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President Donald Trump GAGE SKIDMORE/FLICKR (CC BY-SA 2.0)

Trump once again requests deep cuts in U.S. science spending

By Science News Staff | Mar. 11, 2019 , 12:15 PM

For the third year in a row, President Donald Trump’s administration has unveiled a budget request to Congress that calls for deep spending cuts at many federal science agencies, including a 13% cut for the National Institutes of Health (NIH) and a 12% cut for the National Science Foundation (NSF), while providing hefty increases for the military.

But **the \$4.7 trillion request for the 2020 fiscal year** that begins 1 October, released today, is already drawing bipartisan pushback from lawmakers in Congress and—as with past Trump administration requests—many of the cuts are unlikely to be enacted into law.

The president’s science adviser, Kelvin Droegemeier, calls the request “an important down payment on America’s future.” A statement from the White House Office of Science and Technology Policy (OSTP), which he leads, says the president’s budget “promotes responsible spending [by] prioritizing high-impact programs that have been shown to be effective.”

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The OSTP statement cites artificial intelligence (AI), quantum information science, wireless 5G communications, and advanced manufacturing as administration priorities. It says the request would allocate \$850 million for AI development and \$430 million for quantum science across several agencies. But it’s impossible to tell whether that level of investment is higher or lower than current spending.

What is clear, however, is that those investments would be part of a diminished federal research enterprise. The OSTP statement says the president’s 2020 request represents an overall federal investment of \$134 billion in R&D. That figure, if enacted, would be 11% lower than the estimated \$151.5 billion being spent this year on R&D.

Rush Holt, CEO of AAAS (which publishes *ScienceInsider*) in Washington, D.C., says a reduction of that magnitude “would derail our nation’s science enterprise.” The president’s 2020 budget doesn’t match the administration’s rhetoric on the importance of research in preserving a healthy U.S. economy, says Holt, who calls on Congress to reverse the cuts, as it has done since Trump took office.

Here are some highlights from the request:

## NIH

The request would slash NIH’s budget by \$5 billion to \$34.4 billion, a 13% cut.

A new pediatric cancer initiative at the National Cancer Institute (NCI) would receive \$50 million for drug discovery, studying the biology of pediatric cancers, and pooling data from cancer cases and existing data sets to “create a comprehensive, shared resource to support childhood cancer in all its forms.” The funding would begin a \$500 million, decadelong pediatric cancer research effort that Trump proposed in his State of the Union address.

But some researchers have expressed concern about focusing the initiative **too heavily on data sharing**. The advocacy community worries it will come at the expense of other pediatric cancer research and the overall NCI budget, which would fall 15% to \$5.2 billion in the request.

NIH's Centers for AIDS Research would receive \$6 million as part of Trump's plan, announced in his State of the Union address, to **reduce HIV infections by 90% over the next decade**. The proposal would maintain this year's level of \$500 million for NIH's 1-year-old Helping to End Addiction Long-Term Initiative to combat opioid addiction.

Trump also wants to fold the stand-alone Agency for Healthcare Research and Quality (AHRQ) into a new addition to NIH's current 27 institutes, the National Institute for Research on Safety and Quality, which would receive \$256 million. Congress has rejected past efforts by Trump to transfer AHRQ to NIH.

Advocacy groups were disappointed by the proposed cut to NIH. The American Society for Biochemistry and Molecular Biology in Rockville, Maryland, warned that "the proposal threatens the progress of biomedical research."

## NASA

NASA has the moon on its mind. Fresh from Congress largely supporting its plans to return to the moon, the White House's request calls for delaying the heavier-lift version of its long-delayed rocket, the Space Launch System (SLS), repurposing that money to support its development of a small lunar-orbiting space station, now called the Lunar Gateway, and commercially developed landers.

Overall, the agency's proposed budget would drop 2.2% from this year's enacted levels, with a **more than 8% drop in its science portfolio**. The request proposes canceling the Wide Field Infrared Survey Telescope, as well as earth science missions, including the Plankton, Aerosol, Cloud, ocean Ecosystem satellite and the Climate Absolute Radiance and Refractivity Observatory Pathfinder. Congress has blocked these proposed cuts in past budgets and seems likely to do so again.

