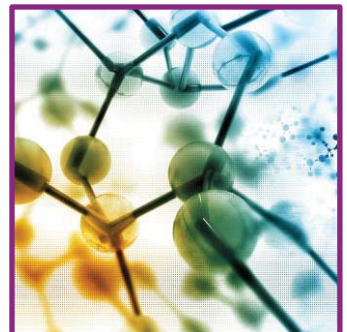
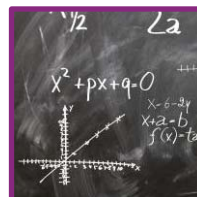


# **Analysis of the FY 2018 Omnibus Appropriations Bill: Implications for Research, Higher Education, and Academic Medicine**

**Prepared by Lewis-Burke Associates LLC  
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## Executive Summary

On March 22, Congress passed an omnibus appropriations bill (H.R. 1625) to fund federal government agencies for the remaining six months of fiscal year (FY) 2018. The bill passed with broad bipartisan support with a vote of 256-167 in the House and 65-32 in the Senate. On March 23, President Trump signed the bill into law before the continuing resolution expired, avoiding a government shutdown. Congress not only rejected the cuts proposed by the Trump Administration but in some cases provided significant increases to federal investments in many of the research, education, and healthcare programs important to research universities and non-profit research institutions.

Overview: The \$1.3 trillion bill includes funding for all 12 annual appropriations bills. The bill upholds the overall discretionary \$1.21 trillion spending cap for FY 2018 agreed to in the *Bipartisan Budget Act of 2018* for both defense and non-defense spending and includes \$78 billion in Overseas Contingency Operations funding for global combat operations and improved military readiness. The two-year budget agreement passed in February 2018 paved the way for final FY 2018 appropriations by increasing spending limits imposed by the *Budget Control Act of 2011*. The budget deal increased defense spending by \$80 billion and non-defense spending by \$63 billion.

With \$143 billion more to spend in FY 2018, many research and education programs were the beneficiaries of significant funding increases, and even political targets, such as the Environmental Protection Agency, escaped unscathed. Some highlights include:

- The National Institutes of Health (NIH) will receive \$37.1 billion, an increase of \$3 billion, or 8.8 percent, above the FY 2017 enacted level.
- The Pell Grant program will be expanded to support a maximum Pell award of \$6,095 in addition to increased funding for other federal student aid programs including Federal Work-Study and Supplemental Educational Opportunity Grants.
- The Department of Energy (DOE) Office of Science will receive \$6.26 billion, an increase of \$868 million, or 16 percent, above the FY 2017 enacted level and the largest yearly increase in its 40-year history.
- The DOE Advanced Research Projects Agency-Energy (ARPA-E) will not be terminated and instead receive \$353 million, an increase of \$47 million, or 15.5 percent, above the FY 2017 enacted level.
- The National Science Foundation (NSF) will receive \$7.767 billion, an increase of \$295 million, or 3.9 percent, above the FY 2017 enacted level.
- The National Aeronautics and Space Administration (NASA) will receive \$20.7 billion, an increase of \$1.1 billion, or 5.5 percent, above the FY 2017 enacted level, including an increase of \$456.6 million for science programs.
- The Department of Defense (DOD) basic research account will receive \$2.3 billion, or a 2.9 percent increase over last year; this increase is directed towards the Navy and Defense-Wide basic research programs, with Army and Air Force basic research programs receiving small cuts.
- The U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) will receive \$1.41 billion, an increase of approximately 3.3 percent above the FY 2017 level. Within NIFA, the Agriculture and Food Research Initiative (AFRI) will receive \$400 million, an increase of \$25 million above the FY 2017 enacted level.
- The Institute of Education Sciences within the Department of Education will be funded at \$613.5 million, an increase of 1.4 percent above the FY 2017 level.

- The National Endowment for the Humanities (NEH) and the National Endowment for the Arts (NEA) will not be terminated and each grows by 2 percent over FY 2017 enacted levels.

With this bill, Congress sent a strong message of its funding priorities and how they sharply contrast with the Trump Administration's proposals. This has been evident in recent budget hearings where many Members of Congress have made it clear that they do not consider the Administration's budget requests to be serious spending proposals. For example, the FY 2019 budget request again proposes to cut research and terminate popular programs, such as ARPA-E, but Congress is likely to again support these activities in the FY 2019 appropriations process.

This spending bill will provide certainty for federal agencies ahead of midterm elections in November and the inevitable continuing resolutions that will continue spending into FY 2019. While total discretionary funding in FY 2019 is already set in the two-year budget agreement and the Appropriations Committees are likely to complete most, if not all, of their bills by the end of the summer, final FY 2019 appropriations will likely not be completed until after the midterm elections. In addition, funding increases in FY 2019 will not be as large as FY 2018. Total discretionary funding increases from FY 2018 to FY 2019 will be \$36 billion, of which \$18 billion is for non-defense spending.

Next steps: Over the next month, program managers at federal research agencies will determine funding allocations for programs and projects based on final appropriations and then proceed with renewals, new opportunities, and award announcements. With only six months left in the fiscal year, federal research agencies are preparing to release many funding solicitations; research universities and non-profit research institutions should be ready to respond quickly to future opportunities. Lewis-Burke will continue to monitor and provide information on upcoming and current opportunities.

Details of the major federal research, education, and healthcare programs funded in the omnibus bill follow. Details for each major program vary depending on congressional direction and explanatory statements provided in the omnibus.

## Department of Commerce

### Economic Development Administration

The Economic Development Administration (EDA) would receive \$301.5 million in the FY 2018 omnibus, which is \$25.5 million above the FY 2017 enacted level. This allocation runs counter to the President's FY 2018 budget request, which proposed eliminating the agency outright. Moreover, the omnibus agreement would provide \$125.5 million more than the proposed House appropriations bill and \$47.5 million more than the Senate mark. The bill would also provide support for assistance to drive economic revitalization in coal communities; many such programs had been slated to be eliminated by the Trump Administration in the budget request.

The omnibus would enhance funding for the Regional Innovation Program (RIP) by \$4 million over the FY 2017 enacted level. RIP is a popular initiative that has provided support for universities and research institutes to develop and scale-up commercialization centers through i6 Challenge grants and to cultivate funding campaigns for promising startups through Cluster Grants for Seed Capital Funds. This increase in funding for RIP is indicative of growing congressional support for the program over the years. The House and Senate Appropriations Committees' reports would also direct EDA to prioritize RIP funding for high-tech business incubators at universities, including collaborations between universities and federal labs.

Also of interest to the university community, the omnibus would provide \$37 million for the Economic Adjustment Assistance (EAA) program, which is \$2 million above the FY 2017 enacted level. EAA awards provide support for the planning and implementation of regional economic development strategies. The bill would also designate \$117.5 million for the Public Works program, which provides funding for the construction of new infrastructure aimed at helping communities compete in the 21<sup>st</sup> Century global economy. This represents an increase of \$17.5 million above the FY 2017 enacted level. Both EAA and Public Works commonly support university-driven projects that demonstrate the capacity to stimulate regional economic development and competitiveness.

Additionally, the bill would direct EDA to report to Congress on its work to develop best practices for assisting communities affected by nuclear plant closures, and to report on its current projects supporting broadband infrastructure in underserved areas.

#### Economic Development Administration

*(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House*	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>EDA, total</b>	<b>276,000</b>	<b>176,000</b>	<b>254,000</b>	<b>301,500</b>	<b>25,500 (9.2%)</b>
<b>Economic Development Assistance Programs</b>	<b>237,000</b>	<b>14,000</b>	<b>215,000</b>	<b>262,500</b>	<b>25,500 (10.8%)</b>
Public Works	100,000	N/a	100,000	117,500	17,500 (17.5%)

Economic Adjustment Assistance Program	35,000	N/a	37,000	37,000	2,000 (5.7%)
Regional Innovation Program	17,000	N/a	21,000	21,000	4,000 (23.5%)
Partnership Planning	31,500	N/a	33,000	33,000	1,500 (4.8%)
Technical Assistance Program	9,000	N/a	9,500	9,500	500 (5.6%)
Research and Evaluation	1,500	N/a	1,500	1,500	--
<b>Salaries and Expenses</b>	<b>39,000</b>	<b>36,000</b>	<b>39,000</b>	<b>39,000</b>	--

\* The House Appropriations Committee did not provide specific funding amounts for programs within the Economic Development Assistance Programs account, so House allocations are unknown.

Source: Division B, Commerce, Justice, Science, and Related Agencies Appropriations Act, 2018  
<http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>.



## National Institute of Standards and Technology

The FY 2018 omnibus would provide \$1.2 billion for the National Institute of Standards and Technology (NIST), which is \$246.5 million or 25.9 percent above the FY 2017 enacted level. A majority of this increased funding would be for an additional \$210 million for the construction of research facilities.

The omnibus would reject all proposed reductions and terminations included in the President's FY 2018 budget request for the Scientific and Technical Research and Services (STRS) account, which would be funded at \$724.5 million, an increase of \$34.5 million above FY 2017. The omnibus directs NIST to invest no less than the FY 2017 funding levels for the following programs: "Advanced Networks, Connected Systems and Data Science; Advanced Materials Manufacturing; Biological Science and Health Measurements; Corporate Services; Environmental Measurements; the Office of Special Programs; Quantum Science; Resilience and Structural Engineering; Semiconductor and Microelectronic Measurements; Standards Coordination Office; Time and Fundamental Measurement Dissemination; and User Facilities."

The National Cybersecurity Center of Excellence (NCCoE) would be supported at a minimum of \$33 million. The bill also follows-up on language included in the FY 2017 appropriations bill directing NCCoE to submit a report to Congress detailing NCCoE's absorption of the National Strategy for Trusted Identities in Cyberspace. In addition, the omnibus supports Senate language that would provide \$2 million to support a new Internet of Things (IoT) cybersecurity research initiative in partnership with industry and academia. The omnibus would also adopt Senate language to continue support for NIST forensic science research and associated advisory committees. The omnibus rejects Senate language that directed NIST to terminate support for external research awards for Disaster Resilient Buildings and instead directs the agency to "provide no less than \$5,000,000 for competitive external awards."

The bill would provide \$15 million to support the National Network for Manufacturing Innovation (NNMI) (now Manufacturing USA), \$10 million below FY 2017. This would include support for the NIST institute and up to \$5 million for coordination activities across federal agencies. The bill would provide \$140 million for the Hollings Manufacturing Extension Partnership (MEP), a \$10 million increase over FY 2017 funding, demonstrating continued congressional support for this program.

