



March 12, 2026

Mr. Brian Stone  
Chief of Staff, Performing the duties of Director  
U.S. National Science Foundation (NSF)  
401 Dulany Street  
Alexandria, VA 22314

**Re: NSF Intent to Restructure Critical Weather Infrastructure**

Dear Mr. Stone:

The Association of Metropolitan Water Agencies (AMWA) is pleased to have the opportunity to provide comments to the National Science Foundation (NSF) regarding the request for information on its Intent to Restructure Critical Weather Infrastructure. AMWA is an organization of the largest publicly owned drinking water systems in the United States, and its members collectively provide clean drinking water to over 160 million people across the nation. AMWA’s members regard the National Center for Atmospheric Research (NCAR) as one of the most trusted and well-respected voices on weather, atmospheric and climate science, and as an invaluable partner to water systems as they assess their vulnerability to changes in the intensity and frequency of extreme weather events and changes in weather, precipitation, and hydrologic systems. AMWA members rely on NCAR’s expertise to inform critical planning and decision-making and to carry out their core mission of delivering clean, dependable drinking water to the communities they serve.

*1. Are there any areas in which NCAR activities or capabilities duplicate those of other government agencies, universities, or the private sector?*

The United States benefits substantially from the current model in which universities lead fundamental research innovation and NCAR provides the critical infrastructure and research-to-operations services that support the nation’s mission-critical forecasting needs. Although weather and climate modeling activities exist within academia and across federal agencies such as NOAA, NASA, and DOE, the presence of related activities does not imply duplication or interchangeability. These roles are intentionally complementary.

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Universities advance foundational science and workforce development. Federal agencies operate statutory forecasting systems and mission-driven applications. NCAR occupies a distinct and essential middle ground: It develops and maintains modeling systems, integrates cross-disciplinary advances, provides shared computational and observational infrastructure, and coordinates multi-institutional efforts that translate research into operational capability. This integrative function reduces fragmentation, increases efficiency, and accelerates innovation.

For example, NCAR partners with NOAA's National Water Center, collaborates with regional entities like the Center for Western Weather and Water Extremes, and works directly with local water systems. Through these partnerships, cutting-edge atmospheric and hydrologic science is transformed into practical tools that support real-world water management, hazard preparedness, and operational decision-making. Few institutions are positioned to convene federal, academic, regional, and local stakeholders in this manner. Weakening or restructuring NCAR's services would not eliminate redundancy; rather, it would risk creating fragmentation, slowing the translation of research to operations, and reducing overall efficiency and reliability.

2. *Are there transformative prospects for observational platforms and the resulting data that are currently unexplored or underutilized?*

While there are always prospects for innovation, innovation cannot replace the core functions of currently stable forecasting operations. It would be unwise to defund those operations that provide forecasting stability and continuity and focus only on short-term innovation metrics.

3. *Are there other concepts for management and operations of NCAR activities that differ from the current model that NSF should consider?*

Privatizing or fragmenting NCAR activities could reduce open community access, weaken coordination, and shift priorities away from long-term public-good forecasting needs toward short-term or fee-based service models. It is important to retain unified modeling and forecasting leadership to avoid duplication and inefficiency.

4. *What should the performance objectives and metrics be for a restructured atmospheric research center?*

Performance objectives for a restructured atmospheric research center should reflect the full public value of services: advancing scientific excellence, delivering measurable societal benefit, providing information to support the resilience of critical national infrastructure, and training the next-generation workforce. Metrics should not be confined to short-term operational efficiency or annual budgets. The United States' atmospheric science infrastructure produces returns over decades through improved resilience, avoided losses, and more reliable long-range planning. From the perspective of water systems, the following represent some of the most critical objectives that an atmospheric research center must fulfill:

- Sustain and advance Earth system modeling to inform long-range planning. Tools such as NCAR's Community Earth System Model (CESM) enables water systems and states to evaluate credible ranges of future hydrologic conditions. NCAR's recent work evaluated CESM from a water manager perspective, adding explicit human water use modules directly

relevant to western water scarcity, enabling water systems to undertake long-range water supply and infrastructure planning.

- Conduct hydrologic forecasting to provide the flood and drought intelligence relied upon by water systems and emergency managers nationwide. NCAR developed and currently maintains WRF-Hydro, the community hydrologic modeling system that underpins NOAA's National Water Model, which is the backbone for nationwide streamflow and flood guidance across approximately 2.7 million river reaches. A core objective should be preserving the scientific integrity and operational continuity of these foundational systems.
- Advance prediction of extremes relevant to water management. Research on atmospheric rivers – one of the largest drivers of catastrophic flooding – and advancing streamflow forecasting for snowpack, runoff, and seasonal flows must remain a priority. These functions provide water systems with actionable information to guide infrastructure design, reservoir operations, and demand management.
- Produce authoritative scientific reports and syntheses crucial to understanding major river systems. The center should continue to convene expertise across atmospheric science, hydrology, and water management to produce trusted syntheses that guide allocation, infrastructure, and long-term resilience decisions. A leading example is the Colorado River Basin Climate and Hydrology: State of the Science report, widely considered the preeminent scientific report on the Colorado River.
- Sustain world-class computing infrastructure that makes actionable water intelligence possible. NCAR's Derecho supercomputer – a 19.87 petaflop, GPU-accelerated system – supports high-resolution modeling, data assimilation, and machine learning essential to hydrologic forecasting and extreme-event prediction. This major public investment and the models critical to water planning in complex terrain must be maintained by any new atmospheric science institution.
- Maintain open, trusted data platforms used by water managers nationwide. NCAR's Research Data Archive (RDA), Geoscience Data Exchange (GDEx), and the Climate Data Guide are trusted, expert-curated sources for re-analyses, climate indices, and down-scaled products that are core to utility planning efforts. The accessibility, quality, and long-term stewardship of these platforms is crucial.

AMWA thanks NSF for the opportunity to comment on the proposed restructuring of critical weather infrastructure. A resilient and affordable drinking water supply is foundational to public health, economic stability, and national competitiveness, and the services NCAR provides are critical in aiding utilities to plan for increasing climate and weather risks. The Association supports NSF's continued management of these critical services and is willing to connect further with the program's leadership if desired. If you have any questions about this letter, please contact Liz Jordan ([jordan@amwa.net](mailto:jordan@amwa.net)), AMWA's Manager of Sustainability and Resilience Policy.

Sincerely,



Tom Dobbins  
Chief Executive Officer