, but also provides for increases in our standard of living via biomedical advancements, a more favorable startup environment with increased job opportunities, and enhanced national security through the creation of advanced defense technologies.²¹ Economy-wide, long term returns are calculated at \$5 for every \$1 invested in research and development.²² Further, \$1 of public investment in research and development has been found to yield an additional \$3 in follow-on private research and development investment.²³ Economic researchers have concluded that the United States should invest much more in science and innovation than it does currently,²⁴ especially given findings that federally funded research and development yields substantially higher returns than other forms of federal investment, including even physical infrastructure.²⁵

In cutting federal funding for scientific innovation, the United States puts its status of technological dominance in jeopardy. China's annual research and development growth rate has rapidly outpaced that of the United States, by more than 200%, for over two decades.²⁶ In 2024, the United States and China were neck and neck as the top producers of knowledge and technological industry, with \$3.3 trillion and \$2.9 trillion, respectively. However, that same year, China topped the U.S. as the largest knowledge and technological manufacturing producer with 10% more of the global share.²⁷ Under current projections, Chinese scientists will overcome U.S. dominance in the fields of AI, semiconductors, materials, and high performance computing in only 5 years.²⁸ When considering the implications of these changes to NSF policies, with its many problematic and restrictive positions, it can only be assumed that China's dominance would be more inevitable and even faster-approaching than ever before.

²⁰ Translation to Impact: U.S. and Global Science, Technology, and Innovation Output. (2026). *National Science Board*.

²¹ Sparking American Economic Growth. (2025). *The Science Coalition*.

²² Jones, B. & Summers, L. (2020). A Calculation of the Social Returns to Innovation (Working Paper 27863). *National Bureau of Economic Research*. DOI: 10.3386/w27863

²³ The Relationship Between Public and Private R&D Funding (Research Paper No. 2020/010). *Oxford Economics, Department for Business, Energy & Industrial Strategy*.

²⁴ Jones, B. (2021). Science and Innovation: The Under-Fueled Engine of Prosperity. *Aspen Institute Economic Strategy Group*.

²⁵ Gulo, T., Page, B., Weiner, D. & Williams, H. (2025). Estimating the Economic and Budgetary Effects of Research Investments (Working Paper No. 33402). *National Bureau of Economic Research*. DOI: 10.3386/w33402

²⁶ Association of American Universities. (2026). *Federal Investment in Science Fuels America's Global Leadership*.

²⁷ Translation to Impact. (2026).

²⁸ Wu, R., Esposito, C., & Evans, J. (2025). Shifting power asymmetries in scientific teams reveal China's rising leadership in global science, *Proc. Natl. Acad. Sci. U.S.A.* 122 (44) e2414893122, DOI: 10.1073/pnas.2414893122

Conclusion

The proposed *NSF Guidance on Financial Assistance* abandons scientific integrity. Woodwell urges the National Science Foundation to rescind the proposed revisions of the *NSF Guidance on Financial Assistance* so that NSF science remains independent and free of any partisan agenda. The politicization of science is completely contrary to scientific value, and will irreparably damage America's international reputation in this field. Most importantly, the stifling of scientific innovation will endanger American citizens through detrimental impacts on livelihoods, the economy, and national security.

About Woodwell Climate Research Center

Woodwell Climate Research Center (Woodwell) is a nonpartisan scientific research organization that works with a network of partners across 20 countries on six continents to understand the challenges and risks associated with climate change. Scientists from Woodwell collaborate with a wide range of partners, including national and local governments, nonprofit organizations, universities, and private sector companies. We bring together hands-on research experience and over 40 years of policy impact to find societal-scale solutions that can be put into immediate action by policymakers and decision makers.

Thank you for your consideration of these comments. Please contact Laura Uttley, Vice President of Policy & Government Relations, at luttley@woodwellclimate.org, if Woodwell can provide additional information or resources.