### National Institute of Standards and Technology

*(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>NIST, total</b>	<b>952,000</b>	<b>865,000</b>	<b>944,000</b>	<b>1,198,500</b>	<b>246,500 (25.9%)</b>
<b>Scientific and Technical Research and Services</b>	<b>690,000</b>	<b>660,000</b>	<b>695,000</b>	<b>724,500</b>	<b>34,500 (5.0%)</b>
<b>Industrial Technology Services</b>	<b>153,000</b>	<b>105,000</b>	<b>145,000</b>	<b>155,000</b>	<b>2,000 (1.3%)</b>
Manufacturing Extension Partnership (MEP)	130,000	100,000	130,000	140,000	10,000 (7.7%)

Manufacturing USA	25,000	5,000	15,000	15,000	-10,000 (40%)
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Source: Division B, Commerce, Justice, Science, and Related Agencies Appropriations Act 2018,  
<http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>.



## National Oceanic and Atmospheric Administration

The omnibus would provide a total of \$5.909 billion for the National Oceanic and Atmospheric Administration (NOAA) which is an increase of \$233.9 million above the FY 2017 enacted level, or a 4.1 percent increase. The FY 2018 omnibus level is roughly \$1 billion more than proposed by the House FY 2018 bill and the FY 2018 budget request of \$4.78 billion.

Overall, the omnibus rejects the President's FY 2018 budget request, which proposed dramatic cuts and eliminations to almost every extramural research program at NOAA. Instead, it would provide a 6.2 percent increase for the Office of Oceanic and Atmospheric Research (OAR), as well as a \$2 million increase for signature programs like the National Sea Grant and a \$1.5 million increase for the National Estuarine Research Reserve (NERRS), compared to FY 2017 enacted levels. The omnibus adopts the Senate's provision of \$8 million for competitive extramural Geospatial Modeling Grants, \$2 million above the FY 2016 level and \$8 million above the budget request.

The National Ocean Service (NOS) Coastal Management and Grants account would receive a \$10 million decrease that would eliminate the Regional Coastal Resilience grants. However, the explanatory statement specifies that \$30 million would be provided for grants through the National Oceans and Coastal Security Fund (Title XI) to support "collaborative partnerships that incorporate non-Federal matching funds" to "meet the goals of the Regional Coastal Resilience" program. Note that the Fund was authorized in 2015 through legislation sponsored by Senator Whitehouse (D-RI) and was intended to recover a percentage of revenue from the country's offshore energy development sales for coastal resilience grants.

The National Weather Service (NWS) would receive a 3.5 percent increase, for a total of \$1 billion. Report language indicates that the funding increases will support implementation of the *Weather Research and Forecasting Innovation Act of 2017* through research programs to improve weather data, modeling, and computing. Within NWS, the FY 2018 omnibus provides an additional \$6 million for the National Water Center and directs OAR and NWS to "collaborate with external academic partners to improve fine and large-scale measurements of snow depth and soil moisture."

For the National Environmental Satellite, Data, and Information Systems (NESDIS) Procurement, Acquisition and Construction (PAC) account, \$8.54 billion is for Space Weather Follow-On activities, which is an increase above both the Senate and House mark. Report language is incorporating direct coordination with the Department of Defense (DoD) and the National Aeronautics and Space Administration (NASA) on space weather assets and technology development for the National Space Weather Action Plan. The bill would reject the budget request's proposed cut to the Polar Follow-On (PFO) satellite and provide \$419 million, consistent with NOAA's planning needs as of December 2016.

The FY 2018 omnibus also provides \$150 million for acquisition of a new polar icebreaker, which was proposed in the Senate FY 2018 defense appropriations. The omnibus would not provide any funding to implement the National Ocean Policy, which was an initiative launched by the Obama Administration through a 2010 executive order.

## National Oceanic and Atmospheric Administration

(In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>NOAA, total</b>	<b>5,675,425</b>	<b>4,965,659</b>	<b>5,590,284</b>	<b>5,909,364</b>	<b>233,939 (4.1%)</b>
<b>Operations, Research and Facilities (ORF)</b>	<b>3,367,875</b>	<b>3,260,199</b>	<b>3,416,401</b>	<b>3,536,331</b>	<b>168,456 (5.0%)</b>
Oceanic and Atmospheric Research (OAR)	477,730	448,770	477,725	507,519	29,789 (6.2%)
Climate Research	158,000	128,000	158,000	158,000	--
Competitive Climate Research	60,000	38,420	60,000	60,000	--
Weather and Air Chemistry	113,760	123,610	108,222	131,516	17,756 (15.6%)
Ocean, Coastal and Great Lakes Research	192,820	185,166	199,323	205,823	13,003 (6.7%)
Sea Grant	63,000	63,000	65,000	65,000	2,000 (3.1%)
Ocean Exploration Research (OER)	36,000	36,000	30,000	36,500	500 (1.3%)
<b>National Weather Service (NWS)</b>	<b>979,780</b>	<b>973,000</b>	<b>987,491</b>	<b>1,014,119</b>	<b>34,339 (3.5%)</b>
<b>National Ocean Service (NOS)</b>	<b>517,400</b>	<b>462,650</b>	<b>533,219</b>	<b>561,187</b>	<b>43,787 (8.4%)</b>
Coastal Science and Assessment: Competitive Research	10,000	5,000	11,000	13,000	3,000 (30.0%)
Ocean and Coastal Management and Services: Coastal Management Grants	85,000	45,000	85,000	75,000	-10,000 (11.7%)
<b>National Marine Fisheries Service (NMFS)</b>	<b>851,540</b>	<b>848,030</b>	<b>867,034</b>	<b>882,957</b>	<b>31,417 (3.6%)</b>
<b>Procurement, Acquisition, and Construction (PAC)</b>	<b>2,242,610</b>	<b>1,643,110</b>	<b>2,111,534</b>	<b>2,303,684</b>	<b>61,074 (2.7%)</b>
National Environmental Satellite, Data, and Information Systems	1,980,990	1,469,550	1,828,973	1,859,699	-121,291 (6.1%)

Source: Division B, Commerce, Justice, Science and Related Agencies Appropriations Act  
<http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>.

## Department of Defense

The Department of Defense (DOD) is one of the big winners in the FY 2018 omnibus and would receive nearly \$660 billion, an increase of 14.2 percent compared to the FY 2017 enacted level. \$589.5 billion would be included in the Department's base budget and \$62.5 billion in the Overseas Contingency Operations budget, which is exempt from annual budget caps. The significant increase is indicative of the Trump Administration and Congress' continued prioritization of military spending. The omnibus bill reflects the recent budget deal<sup>1</sup> that increased defense spending by \$80 billion with a bulk of the funding being placed in priority order in the following accounts: Procurement (increased by \$25.4 billion), Operations and Maintenance (increased by \$20.6 billion), and Research, Development, Test and Evaluation (RDT&E) (increased by \$16.0 billion).

DOD's RDT&E programs would receive \$88.3 billion, including \$14.8 billion for science and technology (S&T) accounts. Compared to the FY 2017 enacted levels, these amounts would represent increases of 22.1 percent for RDT&E and 6.1 percent for S&T which is consistent with the President's interest in systems development over S&T. Of specific interest to the university community, the total basic research (6.1) and applied research accounts (6.2) across the Services would be increased by 2.9 percent and 7.3 percent, respectively. The increase in basic research can be attributed to the Navy and Defense-Wide programs, while both the Army and Air Force's basic research accounts would be decreased. However, the Army and Air Force received increases in their respective applied research activities.

The overall RDT&E account emphasizes expedited delivery of technologies to the warfighter through increased spending beyond advanced technology development (6.3) along with quicker acquisition processes. The bill highlights cutting-edge research areas that Congress would like to see addressed in FY 2018 such as enhancing resources for Project Maven, which focuses on developing and integrating Artificial Intelligence (AI) and machine learning into existing DOD programs. As mentioned in the earlier House and Senate appropriation bills, funding was increased for enhanced lethality, such as weapons and munitions technology, guidance and navigation, and ballistic missile defense. Other programs prioritized in the omnibus were materials and manufacturing technology, communications and cybersecurity, and space capabilities.

In the omnibus, Congress directs DOD to submit a report detailing the science, technology, engineering, and mathematics (STEM) education opportunities for military children. The report indicates Congress' continued concern of having a skilled scientific workforce and preparing the next generation of researchers capable of meeting the military's technical needs. Additionally, Congress directs the Department to submit a report defining the current challenges related to the development and acquisition of microelectronics and funded a defense-wide effort for trusted and assured microelectronics at \$83 million. Both Congress and the Department have expressed concerns about the national industrial base's ability to deliver secure electronics that serve the military's unique needs. Additional provisions of interest to the research community include:

- \$8 million increase for the Army Research Laboratory's Open Campus initiative
- \$10 million increase for the Navy's Defense University Research Instrumentation Program (DURIP)

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<sup>1</sup>H.R. 1892, *The Bipartisan Budget Act of 2018*, <https://www.congress.gov/bill/115th-congress/house-bill/1892/text?q=%7B%22search%22%3A%5B%22bipartisan+budget+act+of+2018%22%5D%7D&r=1>.

- \$6 million for quantum computing under the Air Force's Dominant Information Sciences and Methods
- \$210 million for the Air Force Tech Transition Program
- \$29 million for the National Defense Education Program (Office of the Secretary of Defense's STEM program)
- \$14 million for Historically Black Colleges and Universities (HBCU)
- \$250 million for the Defense Rapid Innovation Program
- \$22 million for Test & Evaluation Science & Technology
- \$25.5 million increase for the MD5 National Security Technology Accelerator that seeks to reinvigorate civil-military technology collaboration
- \$3.1 billion for the Defense Advanced Research Projects Agency (DARPA)
- \$530 million for the Defense Threat Reduction Agency (DTRA). DTRA's S&T activities would be funded at \$480 million, an increase of \$18.6 million relative to the FY 2017 enacted level.

Beyond core defense science and technology programs, the Defense Health Program RDT&E account would receive approximately \$2.04 billion, a 3 percent decrease from the FY 2017 enacted level. Since the early 1990s, Congress has increased the DOD health budget to support competitive health and biomedical research programs, offsetting restrictions on biomedical research funding from the National Institutes of Health. Of note, the omnibus agreement would provide a \$30 million increase to the Peer-Reviewed Medical Research Program (PRMRP), totaling \$330 million in FY 2018.

