



January 13, 2019

The Honorable Cory Gardner
United States Senate
354 Russell Senate Office Building
Washington, D.C. 20510
Re: Government Shutdown Impacts to Colorado

Dear Senator Gardner,

Thank you for your support of the ecosystem of brilliant scientists and researchers and all the related innovative companies and organizations that nurture the tax-payer funded research labs in Colorado. Your understanding of their economic and intellectual value is greatly appreciated.

I represent a consortium of federally-funded scientific research entities in Colorado and I write to you regarding the negative impacts our network and our state is experiencing borne of the federal government shutdown. I share these details with the intention they become part of conversations regarding the urgent need to end the shutdown via Congressional action.

CO-LABS knows you have foregone your salary until the shutdown ends as a sign of solidarity and spoken publicly on the need to end the shutdown. Thank you for taking this stand. We ask you to build on that spirit and vocally insist your colleagues recognize the value of scientific research within so many government agencies and approve the necessary appropriations bills to restart the federal government.

The implications of the shutdown cannot be overstated. In Colorado we estimate at least 5000 federal employees (within just the research labs) have been directly affected and furloughed, with a few hundred deemed “excepted” - required to work - and they are all entering a fourth week of no pay.

Scientists, researchers and employees of various skills have chosen to work for the federal government research labs because there is more to the job than just a paycheck. At their core they take pride in – and are compelled by – their daily contribution to helping make America and the world a better place.

That said, beginning on December 22, 2018:

- **Thousands of federal employees** in Colorado and **thousands of contractors** working with federal agencies were frozen out of their projects – **without pay**.
- Loss of continuous data and necessary monitoring activity to maintain accurate and worthwhile **information for projects** involving water pollution, air quality, tectonic deformation, food production, climate trends, livestock health, cyber security, telecommunications, forest health, fossil fuel extraction and transportation technology – **on hold, hobbled and at best barely functioning**
- Agency **approvals of permits** of various kinds for intra-government and private sector activities – **On Hold** indefinitely
- On university campuses, **joint research projects suspended**, grad students' grant **funding suspended**; some non-resident students' **visas could be deemed invalid** as they aren't "employed".

- All **training, education programs, travel** for conferences and presentations by federal employees suspended - **loss of best practices sharing**, relationships suffer with private sector. Also, loss of prepaid conference, training, airfare, hotel, etc. funds means tax dollars lost. .

Closely tied to the federal workers' and contractors' hard stop on funding is the **equally harsh impacts rippling throughout the communities** where they live:

- Countless service providers from car repair shops to math tutors to pet care centers to dentists also have abrupt drops in their income as **appointments are cancelled and their invoices go unpaid**
- Restaurants, retailer and entertainment venues **cut hours of their staff** as their activity drops as federal workers stay home
- Non-profits and volunteer-oriented organizations **lose donations and participation** of federal workers

Other impacts on furloughed employees include **negative ratings to their credit reports** even if they receive forbearance of mortgage or credit card debt; the challenges of **finding loans** from family or friends and **managing the stress** of not knowing what will happen.

There is **the brain drain from crucial projects** as furloughed employees make the reasonable effort to interview and **take jobs with other entities**. Note this does not mean they are necessarily taking jobs in a similar field; people are taking jobs that are immediately available **and do not utilize their scientific skills**. The research labs will subsequently have **staffing gaps to manage**, additionally delaying scientific progress. Finally, this scenario makes it **harder to recruit working for the government**, as political forces affecting your pay is not alluring.

Our federal research labs have missions that engages every employee on a path of discovering solutions and solving puzzles that move our country forward and maintains our global leadership. Being treated as dispensable, being taken for granted, being overlooked and minimized, being told to work for no pay – none of this is acceptable. They deserve your continued and immediate help to end this shutdown.

Thank you for considering these points. We are available to provide further data at your request.

Sincerely,



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See attached: Examples of affected federal research projects

About CO-LABS:

Started in 2007, CO-LABS is a non-profit consortium of federal laboratories, research institutions, businesses and economic development organizations that promote the retention and expansion of Colorado's federally-funded scientific resources. To learn more, visit www.CO-LABS.org.

