



PennState

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This letter serves as a response on behalf of the Pennsylvania State University (Penn State) to the National Science Foundation (NSF) regarding its intent to restructure critical weather infrastructure.

Penn State respectfully urges NSF to preserve the current integrated structure of the National Center for Atmospheric Research (NCAR) and its longstanding relationship with our academic community. The current NCAR model has, for decades, linked observational platforms, cyberinfrastructure, community models, data stewardship, and training in a way that no single university or small consortium could realistically replicate.

We believe that NCAR should remain aligned with national research priorities and continue to serve as a collaborative hub for universities, federal agencies, and international partners. This structure has enabled our university and broader research community to access world-class facilities — including high-performance computing, specialized aircraft, radars, and advanced instrumentation — based on scientific merit. That integrated structure is a national strength, not an inefficiency.

Penn State is one of the original 14 founding members of the University Corporation for Atmospheric Research (UCAR), a bold collaboration in 1960 to establish a center (NCAR) that could provide infrastructure no single university could afford and facilitate collaboration in the important field of atmospheric research. Since that time, Penn State researchers have collaborated with NCAR scientists or used NCAR models and facilities for a myriad of numerical modeling studies and field projects crucial for developing our scientific understanding and ability to predict, for example, thunderstorm initiation, severe storms, tornadoes, snow physics (relating snow/ice particles to radar signatures), deadly snowbands and snow storms, rain-on-snow flooding events, air chemistry in convection, hazards related to long-term changes to the atmosphere, and spring melt and flood potential. **These are not abstract benefits. They inform transportation safety, flood-risk assessment, and winter-weather prediction in Pennsylvania.** Just as in 1960, we support having NSF NCAR as an integrated whole with governance by the broad university community through UCAR, serving both the Commonwealth of Pennsylvania and the entire nation, as the fundamental knowledge developed through university and NCAR collaboration improves our predictive capability to keep people safe and businesses prospering.

We support NCAR's essential role in producing foundational weather and climate science that directly supports national security, aviation safety, wildfire management, transportation, and the insurance industry. Key community-driven modeling systems, including the Community Earth System Model (CESM) and the Weather Research and Forecasting (WRF) model, are critical tools developed through deep collaboration between NCAR and the UCAR member universities. These models underpin weather information used by agencies such as NOAA, NASA, DOE, FAA, and DOD. NCAR's integrated work across theory, observation, and modeling has significantly advanced our understanding of hazards such as hurricanes, tornadoes, derechos, flooding, and wildfires — phenomena that cause widespread loss of life and economic damage. **Fragmenting or distributing NCAR assets would break the synergy that has produced decades of scientific progress, undermining U.S. competitiveness in global weather modeling and prediction, especially as artificial intelligence becomes increasingly central to forecasting.**

We believe that dismantling NCAR would do irreparable harm to the atmospheric science workforce pipeline. NCAR plays a crucial workforce-development role through tutorials, fellowships, and collaborations that help train the next generation of atmospheric scientists. Many of our own Penn State students use NCAR facilities and participate in NCAR visitor

programs to collaborate with leading NCAR scientists. **With international competitors most obviously China, expanding investments in prediction science, reducing the U.S. commitment signals a retreat from global leadership.**

We therefore urge NSF to preserve NCAR's integrated role as the nation's premier atmospheric research center and to maintain its close partnership with the university community. For Penn State, and for the broader national research enterprise, NCAR is not simply a collection of facilities. It is a uniquely effective ecosystem for scientific discovery, community service, and workforce development. **NCAR is our nation's only fully integrated atmospheric research investment and is essential for our economic resilience, national security, and scientific advancement.**

Sincerely,

A handwritten signature in blue ink that reads "Andrew F. Read". The signature is written in a cursive, flowing style.

Dr. Andrew F. Read
Senior Vice President for Research
Evan Pugh University Professor in Biology and Entomology
The Pennsylvania State University