New topics in the PRMRP include: cardiomyopathy; cerebellar ataxia; chronic pain management; endometriosis; frontotemporal degeneration; lung injury; myotonic dystrophy; nutrition optimization; pressure ulcers; and tissue regeneration. Within the Congressionally Directed Medical Research Program (CDMRP), peer-reviewed cancer research programs would receive notable increases. Individual peer-reviewed programs exist for breast, prostate, ovarian, kidney, and lung cancer research. The general Peer-Reviewed Cancer Research Program would receive a \$20 million increase in FY 2018, totaling \$80 million. Congress would direct Peer-Reviewed Cancer Research Program funding to adrenal cancer; bladder cancer; blood cancers; brain cancer; colorectal cancer; immunotherapy; listeria-based regimens for cancer; liver cancer; lymphoma; melanoma and other skin cancers; mesothelioma; myeloma; neuroblastoma; pancreatic cancer; pediatric brain tumors; stomach cancer; and cancer in children, adolescents, and young adults.

### Department of Defense

(In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>RDT&amp;E, total</b>	<b>72,301,587</b>	<b>82,654,976</b>	<b>85,967,322</b>	<b>88,308,133</b>	<b>16,006,546 (22.1%)</b>
<b>S&amp;T, Total</b>	<b>14,011,229</b>	<b>13,799,646</b>	<b>13,942,048</b>	<b>14,863,004</b>	<b>851,775 (6.1%)</b>
6.1, Total	2,276,332	2,279,529	2,259,019	2,343,154	66,822 (2.9%)
6.2, Total	5,296,175	5,242,866	5,336,221	5,681,752	385,577 (7.3%)

6.3, Total	6,438,722	6,277,251	6,346,808	6,838,098	399,376 (6.2%)
<b>Army RDTE</b>	<b>8,332,965</b>	<b>9,674,222</b>	<b>9,860,343</b>	<b>10,647,426</b>	<b>2,314,461 (27.8%)</b>
Army 6.1	486,943	450,022	455,022	470,022	-16,921 (3.5%)
Army 6.2	1,220,274	1,097,552	1,119,382	1,369,382	149,108 (12.2%)
Army 6.3	1,360,065	1,168,377	1,364,177	1,478,677	118,612 (8.7%)
<b>Navy RDTE</b>	<b>17,214,530</b>	<b>17,196,521</b>	<b>17,628,000</b>	<b>18,010,754</b>	<b>796,224 (4.6%)</b>
Navy 6.1	562,970	611,901	595,901	621,901	58,931 (10.5%)
Navy 6.2	980,326	899,110	962,579	994,110	13,784 (1.4%)
Navy 6.3	823,888	686,019	765,042	816,707	-7,181 (0.9%)
<b>Air Force RDTE</b>	<b>27,788,548</b>	<b>33,874,980</b>	<b>36,587,419</b>	<b>37,428,078</b>	<b>9,639,530 (34.7%)</b>
Air Force 6.1	545,024	510,259	505,259	520,259	-24,765 (4.5%)
Air Force 6.2	1,325,652	1,332,114	1,391,714	1,434,714	109,062 (8.2%)
Air Force 6.3	807,705	794,017	859,117	869,117	61,412 (7.6%)
<b>Defense Wide RDTE</b>	<b>18,778,550</b>	<b>20,698,353</b>	<b>21,680,660</b>	<b>22,010,975</b>	<b>3,232,425 (17.2%)</b>
Defense Wide 6.1	681,395	707,347	702,837	730,972	49,577 (7.3%)
Defense Wide 6.2	1,769,923	1,914,090	1,862,546	1,883,546	113,623 (6.4%)
Defense Wide 6.3	3,447,064	3,628,838	3,358,472	3,673,597	226,533 (6.6%)
<b>Defense Health R&amp;D</b>	<b>2,102,107</b>	<b>1,300,315</b>	<b>1,584,715</b>	<b>2,039,315</b>	<b>-62,792 (3.0%)</b>

Source: Division C, Department of Defense Appropriations Act of 2018 report,  
<http://docs.house.gov/billsthisweek/20180319/DIV%20C%20-%20DEFENSE%20FY18%20OMNI.OCR.pdf>.

## Department of Education

The omnibus appropriations bill would fund the Department of Education (ED) at \$74.3 billion, which is \$2.6 billion above the FY 2017 enacted level. The omnibus overwhelmingly rejects the proposed cuts and eliminations for education outlined in President Trump's budget request for FY 2018. With the extra funding outlined under the recent congressional budget agreement, the omnibus would provide for significant increases for many programs above and beyond what the House and Senate proposed in their respective appropriations bills for education in FY 2018.

Federal student aid support would be increased, with the omnibus providing a \$175 bump to the total maximum individual Pell Grant award, rising to \$6,095 for the 2018-2019 academic year. The Federal Supplemental Educational Opportunity Grants (SEOG) would receive \$840 million, an increase of \$106 million, while the Federal Work-Study (FWS) program would receive \$1.1 billion, an increase of \$140 million. The TRIO programs and GEAR UP program would also be increased to \$1.01 billion and \$350 million respectively.

All minority serving institution support programs would receive increases under the omnibus, including the Developing Hispanic Serving Institutions program, which would increase by over \$15 million to \$123 million. The Institute of Education Sciences (IES), which funds education research and statistics, would receive \$613 million, an increase of \$8.1 million over FY 2017 levels. Additionally, the Office for Civil Rights would see an increase of \$8.5 million in funding, for a total of \$117 million to support additional staffing to more effectively investigate and monitor complaints of civil rights violations.

In contrast to proposed increases for other programs, the International Education and Foreign Languages, or Title VI programs, would be funded at the same level as FY 2017 and the Graduate Assistance in Areas of National Need (GAANN) program would be cut nearly 18 percent from FY 2017 levels to \$23 million.

A few new grant programs would be funded under the omnibus, including a \$1 million pilot program to support upgrades for cybersecurity programs at community colleges and a \$5 million pilot program to support competitive grants to fund new open textbook projects at institutions. The omnibus would also more than triple the funding for the Child Care Access Means Parents in School program, a competitive grant program to support campus-based child care for low-income students, by providing the program \$50 million in FY 2018.

The omnibus also includes funding related to the Public Service Loan Forgiveness (PSLF) program. The Secretary of Education would be provided \$350 million to facilitate loan forgiveness for certain borrowers, who would otherwise qualify for PSLF but made payments under ineligible loan repayment plans. Loans would be cancelled on a first-come, first-serve basis until the money is expended. The Secretary would be provided with \$2.3 million to conduct outreach to borrowers on PSLF requirements.

Language in the bill would also require any new loan servicing plan developed by the Department to involve multiple companies to handle the various parts of loan repayment process. This is a direct response to the Department's previous attempts to award loan servicing responsibilities to a single company.

The omnibus also includes language that clarifies that institutions can, with the explicit consent of an applicant, share student financial data with scholarship granting organizations, an issue that has been of recent concern of financial aid offices.

Congress also notes concern about the Department's reorganization efforts, particularly as it relates to ED's Budget Service office, clarifying that funding could not be used for the purpose of reorganizing or decentralizing the Budget Service office.

## Department of Education

*(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>ED, Total</b>	<b>71,637,749</b>	<b>69,476,876</b>	<b>71,721,595</b>	<b>74,320,337</b>	<b>2,682,588 (3.7%)</b>
<b>Elementary and Secondary Education*</b>					
Promise Neighborhoods	73,254	60,000	73,254	78,254	5,000 (6.8%)
<b>Innovation and Improvement</b>					
Education Innovation and Research	100,000	0	95,000	120,000	20,000 (20.0%)
<b>Student Financial Assistance</b>					
Pell Grant <sup>†</sup>	5,920	5,920	6,020	6,095	175 (3.0%)
SEOG	733,130	733,130	733,130	840,000	106,870 (14.6%)
Federal Work-Study	989,728	989,728	989,728	1,130,000	140,272 (14.2%)
<b>Higher Education</b>					
Title V Aid for Developing HSIs	107,795	107,795	107,795	123,183	15,388 (14.3%)
Promoting Post- Baccalaureate Opportunities for Hispanic Americans	9,671	9,671	9,671	11,052	1,381 (14.3%)
Title VI International Education and Foreign Language Studies (Domestic and Overseas)	72,164	65,103	72,164	72,164	--
TRIO Programs	950,000	1,010,000	953,000	1,010,000	60,000 (6.3%)
GEAR UP	339,754	350,000	339,754	350,000	10,246 (3.0%)
GAANN	28,047	5,775	23,047	23,047	-5,000 (17.8%)



<b>Institute of Education Sciences</b>	<b>605,267</b>	<b>605,767</b>	<b>600,267</b>	<b>613,462</b>	<b>8,195 (1.4%)</b>
Research, Development and Dissemination	187,500	187,500	185,000	192,695	5,195 (2.8%)
Research in Special Education	54,000	54,000	54,000	56,000	2,000 (3.7%)
Regional Education Laboratories	54,423	54,423	54,423	55,423	1,000 (1.8%)
Statewide Data Systems	32,281	32,281	32,281	32,281	--

\* Categories included for ease of reading the chart.

† The Pell Grant is listed as the total maximum grant award an individual could receive, including mandatory and discretionary funding. It is *not* listed in thousands of dollars.

Source: Division H, Department of Labor, Health and Human Services, and Education, and Related Agencies, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.

## Department of Energy

The omnibus would provide \$34.5 billion for the Department of Energy (DOE), which is \$3.8 billion (12 percent) above the FY 2017 enacted level. The bill would provide an increase of \$1.6 billion (14.5 percent) above the FY 2017 enacted level to boost funding for all DOE research programs, with the largest increase for the Office of Science. In sharp contrast to the FY 2018 President's budget request and House bill, the final omnibus not only rejects terminating the Advanced Research Projects Agency-Energy (ARPA-E) but would increase its funding by 15.5 percent. In addition, the omnibus would increase funding for all applied energy research in renewables, energy efficiency, fossil, nuclear, and grid modernization and resiliency efforts. The bill would also provide an increase of \$1.7 billion (13 percent) for the National Nuclear Security Administration (NNSA) primarily to modernize aging nuclear weapons and associated infrastructure and support science and engineering efforts to maintain a safe, secure, and effective nuclear deterrent.

### Office of Science and ARPA-E

The DOE Office of Science would receive \$6.26 billion, an increase of \$868 million (16 percent) compared to FY 2017 and the largest yearly increase in its 40-year history. In addition, ARPA-E would receive \$353 million, an increase of \$47 million (15.5 percent).