January 12, 2019 Update

Examples of federal research projects that are suffering from lack of access, failed monitoring, neglect and understaffing impacts

Some of the CO-LABS network of federal agencies in Colorado affected by the shutdown: U.S. Depts. of Agriculture, Commerce, Interior, Transportation; the Environmental Protection Agency.

At the **U.S. Dept. of Agriculture (USDA) National Wildlife Research Center** in Ft. Collins all research and development activity is suspended. This represents significant disruption in product development and lost data in support of regulatory requirements for product registrations. [This includes disruptions to research concerning:](#)

- Threatened and Endangered Species Protection
- Managing Wildlife Species to Protect Natural Resources
- Invasive Species Management
- National Rabies Management Program
- Protecting Livestock from Predators
- Airport Wildlife Hazards

The **USDA is not issuing relevant permits** or otherwise available to answer questions about the regulations that must be followed if research or private sector activities could affect wildlife. This affects farming, ranching, building/construction and research activities of other entities.

"We can't get permits for some transgenic seed because of the shutdown and this is halting significant ag research projects."
– Colorado State University faculty member, re: USDA shutdown impacts.

The **USDA's Center for Agricultural Resources Research** has a [mission](#), in part to ensure high-quality, safe food, and other agricultural products; and sustain a competitive agricultural economy. **Research efforts have been ceased in the following research labs** located in [Fort Collins, CO](#): Plant Germplasm Preservation Research Unit (PGPRU) and Plant and Animal Genetic Resources Preservation Unit (PAGRP) housed in the National Laboratory for Genetic Resources Preservation (NLGRP), Water Management and Systems Research (WMSR), Soil Management and Sugarbeet Research (SMSR), and lastly, the Rangeland Resources and Systems Research (RRSR) located in nearby Nunn, CO.

At the U.S Dept. of Commerce labs in Boulder - Research on hold includes activity at:

1) [National Institute of Science and Technology](#) - research on fundamental physics; the baselining and consistency of engineering standards for virtually everything manufactured in the country.

2) National Oceanic and Atmospheric Administration

Note: NOAA websites and social media channels necessary to protect lives and property will be maintained

- [Space Weather Prediction Center](#) –includes research on solar phenomena-related threats to satellite and high-frequency radio communications, energy grid infrastructure and GPS systems (reduced staffing but many working without pay - deemed "exempt")
- [National Weather Service](#) – with a mission to ensure a “weather-ready nation”, they’re producing forecasts and warnings for the protection of life and property and enhancement of the national economy (reduced staffing but many working without pay - deemed "essential")
- [Earth System Research Laboratory's projects on hold](#): studies on atmospheric and other dynamic processes that affect air quality, weather, and climate variability
 - Chemical Sciences Division (i.e. chemical processes affecting climate, air quality, ozone layer)
 - Global Monitoring Division (i.e. greenhouse gas and carbon cycle feedbacks)
 - Global Systems Division (forecasts re: short-term weather predictions to longer-term climate trends)
 - Physical Sciences Division (studies on interplay between atmosphere, ocean, cryosphere, and land in order to improve local to global weather and climate predictions.)
- [National Centers for Environmental Information](#) the world's largest active archive of environmental data - **Closed and offline.**

“We are quite concerned that the extended shutdown will adversely impact the data we are providing to [clients] for their operations. We are very vulnerable to any outages that interrupt data operations; we note that people in [government] operations we normally contact on a regular basis for solving operations issues are not available.”

-Private Sector technology company CEO

3) The National Telecommunications and Information Administration (NTIA)

This agency serves as the President's principal adviser on telecommunications policies pertaining to the United States' economic and technological advancement and to regulation of the telecommunications industry.

Partial list of activities Stopped or Severely affected:

- Working to ensure that all Americans have affordable phone and cable TV service.
- Helping to bring the benefits of advanced telecommunications technologies to millions of Americans in rural and underserved urban areas through its information infrastructure grants.
- Providing the hardware that enables public radio and television broadcasters to extend and maintain the reach of their programming.
- Advocating competition and liberalization of telecommunications policies around the world.

- Participating in international government-to-government negotiations to open markets for U.S. companies.
- Negotiating with foreign governments to ensure adequate spectrum for national defense, public safety, and U.S. business needs.

