



ADVANCING EARTH
AND SPACE SCIENCE

24 January 2019

The Honorable Mitch McConnell
Senate Republican Leader
317 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Nancy Pelosi
Speaker of the House
1236 Longworth House Office Building
Washington, D.C. 20515

The Honorable Chuck Schumer
Senate Democratic Leader
322 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Kevin McCarthy
Republican Leader
2468 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressional Leaders,

On behalf of the American Geophysical Union (AGU) and its 60,000 Earth and space scientist members, I urge you to quickly move to complete the fiscal year 2019 appropriations process and bring an end to this devastating government shutdown.

Science is essential to our nation's economic strength, national security, and public health and well-being. America's scientific enterprise cannot afford to be stymied any longer by the government shutdown. Under the shutdown, our scientific agencies have ground to a halt with skeleton staff. For example, about 95% of NASA's workforce has been furloughed. Among the consequences are that a SpaceX Falcon 9 Rocket, which was ready to launch on January 17th, was grounded by the inability of NASA personnel to oversee testing. Moreover, NASA's Earth Science Mission has been unable to analyze data – leaving them unable to help weather forecasters and other researchers produce accurate weather forecasts and predict natural hazards, retailers to decide the timing and content of the merchandise they should stock, oil companies to decide where to drill, the military to enhance their geospatial knowledge of foreign territories, and farmers to know when and what to plant. Additionally, important decadal missions across NASA's Science Mission Directorate have been paused, leading to ballooning costs and timelines.

National Oceanic and Atmospheric Administration's (NOAA) wide array of products and services play a unique and irreplaceable role in serving the American people. About half of NOAA employees are furloughed, and many who are working – such as the dedicated staff at the National Weather Service – are not being paid. As a result of NOAA's programs being put on hold, scientists cannot carry out their missions to study and protect our coasts, which are home to more than half of all Americans and property worth more than \$10 trillion in insured value and provide more than 2.8 million jobs in ocean-dependent industries. NOAA scientists also play a unique role in supporting coastal economies by monitoring fisheries, restoring habitats, observing coastal conditions, and providing data to decision makers. Additionally, NOAA maintains an extensive fleet of research vessels, and most of these were directed to return to the nearest port. From satellites and weather operations, to fisheries and coastal management, under the government shutdown important facets of NOAA are unable to serve the nation.



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Even our weather forecasting has been impacted, as National Weather Service staff scientists are not allowed to correct issues with our key prediction model, update hurricane models, or carry out trainings for the 350,000 volunteers whom they describe as the first line of defense in spotting severe weather.

At the National Science Foundation (NSF), with about 97% of the staff furloughed, the agency cannot disperse new funds, award new grants, or review new proposals. NSF's Directorate for Geosciences (GEO) funds 59% of basic academic atmospheric, Earth, and oceans research. This funding is vital for the next generation of scientists and innovators, who depend on the support for opportunities to pursue graduate degrees and postdocs in STEM fields. With the uncertainty in funding, professors and universities are not accepting new graduate students or hiring any other laboratory staff. These decisions could easily cause our brightest minds to pursue other fields. Additionally, NSF Directorates support research infrastructure and centers that enable transformative science. Long-planned scientific expeditions and research are being put on hold or canceled, and taxpayer funded research opportunities are being wasted.

Our nation faces unprecedented resource challenges such as demand for limited energy supplies, vulnerability to natural hazards, and increased need for clean water. The United States Geological Survey (USGS) is uniquely positioned to provide information to help address these challenges. However, during the government shutdown, less than 1% of USGS's staff is working. As a result, USGS cannot deploy its interdisciplinary teams of experts to gather data, conduct research, and develop decision support tools, or make timely assessments of minerals, energy resources, and water quality and quantity.

The partial government shutdown also impairs the ability of government scientists to collaborate with, learn from, and inform their academic and industry colleagues in the U.S. and worldwide. Agency scientists have already missed key conferences on space, biology, weather, and agriculture, and shared projects have come to a screeching halt. Because such collaborations are how science progresses, the scientific enterprise itself suffers – as does the U.S.'s standing in the international science community.

Finally, the shutdown is not only impacting hundreds of thousands of federal employees nationwide, including tens of thousands of scientists, it is also harming programs designed to keep Americans safe and support our global competitiveness. We urge Congress and the Administration to come to an agreement to reopen the government and provide our scientific enterprise with robust funding to ensure America's continued scientific leadership.

Sincerely,

A handwritten signature in black ink that reads "Christine W. McEntee".

Christine McEntee
Executive Director and CEO
American Geophysical Union