

Here's my email in response to NSF's Dear Colleague letter (due today to [NSF NCAR@nsf.gov](mailto:NSF_NCAR@nsf.gov)). I don't speak for my employer.

Dear Mr. Stone,

NSF has requested proposals for the restructuring of the National Center for Atmospheric Research. No such restructuring is needed, or consistent with the US national interest in good earth system science.

NCAR embodies the ideal of collaborative research, an organization whose doors have always been open to visiting scientists, whose models have always been public and open-source, whose staff share their own research, knowledge and code generously, and whose computational facilities and data storage facilities are widely used by academic and industry scientists around the United States. UCAR, NCAR's governing body, is a model of government/academic collaboration. I've served as the representative of the University of Maryland to UCAR, and appreciate the responsiveness of the organization to community concerns and goals.

NCAR is a pillar of research on all aspects of earth system science, the science that provides both weather and climate prediction services. There is no clean separation between weather and climate, since climate is merely the statistical description of weather. NCAR's models are used for both short-term meteorological forecasting (by the US Weather Service, in the form of the HRRR model, for example, the world's leading short-term weather prediction model, which is based on the Weather Research and Forecasting model, WRF) and for longer term studies. There is no way to improve those models that does not contribute both to improved short-term knowledge of the weather, and to improved understanding of long term variability of climate and of its response to greenhouse gas forcing, the driver of the long-term changes in weather statistics that have been observed around the world.

The frontiers of progress in weather forecasting are at the far end of the range of skillful prediction (the seasonal to subseasonal, or S2S range, from 1 to 8 weeks in the future). There is no way to achieve additional skill in this range without taking into account the dynamics of the land surface and the ocean, so degrading NSF support for these activities would be counterproductive to the goal of better forecasting of dangers to life and property.

Accomplishing these improvements requires earth system models, the very models whose correct forecasts of the planet's warming in response to greenhouse gas forcing have angered those who want you to dismember NCAR.

The reputation of the United States as a sponsor of scientific research that benefits humanity is at stake in this decision. NSF should not participate in the vandalism of US Science, and you personally should not join such vandalism.

Thank you for your attention.

Daniel Kirk-Davidoff