Notably, the highest Departmental cross-cutting research effort is the exascale computing initiative, which would be funded at \$551 million, an increase of \$292 million (113 percent) above the FY 2017 enacted level. This includes \$378 million under the Office of Science and \$173 million within NNSA. The Office of Science investment includes \$205 million to accelerate hardware, software and application development for the first exascale system planned to be deployed in 2021 and \$173 million for site preparation activities and non-recurring engineering to ready Argonne and Oak Ridge National Laboratories for deployment of exascale systems. Similarly, NNSA's \$173 million investment would include \$148 million for hardware, software, and application development and \$25 million in infrastructure upgrades at Los Alamos and Lawrence Livermore National Laboratories to prepare them for deployment of exascale systems. The bill also includes \$2 million for the second year of funding for a Distinguished Scientist Program that was originally authorized in the *America COMPETES Act of 2007* and allows an exchange of scientists for up to six years between institutions of higher education and the DOE national laboratories.

All six Office of Science programs would see significant increases above FY 2017. The largest funding increase would be for the Advanced Scientific Computing Research program, primarily to advance the exascale initiative as described above. The omnibus also includes \$10 million for the Computational Sciences Graduate Fellowship program.

Basic Energy Sciences (BES) would receive \$2.09 billion, which is \$219 million (12 percent) above FY 2017. Unlike the FY 2018 President's budget request and House bill, the omnibus would continue to fund the Batteries and Energy Storage and Fuels from Sunlight Innovation Hubs at \$24 million and \$15 million, respectively. The omnibus would also provide at least \$110 million for the Energy Frontier Research Centers (EFRCs), which is \$11 million above the FY 2018 budget request. This funding clarity for the EFRCs is critical as the Office of Science reviews EFRC proposals and expects to make awards in July 2018. This funding amount would support around 36 EFRCs, which would include around 32 new or renewed EFRCs and four environmental management focused ones that will not be up for recompetition until 2020. The omnibus also includes \$26 million to support computational chemical and materials

sciences centers. The omnibus increases operations of all 12 BES-supported user facilities including five light sources, two neutron centers, and five nanoscale science centers. The omnibus rejects the FY 2018 budget request proposal to shut down the five nanoscale science centers and the synchrotron light source at SLAC National Accelerator Laboratory, and instead would make significant investments in science infrastructure, including funding to complete construction of the Linac Coherent Light Source-II (LCLS-II) at SLAC National Accelerator Laboratory and the Advanced Photon Source upgrade at Argonne National Laboratory, as well as to start three new, major facility upgrades at Oak Ridge, Lawrence Berkeley, and SLAC.

The Biological and Environmental Research program would receive \$673 million, \$61 million or 10 percent above the FY 2017 level. The omnibus specifies that \$90 million would fund the four Bioenergy Research Centers, including \$25 million for each of the three renewed centers and \$15 million for the center led by the University of Illinois. This is a significant increase from the \$40 million recommended in the FY 2017 budget request and House bill and announced in DOE's funding award. The omnibus would also include \$10 million as part of the exascale initiative to develop next-generation climate models.

High Energy Physics would receive \$908 million, an increase of \$83 million (10 percent) above FY 2017. Within this amount, \$95 million would be provided to advance construction in the U.S. of the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment. The omnibus would also specify \$24.1 million for the accelerator upgrade project at Fermilab, \$44 million to complete construction of the Muon to Electron Conversion experiment at Fermilab, \$9.8 million for the Large Synoptic Survey Telescope camera, and funding to complete the three second generation dark energy and dark matter experiments. The explanatory statement includes language providing flexibility to the Office of Science on how to distribute research funding for national labs and universities and operations of user facilities.

Fusion Energy Sciences would receive \$532 million, an increase of \$152 million (40 percent), compared to FY 2017. The omnibus would provide \$122 million for the International Thermonuclear Experimental Reactor (ITER). The domestic research program would also see a significant increase of \$80 million or 24 percent for a total of \$410 million. This would include \$17.5 million for the High Energy Density Laboratory Plasmas program.

Nuclear Physics would receive \$684 million, an increase of \$62 million (10 percent) above FY 2017. The omnibus specifies \$97 million for construction of the Facility for Rare Isotope Beams at Michigan State University, \$10 million for the Stable Isotope Production Facility at Oak Ridge National Laboratory, and \$5.2 million for the Gamma-Ray Energy Tracking Array at Lawrence Berkeley National Lab.

#### Applied Energy Programs

All of DOE's applied energy programs would receive an increase above FY 2017, which is a sharp contrast to the \$2.8 billion in cuts proposed in the Trump Administration's FY 2018 budget request. The starkest example is funding for the Office of Energy Efficiency and Renewable Energy (EERE), which would receive \$2.3 billion, an increase of \$232 million (11 percent) above FY 2017 and \$1.7 billion (265 percent) above the FY 2018 budget request. Of note, the omnibus would provide \$20 million to fund the second year of a Desalination Hub, with DOE's Advanced Manufacturing Office planning to issue the associated funding opportunity announcement by Summer 2018. The omnibus also provides \$25 million to continue the Critical Materials Hub and \$70 million to support four existing Clean Energy Manufacturing Innovation Institutes and the establishment of a new one.

Consistent with an all-of-the-above energy strategy, the bill also provides increases to nuclear and fossil energy programs. The Nuclear Energy program would be funded at \$1.2 billion, an increase of \$188 million (19 percent) over FY 2017, of which \$669 million would be dedicated to research and development programs. The funding increase is primarily for research and development activities (\$35 million) to advance the design of a versatile fast reactor at Idaho National Laboratory and for a solicitation (\$60 million) to support “technical, first-of-its-kind engineering and design and regulatory development of next generation light water and non-light water reactor technologies, including small modular reactors.”

The fossil energy program would receive \$727 million, an increase of \$95 million (14 percent) above FY 2017. The additional funding would primarily continue support for the competitive award of two large-scale pilots (\$35 million) to demonstrate transformational coal technologies, including “thermodynamic improvements in energy conversion and heat transfer, such as pressurized oxygen combustion and chemical looping, and improvements in carbon capture systems technology. The additional funding would also support unconventional oil and gas technologies, including research toward enhanced recovery technologies in shale oil, low permeability reservoirs, and residual oil zone reservoirs.

With increased attention on electric grid reliability and security issues, the omnibus would provide \$248 million to the Office of Electricity and Energy Reliability for grid modernization activities, an increase of \$14 million (6 percent) over FY 2017. The omnibus directs DOE to continue implementation of the grid modernization initiative and the research and development goals identified in the five-year plan. The omnibus would also direct the National Academies of Science to conduct an evaluation of the “expected medium- and long-term evolution of the grid” with a focus on “emergence of new technologies, planning and operating techniques, grid architecture, and business models.”

#### Nuclear Security Programs

The omnibus would provide \$14.7 billion for NNSA, an increase of \$1.7 billion (13 percent) above FY 2017. Within NNSA, the omnibus would include \$10.6 billion, an increase of \$1.4 billion (15 percent) compared to FY 2017, for nuclear weapons programs. Most of the funding would advance life extension programs for nuclear warheads and bombs and modernize aging infrastructure at the three national nuclear security labs and production facilities. The four core research, development, testing, and evaluation programs within nuclear weapons programs would receive an increase of \$192 million above FY 2017 levels, including a \$22 million increase for the Inertial Confinement Fusion program and a \$78 million increase for the exascale computing initiative. The Academic Alliance and Partnership program would see an increase of \$3 million (6 percent) above FY 2017 for a total of \$53 million.

### **Department of Energy**

*(In Thousands of \$)*

	<b>FY 2017 Enacted</b>	<b>FY 2018 House</b>	<b>FY 2018 Senate</b>	<b>FY 2018 Omnibus</b>	<b>FY 2018 Omnibus vs. FY 2017</b>
<b>DOE, total</b>	<b>30,746,009</b>	<b>29,888,401</b>	<b>31,463,626</b>	<b>34,520,049</b>	<b>3,774,040 (12.3%)</b>
<b>Science</b>	<b>5,392,000</b>	<b>5,392,000</b>	<b>5,550,000</b>	<b>6,259,903</b>	<b>867,903 (16.1%)</b>

Advanced Scientific Computing Research	647,000	694,200	763,000	810,000	163,000 (25.2%)
Basic Energy Sciences	1,871,500	1,871,500	1,980,300	2,090,000	218,500 (11.7%)
Biological and Environmental Research	612,000	582,000	633,000	673,000	61,000 (10.0%)
Fusion Energy Sciences	380,000	395,000	232,000	532,111	152,111 (40.0%)
High Energy Physics	825,000	825,000	860,000	908,000	83,000 (10.1%)
Nuclear Physics	622,000	619,200	639,200	684,000	62,000 (10.0%)
Workforce Development for Teachers and Scientists	19,500	19,500	19,500	19,500	--
Science Laboratories Infrastructure	130,000	105,600	143,000	257,292	127,292 (97.9%)
<b>ARPA-E</b>	<b>306,000</b>	<b>0</b>	<b>330,000</b>	<b>353,314</b>	<b>47,314 (15.5%)</b>
<b>EERE</b>	<b>2,090,200</b>	<b>1,103,908</b>	<b>1,936,988</b>	<b>2,321,778</b>	<b>231,578 (11.1%)</b>
Hydrogen and Fuel Cell Technologies	101,000	53,000	85,000	115,000	14,000 (13.9%)
Bioenergy Technologies	205,000	90,000	190,000	221,545	16,545 (8.1%)
Solar Energy Technologies	207,600	90,000	167,500	241,600	34,000 (16.4%)
Wind Energy Technologies	90,000	31,753	72,500	92,000	2,000 (2.2%)
Geothermal Technologies	69,500	15,000	67,500	80,906	11,406 (16.4%)
Water Power Technologies	84,000	53,000	82,000	105,000	21,000 (25.0%)
Vehicle Technologies	306,959	125,000	277,988	337,500	30,541 (10.0%)
Building Technologies	199,141	91,406	195,000	220,727	21,586 (10.8%)
Advanced Manufacturing Technologies	257,500	102,000	252,000	305,000	47,500 (18.5%)
<b>Electricity Delivery and Energy Reliability</b>	<b>230,000</b>	<b>218,500</b>	<b>213,141</b>	<b>248,329</b>	<b>18,329 (8.0%)</b>
<b>Nuclear Energy</b>	<b>1,016,616</b>	<b>969,000</b>	<b>917,020</b>	<b>1,205,056</b>	<b>188,440 (18.5%)</b>

<b>Fossil Energy R&amp;D</b>	<b>668,000</b>	<b>634,600</b>	<b>572,701</b>	<b>726,817</b>	<b>58,817 (8.8%)</b>
<b>National Nuclear Security Administration</b>	<b>12,938,252</b>	<b>13,914,400</b>	<b>13,685,032</b>	<b>14,668,952</b>	<b>1,730,700 (13.4%)</b>
Weapons Activities	9,245,567	10,239,344	10,000,071	10,642,138	1,396,571 (15.1%)
Defense Nuclear Non- proliferation	1,882,872	1,776,461	1,852,310	1,999,219	116,347 (6.2%)

Source: Division D, Energy and Water Development and Related Agencies Appropriations Act, 2018 available at <http://docs.house.gov/billsthisweek/20180319/DIV%20D%20EW%20SOM%20FY18-OMNI.OCR.pdf>.