UNAVCO is a nonprofit university-governed consortium headquartered in Boulder, Colorado. Scientists there are responsible for operating and maintaining equipment for measuring ground movement (deformation): meaning, they monitor for tectonic activity regarding volcanoes and earthquakes throughout North America. For example, their equipment and expertise in using GPS to measure deformation of Earth's surface issued by the **US Geological Survey** to assess the dangers and activity of the earthquakes and volcano in Kīlauea, Hawai'i.

UNAVCO has a bi-weekly draw from the NSF; with funds through Jan 18 - they are planning for a full shutdown of activity after that. UNAVCO, Inc., They are already impacted by all of the uncertainty because they cannot plan or carryout future operations and they will have additional costs, delays and complications due to the shutdown.

Related to UNAVCO - across the country, nearly 8000 employees of the **U.S. Geological Survey (USGS)** are on furlough. In Colorado, USGS staff and resources (such as the Ice Core Facility or the Core Research Center) are NOT available to orgs like UNAVCO, our research universities, private sector companies or the public.

“We cannot 1) work with our colleagues who are government scientists; 2) communicate with government science program managers about existing and new projects; 3) collect some observational data, and 4) as a small company, bill the government agencies for our work on government grants and contracts. The first three issues on this list lead to inefficiencies and lost data that results in costs the government, our employees, and our company can never recover. The last issue (#4), impacts our small company's ability to make payroll and jeopardizes the fiscal well-being of all of our employees.

-Technology company Chief Scientist

Example: the **US Geological Survey's Colorado Water Science Center** conducts its water-resources activities in Colorado in formal **partnerships with more than 125 other organizations** representing all levels of government. While they are on furlough, research and monitoring activities that are stopped or affected by nearly total loss of staffing:

- Sustainability of adequate, good-quality water supplies for agricultural, municipal, and industrial uses.
- Effects of energy development on water resources.
- Environmental hazards - drought, wildfires, floods.
- Challenges associated with regulatory-compliance requirements and goals.
- Remediation of water-quality effects of mining and waste disposal.

- Effects of human activities on pristine, high elevation environments.
- Science information needs of other Department of the Interior bureaus

Affected by staffing furloughs: the **USGS National Earthquake Information Center** in Golden, CO pursues an [active research program to improve its ability to locate earthquakes](#) and to understand the earthquake mechanism. These efforts are all aimed at mitigating the risks of earthquakes to mankind. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be **updated with limited support**. Additionally, USGS will **not be able to respond to inquiries** until appropriations are enacted.

At the University of Colorado, Colorado State University and many other higher education institutions **projects funded by USGS, USDA, National Science Foundation and other federal sources** will not be receiving incremental funding - This means **employees will likely need to go on leave without pay** until the incremental funding is processed, since funding for these employees on the current increment either has or is about to run out.

Across the realm of **non-citizen higher education grad students and post-doc students**, as funding stops for their work, they **may not be considered a legal "employee"** and this would invalidate their visa. Also, undergrads paid hourly simply have been told there's no hours for them to claim (despite having projects ongoing).

"I am largely concerned about the well-being of my staff who are reliant upon regular income to support their families. The morale effect of this will take a very long time to recover from."
- Federal scientist with many direct staff reports

In almost every case where a contract or grant has been previously awarded - and thus funds were obligated - **federal employees still cannot be "excepted" from furlough in order to make timely payments to the contractor or grantee** in accordance with the contract or grant.

The interconnectedness of various projects, departments, agencies and public/private users leaves everyone with truly no clear answer on where to go for answers, or what to describe can/must/should happen. As we enter week 4, it is brutally obvious that the government just isn't made to shut down.

Additional negative impacts to come: with many mid-January deadlines, major projects and additional **thousands of employees and contractors funded by the National Science Foundation** are preparing to be placed on leave and otherwise cut off from data, resources and staffing at organizations such as the **National Center for Atmospheric Research (NCAR)** and the **National Ecological Observatory Network (NEON)** along with various higher education programming across the state.

Contact Dan Powers at CO-LABS, 720-389-0455 or dan@co-labs.org for further information.