The budget would start work on the agency's next mission to Mars, which would return samples collected by the Mars 2020 rover, launching next year. However, the proposal did not detail the dollars committed to such sample return. The budget also continues to fully fund the troubled James Webb Space Telescope, now set for a March 2021 launch. And, notably, the administration has given up trying to kill two earth science missions: the Earth-facing cameras on the Deep Space Climate Observatory and the Orbiting Carbon Observatory-3, set for launch to the International Space Station next month.

As it did last year, the White House has called for launching the Europa Clipper, its next flagship-level science mission, with a commercial rocket in 2023, rather than the SLS, as Congress has mandated. Launching on the SLS would knock nearly a half-decade off the trip to Jupiter, but

would cost \$700 million more, money that could be spent elsewhere. Similarly, the agency would slow development of the SLS's planned upgrades, known as "Block 1B," to instead support its lunar investments, including small commercial landers within the next few years and, by 2022, the launch of the Gateway's first elements.

Although Congress has supported the administration's past moon plans, it remains to be seen how lawmakers, who have fended off many past budgetary attacks to the SLS, will react to the proposed delays.

## Other agencies

The document the White House released today provides relatively few details about many agencies, and the administration has said it will issue the bulk of its spending plan on 18 March. Even then, it could be several additional weeks until the full scope of the administration's proposal for specific agencies becomes clear.

Today's document, however, does include these nuggets:

- NSF would face a cut of roughly \$1 billion, to \$7.1 billion, a 12% reduction.
- At the Department of Energy, the Office of Science's budget would shrink by roughly 17%, to \$5.5 billion. The department's Office of Energy Efficiency and Renewable Energy would shrink by 86%, from \$2.379 billion to \$343 million. And the administration has again proposed eliminating the \$366 million Advanced Research Projects Agency- Energy. Congress has rejected similar requests in the past.
- At the Environmental Protection Agency, the administration is again proposing to take an ax to climate and research programs. Overall, the agency's budget would shrink by nearly one-third, from about \$8.8 billion to \$6.1 billion. Its science and technology programs would be funded at about \$440 million, nearly 40% below the current level of \$718 million. The budget line for air and energy research, which includes climate change science, would drop by more than \$60 million, from about \$95 million to \$32 million. Congress has repeatedly rejected such proposed cuts.
- The National Institute of Standards and Technology would receive \$688 million, down 30% from this year's appropriation of \$986 million. However, the administration once again wants to eliminate the Manufacturing Extension Partnership, a program popular with Congress, which this year received \$140 million to bolster commercial activities.
- The Census Bureau would get \$7.2 billion to complete the run-up to the decennial census in April 2020. That amount is in line with earlier outyear projections of what the bureau would need in the last year of its 10-year cycle, and slightly lower than a \$7.4 billion figure issued by

Commerce Secretary Wilbur Ross in October 2017 that includes a 10% contingency fund.

There are a few modest bright spots. For example, the Agriculture and Food Research Initiative, the U.S. Department of Agriculture's (USDA's) flagship competitive grants program, would get an \$85 million increase, or 20%, to \$500 million. Overall, however, USDA's budget would be cut 15%, including an apparent 8% cut, to \$1.2 billion, for the department's Agricultural Research Service.

Overall, White House officials say their goal is to cut spending on domestic and foreign aid programs by about 5% below this year's levels while increasing military spending. At the same time, the administration says it wants to generally abide by a 2011 law that calls for reducing nondefense spending by 9% and defense spending by 11% in 2020, compared with this year's spending.

To meet those objectives while increasing defense spending, today's request employs a number of accounting gimmicks that are likely to be rejected by Congress, setting the stage for another fight over revising the spending caps. Three similar battles in recent years have resulted in Congress and the White House increasing the caps, in some cases enabling **substantial spending increases for many agencies that fund or conduct research**.

This year's battle will begin in earnest this week, as spending panels in both the **Senate** and the **House of Representatives** are scheduled to begin to review the president's request.

Posted in: **Science and Policy, Trump administration**

doi:10.1126/science.aax2964

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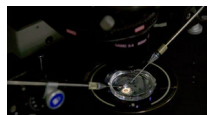
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