## Department of Health and Human Services

### National Institutes of Health

The omnibus would provide \$37.1 billion for the National Institutes of Health (NIH) in FY 2018, a \$3 billion (8.8 percent) increase above FY 2017. This is the third consecutive funding increase for NIH and asserts Congress' continued, strong bipartisan support for the agency. The \$37.1 billion includes \$496 million for specific initiatives supported by the NIH Innovation Account, which was authorized by the 21<sup>st</sup> Century Cures Act (Cures Act) and is set to expire in FY 2026. If this funding is excluded from the total, the FY 2018 NIH base budget would be \$36.6 billion, which is \$2.9 billion (8.5 percent) above the FY 2017 base budget.

Of note, the omnibus directs \$500 million for research related to opioid addiction, development of opioid alternatives, pain management, and addiction treatment. The bill specifies that the funds be split evenly between the National Institute on Drug Abuse (NIDA) and the National Institute of Neurological Disorders and Stroke (NINDS) and will be available until September 30, 2019. This special allowance provides NIDA and NINDS an additional year to award the \$500 million for opioid research. Additionally, the bill specifies that each for-profit recipient of opioid research funding must provide matching funds of at least 50 percent. This language refers to the public-private partnership NIH is developing with pharmaceutical companies to pursue medication-assisted therapy for addiction treatment and non-addictive pain treatments. The report accompanying the bill also encourages NIDA to commit additional funding from its base budget toward opioid research.

The omnibus includes a provision that directs NIH to continue to pay facilities and administrative (F&A) (indirect) costs at negotiated rates and prohibits the Department of Health and Human Services (HHS), as well as other departments and agencies, from altering F&A rates. This reinforces similar language in the House and Senate appropriations bills prohibiting changes to F&A and was in response to a 10 percent cap proposed in the President's FY 2018 budget request. The omnibus also retains the salary cap at Executive Level II (\$187,000); the FY 2018 budget request had proposed lowering it to Level V (\$153,000).

Within the \$496 million from the Innovation Account authorized by the Cures Act: \$300 million is directed to the National Cancer Institute (NCI) for the Cancer Moonshot; \$43 million to NINDS and \$43 million to the National Institute on Mental Health (NIMH) for the BRAIN Initiative; and \$100 million and \$10 million to the Office of the Director (OD) for the *All of Us* precision medicine initiative and regenerative medicine research, respectively. In addition to the Innovation Account funding, the BRAIN Initiative would receive another \$54 million, resulting in a \$140 million increase for that activity above FY 2017.

The bill also specifies a \$50 million increase for antibiotic resistance research and a \$40 million increase for the development of a universal flu vaccine. It directs \$542.8 million to the Clinical and Translational Science Awards (CTSA) program within the National Center for Advancing Translational Sciences (NCATS), which would be a \$26.7 million increase for the program above FY 2017. The report accompanying the omnibus bill notes support for a "stabilization in the number of hubs funded, and a five-year grant cycle," which refers to concerns over NCATS efforts to reduce the number of centers and size of the awards.



Also of note, there is report language expressing concern with NIH's broadened definition of clinical trials due to its potential unnecessary regulatory burden and the subsequent increase in the number of studies in the clincialtrials.gov database that are not clinical trials. The report directs NIH to delay enforcement of the new policy, including NIH's interpretation of interventions, stating the new policy should proceed for projects that were considered clinical trials under the previous definition. The report explains that the "delay is intended to provide NIH sufficient time to consult with the basic research community to determine the reporting standards best suited to this kind of research,"<sup>2</sup> and NIH should provide the Appropriations Committees a plan and schedule for soliciting comments from the research community and brief Congress on next steps by June 22, 2018.

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<sup>2</sup> Division H, Department of Labor, Health and Human Services, and Education, and Related Agencies, 2018 <http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.

**National Institutes of Health**  
(in thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>NIH, Total</b>	<b>34,084,000</b>	<b>35,184,000</b>	<b>36,084,000</b>	<b>37,084,000</b>	<b>3,000,000 (8.8%)</b>
<b>National Cancer Institute (NCI)</b>	<b>5,389,329</b>	<b>5,471,181</b>	<b>5,858,270</b>	<b>5,664,800</b>	<b>275,471 (5.1%)</b>
<b>National Heart, Lung, and Blood Institute (NHLBI)</b>	<b>3,206,589</b>	<b>3,256,521</b>	<b>3,322,774</b>	<b>3,383,201</b>	<b>176,612 (5.5%)</b>
<b>National Institute of Dental and Craniofacial Research (NIDCR)</b>	<b>425,751</b>	<b>432,363</b>	<b>439,738</b>	<b>447,735</b>	<b>21,984 (5.2%)</b>
<b>National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)</b>	<b>1,870,595</b>	<b>1,899,733</b>	<b>1,935,597</b>	<b>1,970,797</b>	<b>100,202 (5.4%)</b>
<b>National Institute of Neurological Disorders and Stroke (NINDS)</b>	<b>1,783,654</b>	<b>1,810,011</b>	<b>1,904,666</b>	<b>2,145,149</b>	<b>361,495 (20.3%)</b>
<b>National Institute of Allergy and Infectious Diseases (NIAID)</b>	<b>4,906,638</b>	<b>5,005,813</b>	<b>5,127,866</b>	<b>5,260,210</b>	<b>353,572 (7.2%)</b>
<b>National Institute of General Medical Sciences (NIGMS)</b>	<b>1,826,395</b>	<b>1,889,332</b>	<b>2,887,194</b>	<b>1,862,529</b>	<b>36,134 (2.0%)</b>
<b>Institutional Development Award (IDeA)</b>	<b>333,361</b>	<b>373,641</b>	<b>344,313</b>	<b>350,575</b>	<b>17,214 (5.2%)</b>
<b>Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)</b>	<b>1,380,295</b>	<b>1,401,727</b>	<b>1,426,092</b>	<b>1,452,006</b>	<b>71,711 (5.2%)</b>
<b>National Eye Institute</b>	<b>732,618</b>	<b>743,881</b>	<b>758,552</b>	<b>772,317</b>	<b>39,699 (5.4%)</b>
<b>National Institute of Environmental Health Sciences (NIEHS)</b>	<b>714,261</b>	<b>725,387</b>	<b>737,727</b>	<b>751,143</b>	<b>36,882 (5.2%)</b>
<b>National Institute on Aging (NIA)</b>	<b>2,048,610</b>	<b>2,458,733</b>	<b>2,535,539</b>	<b>2,574,091</b>	<b>525,481 (25.7%)</b>
<b>National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)</b>	<b>557,851</b>	<b>566,515</b>	<b>576,178</b>	<b>586,661</b>	<b>28,810 (5.2%)</b>
<b>National Institute on Deafness and Other Communications Disorders (NIDCD)</b>	<b>436,875</b>	<b>443,624</b>	<b>451,768</b>	<b>459,974</b>	<b>23,099 (5.3%)</b>

National Institute of Mental Health (NIMH)	1,601,931	1,625,431	1,724,568	1,711,775	109,844 (6.9%)
National Institute on Drug Abuse (NIDA)	1,090,853	1,107,497	1,113,442	1,383,603	292,750 (26.8%)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)	483,363	490,796	500,491	509,573	26,210 (5.4%)
National Institute on Nursing Research (NINR)	150,273	152,599	155,210	158,033	7,760 (5.2%)
National Human Genome Research Institute (NHGRI)	528,566	536,774	546,934	556,881	28,315 (5.4%)
National Institute of Biomedical Imaging and Bioengineering (NIBIB)	357,080	362,506	371,151	377,871	20,791 (5.8%)
National Institute on Minority Health and Health Disparities (NIMHD)	289,069	293,583	297,784	303,200	14,131 (4.9%)
National Center for Complementary and Integrative Health (NCCIH)	134,689	136,741	139,654	142,184	7,495 (5.6%)
National Center for Advancing Translational Sciences (NCATS)	705,903	718,867	729,094	742,354	36,451 (5.2%)
John E. Fogarty International Center (FIC)	72,213	73,353	74,380	75,733	3,520 (4.9%)
National Library of Medicine (NLM)	407,510	413,848	420,898	428,553	21,043 (5.2%)
Office of the Director (OD)	1,665,183	1,705,248	1,796,970	1,803,293	138,110 (8.3%)
Common Fund	682,856	682,980	575,290	588,116	-94,740 (13.9%)
NIH Innovation Account <sup>3</sup>	352,000	496,000	496,000	496,000	144,000 (40.9%)
Building Facilities	128,863	128,863	128,863	128,863	--

Source: Source: Division H, Department of Labor, Health and Human Services, and Education, and Related Agencies, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.

<sup>3</sup> The NIH Innovation Account, authorized in the Cures Act, is derived from mandatory funding rather than discretionary funding that supports most NIH activities. Per statute, the Account supports four specific NIH initiatives and will end in FY 2026, hence, it is not considered part of the NIH base budget.

## Food and Drug Administration

The Food and Drug Administration (FDA) would receive \$2.8 billion in discretionary funding, an increase of \$40.7 million (1.5 percent) over the FY 2017 enacted level. Total funding for the FDA, including user fees, would be \$5.1 billion, an increase of \$483 million (10.4 percent) compared to the FY 2017 enacted level. With this increase, a one-time investment of \$94 million would go towards expanding FDA's efforts to address the opioid epidemic, including funds to help increase screening and surveillance of illicit and counterfeit pharmaceuticals, with a particular emphasis on those contributing to this national health crisis, which are shipped through International Mail Facilities. Additionally, the omnibus would include \$1.5 million to support efforts to educate consumers about the safety and benefits of biotechnology.

The increase would provide a \$40 million increase for a total of \$60 million to support activities authorized in the *21<sup>st</sup> Century Cures Act*, such as accelerating medical device development. Of this funding, the omnibus directs the FDA to fully fund the Oncology Center of Excellence at \$15 million. The omnibus also includes a provision that would direct the FDA to spend \$10 million of the \$60 million on a Continuous Manufacturing Initiative. This would require the FDA to partner with and award grants to universities and nonprofit organizations with a "demonstrated capacity and experience on advanced manufacturing technologies to lower pharmaceutical costs."

Consistent with previous years, the omnibus also includes a policy provision requiring the FDA to refrain from reviewing any applications for tools related to editing the DNA of human embryos. While the NIH prohibits the federal funding of research with that goal, this provision would continue to suppress the review of applications of this type of research funded through the private sector as well.

### Food and Drug Administration

(In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	FY 2018 Omnibus vs. FY 2017
<b>FDA, Total</b>	<b>4,655,089</b>	<b>5,145,945</b>	<b>5,146,945</b>	<b>5,138,041</b>	<b>482,952 (10.4%)</b>
<b>FDA, Discretionary</b>	<b>2,759,378</b>	<b>2,759,378</b>	<b>2,760,378</b>	<b>2,800,078</b>	<b>40,700 (1.5%)</b>

#### Sources:

Division A, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2018,

<http://docs.house.gov/billsthisweek/20180319/DIV%20A%20AG%20SOM%20FY18%20OMNI.OCR.pdf>.

Additional policy provisions are available at <https://www.congress.gov/115/crpt/hrpt232/CRPT-115hrpt232.pdf>.

## Other Agencies Within HHS

Overall, the Department of Health and Human Services (HHS) would receive a \$10 billion increase above the FY 2017 enacted level. Part of this increase would support activities throughout HHS focused on addressing the opioid epidemic, curbing addiction, and strengthening mental health.

The omnibus bill would provide \$3.6 billion to help combat the opioid epidemic. The funding would support activities at HHS, as well as other agencies, to enhance prevention, treatment, workforce, training, and research efforts. Notably, new funding for opioid efforts would include: \$1 billion for State Opioid Response Grants at the Substance Abuse and Mental Health Services Administration (SAMHSA), in addition to the \$500 million already authorized in the *21<sup>st</sup> Century Cures Act* for FY 2018; \$500 million split evenly between the National Institute on Drug Abuse (NIDA) and National Institute of Neurological Disorders and Stroke (NINDS) to support research in opioid addiction, development of opioid alternatives, pain management, and addiction treatment until September 30, 2019; \$350 million in additional funding to strengthen and support opioid surveillance activities at the Centers for Disease Control and Prevention (CDC); and \$130 million to support opioid response efforts for rural communities at the Health Resources and Services Administration (HRSA). Additionally, the omnibus includes report language that would charter a National Academy of Sciences (NAS) review to identify outcomes of activities authorized under the *Comprehensive Addiction and Recovery Act (CARA)*, which established several federal prevention, treatment, and law enforcements efforts to fight the opioid epidemic.

Title VII health professions programs, which support education and training at HRSA, would see one of the largest funding increases for its programs in recent years. Overall, Title VII health professions programs would receive an \$82 million increase above the FY 2017 enacted level, which would provide \$396 in total funding for these programs. Title VII programs would specifically receive significant increases for programs that train mental health and addiction professionals. For example, the Behavioral Health Workforce Education and Training (BHWET) program would receive \$75 million for FY 2018, an increase of \$25 million to expand the mental health and substance abuse workforce. Since HRSA recently had a four-year competition for BHWET in FY 2017, the added funding would likely support an additional competition for new grantees that are master's level social workers, psychologists, counselors, marriage and family therapists, psychiatric mental health nurse practitioners, occupational therapists, psychology doctoral interns, and behavioral health paraprofessionals.<sup>4</sup> In addition, the Mental and Behavioral Health Education Training program would receive \$36.19 million, which is a \$27 million increase above the FY 2017 enacted level. This represents an increase of 272 percent to recruit and train professionals and faculty in the fields of social work, psychology, psychiatry, marriage and family therapy, substance abuse prevention and treatment, and other areas of mental and behavioral health.<sup>5</sup>

Other Title VII program increases include \$38.25 to support Area Health Education Centers (AHECs), which is an \$8 million increase above the FY 2017 enacted level. Training in Primary Care would receive \$48.92 million, which is a \$10 million increase above the FY 2017 enacted level; however, 15 percent of the funds would be directed to be used to support training of physician assistants. In addition, Title VII programs that support training for Diversity at HRSA would receive \$88 million, which is a \$5 million

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<sup>4</sup> Behavioral Health Workforce Education and Training, Division H, Departments of Labor, Health and Human Services, and Education, and Related Agencies, Appropriations Act, 2018. Page 6.  
<http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.

<sup>5</sup> Ibid

increase. This includes \$48.97 million to support the Scholarships for Disadvantaged Students program, which is a \$3 million increase above the FY 2017 enacted level. Additionally, Title VII geriatric workforce programs at HRSA would receive \$40.73 million, a \$2 million increase. With its funding for FY 2018 geriatrics workforce programs now more certain, it is likely HRSA will recompile its Geriatrics Workforce Enhancement Program (GWEP) this year.

Title VIII Nursing Workforce Development Programs at HRSA would receive \$249 million in FY 2018, a \$20 million increase above the FY 2017 enacted level. This would include a \$10 million increase for Advanced Nursing Education, of which \$8 million would be used for the clinical training of sexual assault nurse examiners to administer medical forensic examinations and treatments to victims of sexual assault in hospitals, health centers, and other emergency health care service provider settings.<sup>6</sup>

To support public health activities, the FY 2018 omnibus would also provide \$8.3 billion for the Centers for Disease Control and Prevention (CDC), a \$1.05 billion increase above the FY 2017 enacted level. This includes \$335 million, the same level as FY 2017, for the National Institute for Occupational Safety of Health (NIOSH). Of interest to universities, the omnibus includes level funding, the same as FY 2017, for Prevention Research Centers, and Education Research Centers at the CDC.

Relating to research activities at the CDC, the omnibus includes language to clarify the Dickey amendment, a provision in a law that has prevented the CDC from conducting research on gun violence because it does not allow federal funds to be used to promote gun control. The omnibus for FY 2018 includes language clarifying this amendment, and states that “while appropriations language prohibits the CDC and other agencies from using appropriated funding to advocate or promote gun control, the Secretary of Health and Human Services has stated the CDC has the authority to conduct research on the causes of gun violence.”

To support healthcare services research, the omnibus would also provide \$334 million to the Agency for Healthcare Research and Quality (AHRQ), which is a \$10 million increase above the FY 2017 level. The FY 2018 omnibus rejects the President’s proposal to move AHRQ to NIH.

Within the FY 2018 omnibus several new programs would receive funding, including \$5 million for screening and treatment for maternal depression, which was authorized in the *21st Century Cures Act*. In addition, the Omnibus provides \$15 million for a new Rural Residency program “to expand the number of rural residency training programs with a focus on developing programs that are sustainable beyond federal funding.” The language in the omnibus further instructs HRSA to support rural hospitals, medical schools, and community-based ambulatory settings with rural designation along with a consortium of urban and rural partnerships.<sup>7</sup>

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<sup>6</sup> Ibid

<sup>7</sup> Ibid, page 11.

## Department of Health and Human Services (Other)\*

(In millions of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>HRSA</b>	<b>6,461</b>	<b>6,091</b>	<b>6,465</b>	<b>7,014</b>	<b>553 (8.6%)</b>
Title VII	309	237	N/A <sup>†</sup>	396	87 (28.2%)
Title VIII	229	211	235	249	20 (8.7%)
<b>Substance Abuse and Mental Health Services Administration (SAMHSA)</b>	<b>3,765</b>	<b>3,458</b>	<b>3,777</b>	<b>5,158</b>	<b>1,393 (37.0%)</b>
Mental Health Services	1,181	949	1,181	1,487	306 (25.9%)
Substance Abuse Treatment	2,212	2,211	2,212	3,182	970 (43.9%)
Substance Abuse Prevention	223	165	238	248	25 (11.2%)
<b>Agency for Healthcare Research and Quality (AHRQ)</b>	<b>324</b>	<b>300</b>	<b>324</b>	<b>334</b>	<b>10 (3.1%)</b>
<b>Centers for Disease Control and Prevention (CDC) ‡</b>	<b>7,255</b>	<b>7,056</b>	<b>7,175</b>	<b>8,301</b>	<b>1,046 (14.4%)</b>
Chronic Disease Prevention and Health Promotion	1,115	1,041	1,065	1,163	48 (4.3%)
National Institute for Occupational Safety and Health (NIOSH)	335	325	335	335	--
Environmental Health	215	159	181	206	-9 (4.2%)
<b>Administration for Community Living (ACL)</b>	<b>1,993</b>	<b>2,237</b>	<b>1,993</b>	<b>2,172</b>	<b>179 (9.0%)</b>
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILR)	104	104	104	105	1 (1.0%)
<b>Office of the National Coordinator (ONC)</b>	<b>60</b>	<b>38</b>	<b>60</b>	<b>60</b>	--
<b>Administration for Children and Families (ACF)</b>	<b>33,974</b>	<b>33,859</b>	<b>34,442</b>	<b>38,218</b>	<b>4,244 (12.5%)</b>

\* The chart reflects the total program level funding, combining discretionary and mandatory funding.

† Total amount not included in the bill.

‡ The CDC funding levels do not include the Agency for Toxic Substances and Disease Registry (ATSDR).

Source: Division H, Department of Labor, Health and Human Services, and Education, and Related Agencies, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.



## Department of Homeland Security

The Department of Homeland Security (DHS) would receive \$55.2 billion in the FY 2018 omnibus bill, which is \$5.96 billion above the FY 2017 enacted level. This funding increase is due in part to the continuation of enhanced border security and immigration enforcement investments supported by Republicans, as well as disaster relief support pursuant to the recently passed *Bipartisan Budget Act of 2018*. While significant, the bill's investments in border fencing and enforcement would be well below the amounts requested by the President in his annual budget requests. For FY 2018, Congress restored several cuts proposed by the Administration, including providing strong investments in the research and development (R&D) of security technologies and methods.

Most notably, the omnibus would return the Science and Technology (S&T) Directorate to pre-sequester funding levels, providing nearly \$841 million in FY 2018. This is about \$59 million more than the FY 2017 enacted level and \$214 million more than the President's budget request with almost a \$60 million increase for the operation of laboratory facilities. The omnibus explanatory report lists a number of general funding priorities for R&D projects at DHS, including explosives detection, cargo screening, bio-forensics, cybersecurity, critical infrastructure security, and enabling unmanned aircraft systems (UAS).

Of particular interest to the university research community, the Office of University Programs, which supports DHS's Centers of Excellence (COEs), would be funded at the FY 2017 enacted level of \$40.5 million. This would provide funding for 10 COEs and reject cuts to the program proposed in the President's FY 2018 budget request. The report directs DHS to utilize partnerships with qualified universities for research support in several priority areas, including maritime security, cross-border threat screening, unmanned systems, counterterrorism, emerging analytics, cybersecurity, first responder safety, and critical infrastructure. S&T is also directed to place an increased focus on technology transfer.

Additional provisions of interest to the research community include:

- \$3.0 million to support "a pilot program to utilize university-based high-performance computing capacity and biological expertise to develop novel methodologies for foreign animal disease research in support of the mission of National Bio and Agro-Defense Facility"
- \$10 million to expand "simulation-based cyber event gaming tools for critical infrastructure sectors"
- \$6.0 million to study screening technologies for opioids and fentanyl
- \$5.0 million to conduct advanced research "using high resolution magnification to examine emerging semiconductor technologies to improve cybersecurity"
- \$2.0 million for maritime UAS sensors and studies
- \$6.0 million for R&D related to "data visualization and analytics to enhance screening and interactive data visualization and emerging analytics that can enhance non-intrusive inspection equipment algorithms and for interactive graph visualization to better identify criminal activity while expediting processing"
- \$2.5 million to continue development of thermoplastic composite materials that reduce costs and improve intrusion sensor integration for cargo
- \$3.0 million for research on canine explosives detection technologies

Finally, the omnibus adopts language from the House DHS appropriations bill that recognizes S&T as the central component for DHS R&D, and directs the Secretary to inform Congress of any changes to R&D activity currently being performed at S&T. This provision is presumably in response to a proposal in the President's FY 2019 budget request to move cybersecurity research from S&T to the National Protection and Preparedness Directorate (NPPD), the component responsible for cyber operations at DHS.

**Department of Homeland Security**  
(In thousands) \*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus*	Omnibus vs. FY 17 Enacted
<b>DHS, total</b>	<b>49,283,692</b>	<b>51,121,000</b>	<b>51,564,720</b>	<b>55,252,000</b>	<b>5,968,308 (11.4%)</b>
<b>Science and Technology Directorate</b>	<b>781,746</b>	<b>638,100</b>	<b>719,916</b>	<b>840,943</b>	<b>59,197 (7.3%)</b>
University Programs	40,500	40,500	36,905	40,500	--

\*Estimate provided in Senate Minority Omnibus Summary at  
<https://www.appropriations.senate.gov/imo/media/doc/omni%20summary.pdf>.

Source: Division F, Department of Homeland Security Appropriations Act, 2018,  
<http://docs.house.gov/billsthisweek/20180319/DIV%20F%20HOMELAND%20SOM%20FY18%20OMNI.O CR.pdf>.

## Department of Justice

The US Department of Justice (DOJ) would receive \$30.3 billion for FY 2018, an increase of nearly \$1.3 billion above the FY 2017 enacted level. The omnibus agreement would maintain steady support for DOJ's Research, Evaluation, and Statistics account, including a 6.1 percent increase for the National Institute of Justice (NIJ), DOJ's primary external research program that leverages university partnerships with the goal of strengthening science and enhancing justice.

While the omnibus bill identifies very few specific research priorities, the Senate Committee report listed several topics for research projects across the agency. These include studies that address a number of pressing criminal justice concerns, such as reexamining cold case DNA investigations; alleviation of the backlog of rape kits at local law enforcement agencies, including developing best practices for discovering and testing kits, training law enforcement, and supporting victims throughout the process; and the prevention of domestic radicalization. In addition, the Senate report language called for the development of innovative postsecondary education programs involving partnerships with institutions of higher education, including a degree program or a summer institute for students interested in careers in justice reform as well as criminal justice professionals seeking to expand their understanding of the justice system, and new education programs in digital forensics and investigations.

The omnibus would provide significant funding increases for DOJ enforcement and grant assistance programs to combat the opioid epidemic, including \$330 million to implement *Comprehensive Addiction and Recovery Act* programs. This would include support for state, local, and tribal governments to provide training for the administration of prevention, education, and response initiatives. The bill would also support research to target the challenges the opioid epidemic has created for the forensic sciences community. In addition, the bill would provide \$5 million for the continued development of a standardized pilot climate survey on campus sexual assault to be conducted nationwide. The bill would also provide support for research to better understand the root causes of school violence as well as the development of school safety strategies.

### Department of Justice

(In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 2017 Enacted
<b>DOJ, total</b>	<b>28,947,497</b>	<b>29,266,361</b>	<b>29,068,210</b>	<b>30,296,264</b>	<b>1,348,767 (4.6%)</b>
<b>Research, Evaluation, and Statistics</b>	<b>89,000</b>	<b>83,000</b>	<b>85,000</b>	<b>90,000</b>	<b>1,000 (1.1%)</b>
National Institute of Justice	39,500	38,500	39,500	42,000	<b>2,500 (6.1%)</b>
<b>Juvenile Justice Programs</b>	<b>247,000</b>	<b>170,500</b>	<b>260,000</b>	<b>282,500</b>	<b>35,500 (13.4%)</b>
<b>Community Oriented Policing Services</b>	<b>221,500</b>	<b>234,000</b>	<b>226,500</b>	<b>275,500</b>	<b>54,000 (21.7%)</b>
<b>Office on Violence Against Women</b>	<b>481,500</b>	<b>527,000</b>	<b>483,500</b>	<b>492,000</b>	<b>10,500 (2.2%)</b>

Source: Division B, Commerce, Justice, Science, and Related Agencies Appropriations Act, 2018, <http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>.

## Department of State/USAID

The FY 2018 omnibus appropriations bill includes \$54.2 billion in total funding for international affairs programs at the Department of State, United States Agency for International Development (USAID), and related agencies. This figure includes \$12 billion in Overseas Contingency Operations (OCO) funding, which is a decrease of \$4.5 billion over FY 2017. USAID would be supported at \$1.2 billion, a slight decrease of 1.2 percent below FY 2017 levels. Educational and Cultural Exchange programs through the Department of State would receive \$646.1 million, an increase of 1.9 percent above the FY 2017 level; within this amount, the Department is directed to allocate at least \$240 million to the Fulbright Program.

Global health programs remain a priority for Congress, and the omnibus would provide a total of \$8.69 billion in FY 2018, a slight decrease of 0.4 percent below the FY 2017 enacted level. While there is limited language in the report specific to science, technology, and innovation programs at USAID and the Department of State, the omnibus would provide \$55 million for the Feed the Future Innovation Labs. As in previous years, language is included that encourages new partnerships between U.S. institutions of higher education and developing countries for institutional capacity building, “including \$15,000,000 for new partnerships which should be competed and awarded not later than one year after enactment of the Act.” The omnibus states that, “Despite congressional directives in prior years, USAID has not sufficiently responded to the demand for higher education institutional capacity building. Programs should be designed to ensure that each partnership has sufficient resources and time to affect meaningful institutional change and should be awarded on an open and competitive basis.”

### International Affairs (In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>Total - State Department and USAID</b>	<b>57,529,900</b>	<b>47,522,900</b>	<b>51,353,900</b>	<b>54,176,900</b>	<b>-3,353,000 (5.8%)</b>
Title I (Dept. of State and Related Agencies)	11,218,224	11,337,045	11,556,669	12,039,846	821,622 (7.3%)
Educational and Cultural Exchange Programs	634,143	590,900	634,143	646,143	12,000 (1.9%)
USAID Operating Expenses	1,204,609	1,133,906	1,189,609	1,189,609	-15,000 (1.2%)
Development Assistance	2,995,465	2,780,971	2,890,000	3,000,000	4,535 (0.2%)
Global Health Programs, Total	8,724,950	8,321,000	8,590,000	8,690,000	-34,950 (0.4%)

Source: Division K, Department of State, Foreign Operations, and Related Programs Appropriations Act, 2018 <http://docs.house.gov/billsthisweek/20180319/DIV%20K%20SFROPSSOM%20FY18-OMNI.OCR.pdf>.

## Department of Transportation

The omnibus would provide \$86.1 billion for the U.S. Department of Transportation (DOT) – \$11.1 billion more than the FY 2018 budget request and 11.6 percent above the FY 2017 enacted level of \$76.2 billion. Notably, Congress would provide an additional \$15 million for the University Transportation Center (UTC) program. Authorized by the *Fixing America's Surface Transportation Act* (FAST Act), the UTC program is supported by mandatory funding from the Highway Trust Fund. The additional \$15 million in discretionary funding would be directed towards two new, yet to be competed, national transportation centers with each awarded approximately \$3 million per year. One center will focus on congestion research, specifically congestion relief, and the other on infrastructure, focusing on improving the durability and extending the life of transportation infrastructure. Additionally, no less than \$3 million would be directed toward rural autonomous and connected vehicles research at existing UTCs.

The Federal Highway Administration (FHWA), which operates the Turner-Fairbank Highway Research Center and is responsible for most of the intramural transportation and infrastructure research and development at DOT, would be funded at \$47.4 billion, \$2.5 billion more than the President's FY 2018 budget request and a 9.2 percent increase from the FY 2017 enacted level of \$43.1 billion. The National Highway Transportation Safety Administration (NHTSA), the agency with regulatory oversight of autonomous vehicles, would be funded at \$947.2 million, which is a 3.8 percent or \$35.8 million increase from the FY 2017 enacted level. The Federal Aviation Administration (FAA) would be funded at \$18 billion, which is \$1.8 billion above the FY 2018 requested level and an 8.9 percent increase above the FY 2017 enacted level of \$16.4 billion. This increase includes funding for Unmanned Aircraft Systems (UAS) research, providing \$2 million to expand the role of the UAS Center of Excellence to include a focus on transportation disaster preparedness and response.

The Federal Motor Carrier Safety Administration (FMCSA) would be funded at a level of \$844 million, which is a \$200 million increase from the FY 2017 enacted level. Within this amount, the agency would provide \$100 million for the automated vehicle research and development program. This includes \$60 million for grants and cooperative agreements for highly autonomous vehicle (HAV) and advanced driver-assistance systems (ADAS) demonstration projects for state, local, and tribal governments, as well as universities and research institutions. Individual awards could not exceed \$10 million. No less than \$20 million will be made available for entities with designated as automated vehicle proving grounds. Activities funded by these grants will include but are not limited to autonomous vehicle and collision avoidance technologies; advanced safety systems; vehicle-to-vehicle and vehicle-to-infrastructure communication technologies; community education and outreach; and transportation data collection and analysis. The Secretary will prioritize projects that explore increased mobility options for elderly and disabled populations.

The Federal Railroad Administration (FRA) would be funded at a level of \$3 billion, which is a \$1.2 billion or 40.1 percent increase from the FY 2017 enacted level of \$1.8 billion. While FRA does not have an expansive extramural research portfolio, the omnibus would include \$1 million for universities to conduct research on intelligent railroad systems.

Similar to the FY 2016 and FY 2017 omnibus appropriations bills, Congress has included language that would allow for state DOTs to repurpose earmarked funding for highway projects for new projects within 50 miles of the original site. This is a departure from the FY 2017 omnibus package which allowed for a geographic range of 100 miles from the original site. This would apply only to projects that

have allocated less than 10 percent of the total obligated funds for the project. Eligible projects must qualify for funding under the federal State Transportation Block Grant (STBG) Program; examples include but are not limited to the installation of vehicle-to-infrastructure communication equipment; border infrastructure projects; highways, bridges, and tunnels; and certain transit capital projects. An updated list of qualifying earmarks and their location will be provided by the federal DOT in the coming months, however universities with an interest in leveraging this funding for campus infrastructure are encouraged to contact their state DOTs.

### Department of Transportation

*(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	FY 2018 Omnibus vs. FY 2017
<b>DOT, total</b>	<b>76,212,765</b>	<b>76,663,215</b>	<b>78,524,635</b>	<b>86,184,537</b>	<b>9,971,772</b> <b>(11.6%)</b>
<b>FHWA</b>	<b>43,148,100</b>	<b>44,173,212</b>	<b>44,973,212</b>	<b>47,498,212</b>	<b>4,350,112</b> <b>(9.2%)</b>
<b>NHTSA</b>	<b>911,347</b>	<b>926,704</b>	<b>908,629</b>	<b>947,204</b>	<b>35,857</b> <b>(3.8%)</b>
<b>FTA</b>	<b>12,414,502</b>	<b>11,752,138</b>	<b>12,129,428</b>	<b>13,480,478</b>	<b>1,065,976</b> <b>(7.9 %)</b>
<b>FRA</b>	<b>1,851,398</b>	<b>2,211,398</b>	<b>1,973,647</b>	<b>3,091,445</b>	<b>1,240,047</b> <b>(40.1%)</b>
<b>FMCSA</b>	<b>644,200</b>	<b>757,800</b>	<b>627,084</b>	<b>844,800</b>	<b>200,600</b> <b>(23.7%)</b>
<b>FAA</b>	<b>16,407,352</b>	<b>16,560,842</b>	<b>16,970,000</b>	<b>18,000,680</b>	<b>1,593,328</b> <b>(8.9%)</b>
<b>PHMSA</b>	<b>99,788</b>	<b>100,500</b>	<b>105,000</b>	<b>105,000</b>	<b>5,212</b> <b>(5.0%)</b>
<b>MARAD</b>	<b>522,560</b>	<b>490,620</b>	<b>577,642</b>	<b>979,642</b>	<b>457,082</b> <b>(46.7%)</b>

Source: Division L, Department of Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2018,  
<http://docs.house.gov/billsthisweek/20180319/DIV%20L%20THUD%20SOM%20FY18%20OMNI.OCR.pdf>

## Environmental Protection Agency

The FY 2018 omnibus would provide the U.S. Environmental Protection Agency (EPA) with \$8.1 billion in FY 2018, flat relative to the FY 2017 enacted level and \$2.4 billion or 42.5 percent above the request. The explanatory statement is notably explicit in its rejection of the Administration's proposal to restructure EPA. Specifically, the omnibus would prohibit both the reshaping of the agency's workforce and the closure of regional offices such as the National Center for Environmental Research (NCER), which administers much of EPA's external research funding.

EPA's Science and Technology (S&T) program would be funded at \$713.8 million, the same as the FY 2017 enacted level and \$263 million or 58 percent above the request. Support for individual S&T programs would remain consistent with the prior year, as no funds would be reallocated to accommodate shifting priorities.

In a departure from previous years, the omnibus would maintain level funding for the Science to Achieve Results (STAR) program. STAR is EPA's primary mechanism for funding external research, but the program has incurred declining budgets since 2002. The omnibus would also direct EPA to provide a briefing to Congress on STAR's plans for the remainder of FY 2018. The inclusion of this language comes less than a year after the release of a report from the National Academies of Science, Engineering, and Medicine (NASEM) validating STAR's importance across a wide variety of environmental applications.<sup>8</sup>

As in past years, \$4.1 million would be allocated to support water quality and availability research by nonprofit organizations. These grants would be independent of STAR, and priority would be given to research proposals that include a national scope and a 25 percent match. The report language directs EPA to "strive to award grants in as large an amount as is possible to achieve the most scientifically significant research."

The explanatory statement also incorporates several other directives related to S&T programs that were included in both the House and Senate marks. This includes a mandate for EPA to coordinate with other federal agencies on research activities aimed at using Enhanced Aquifer Recharge (EAR) to augment drinking water sources and mitigate seasonal water scarcity. The bill would also encourage the National Center for Computational Toxicology (NCCT) to expand its collaboration with the external research community on advances in human biology-based chemical risk assessment. The Directors of NCCT, the Office of Pollution Prevention and Toxics, the National Toxicology Program, and the National Center for Environmental Assessment would also be directed to seek community input, via requests for information and public workshops, on the development of a strategic plan for alternative methods and integrated testing. Finally, the bill would also provide no less than \$1 million for a study, conducted in collaboration with the external community, on the efficacy of environmental regulation on "unconventional oil and gas development."

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<sup>8</sup> National Academies of Science, Engineering, and Medicine, "A Review of the Environmental Protection Agency's Science to Achieve Results Research Program", 2017, Available at <https://www.nap.edu/catalog/24757/a-review-of-the-environmental-protection-agencys-science-to-achieve-results-research-program>.



**Environmental Protection Agency**  
(In thousands of \$)

	<b>FY 2017 Enacted</b>	<b>FY 2018 House</b>	<b>FY 2018 Senate</b>	<b>FY 2018 Omnibus</b>	<b>Omnibus vs. FY 2017 Enacted</b>
<b>EPA, total</b>	<b>8,058,488</b>	<b>7,530,087</b>	<b>7,908,965</b>	<b>8,058,488</b>	<b>--</b>
<b>Science and Technology</b>	<b>713,823</b>	<b>602,238</b>	<b>634,029</b>	<b>713,823</b>	<b>--</b>

Source: Division G, Department of the Interior, Environment, and Related Agencies Appropriations Act, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20G%20INTERIOR%20SOM%20FY18%20OMNI.OCR.pdf>.

## Institute of Museum and Library Services

The FY 2018 omnibus appropriations bill would fund the Institute of Museum and Library Services (IMLS) at \$240 million. This figure represents a \$9 million increase over the FY 2017 enacted level, reflecting the deal to raise the spending caps.

Of this increase, nearly two-thirds of it (\$5.7 million) is directed towards the Library Services account, with the remainder allocated to other accounts such as Museum Services. Within Library Services, the increase would be mostly allocated for the Grants to States program, while \$1.75 million of the \$2.25 million increase in Museum Services would go to Museums for America. Despite the overall funding increase, both the National Leadership Grants for Libraries program and the National Leadership Grants Program for Museums program would receive flat funding. Because the legislation does not include specific congressional directives or instruction, IMLS would likely continue signature and ongoing programs.

### Institute of Museum and Library Services

(In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>IMLS, total</b>	<b>231,000</b>	<b>231,000</b>	<b>235,000</b>	<b>240,000</b>	<b>9,000 (3.9%)</b>
<b>Library Services</b>	<b>183,572</b>	<b>183,018</b>	<b>187,572</b>	<b>189,272</b>	<b>5,700 (3.1%)</b>
National Leadership Grants: Libraries	13,406	13,092	13,406	13,406	--
<b>Museum Services</b>	<b>30,234</b>	<b>29,862</b>	<b>30,234</b>	<b>32,484</b>	<b>2,250 (7.4%)</b>
Museums for America	21,149	21,149	21,149	22,899	1,750 (8.3%)
National Leadership Grants: Museums	8,113	7,741	8,113	8,113	--

Source: Division H, Department of Labor, Health and Human Services, and Education and Related Agencies Appropriations Act, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20H%20LABORHHS%20SOM%20FY18%20OMNI.OCR.pdf>.

## National Aeronautics and Space Administration

The omnibus would provide \$20.7 billion for the National Aeronautics and Space Administration (NASA), a \$1.1 billion or 5.5 percent increase above the FY 2017 level and \$838 million above the Trump Administration's FY 2019 request. This funding level is higher than either the House and Senate's initial marks for the Agency. Notably, the explanatory statement does not address – and therefore by default, approves – language in the House report encouraging NASA to expand its partnerships with academia under the University Affiliated Research Center (UARC) contract mechanism. This model is commonly used by the Department of Defense to tackle engineering challenges not easily executed by the government. The House report directed the Agency to release a report within 180 days of enactment on how NASA could increase partnerships under this mechanism.

The legislation would provide \$6.22 billion for NASA's Science Mission Directorate (SMD). This \$457 million increase above FY 2017 is more than what was proposed in either the FY 2018 or FY 2019 requests and represents a high-water mark for NASA's scientific missions and research. Before delving into specific divisions, the omnibus issues a strongly worded reiteration of Congress's support for the National Academy of Sciences' decadal survey process and explicitly rejects any effort to cancel decadal recommendations.

As in the FY 2017 omnibus, much of the increase to SMD would be directed to the Planetary Science Division (PSD). The \$2.23 billion for the Division is higher than the amount sought by the House and significantly higher than either the FY 2018 request or the Senate's proposal. This represents an historic high for the Division, whose budget was nearly \$1 billion less only five years ago. The omnibus would provide \$335.8 million for Discovery and \$90 million for New Frontiers, respectively, with both figures representing increases above the FY 2018 request.

NASA's Mars Exploration Program (MEP) would receive \$660 million, an increase of \$13 million over FY 2017. While the explanatory statement does not provide granular details on specific missions or research accounts, it does reject the level of funding specificity for the Mars 2022 orbiter and sample return endeavors in the House report.

As in previous years, the omnibus includes prescriptive language on future missions to Europa in both the legislative text and report. Europa orbiter and lander missions would receive a combined \$595 million with set launch dates of 2022 and 2024, respectively. The Administration's FY 2018 budget proposal included a request of \$425 million for the orbiter mission to meet the target 2022 launch, indicating the excess \$170 million in the omnibus would be devoted to development of the lander mission.

The omnibus would allocate \$66 million for Near Earth Object Observations (NEOO), of which an unspecified amount would be dedicated to the Double Asteroid Redirection Test (DART). Additionally, the Near-Earth Object Camera mission would receive no more than \$35 million. It is unclear how much each mission would receive given the discretion granted to NASA to fund these missions.

The FY 2018 omnibus would provide \$1.921 billion for the Earth Science Division, flat relative to FY 2017. The bill would reject the Administration's proposed termination of several Earth science missions and would provide \$147 million for PACE, \$17 million for CLARREO-Pathfinder, \$9.7 million for OCO-3, and \$1.7 million for the Earth-facing instruments aboard the Deep Space Climate Observatory missions. While Congress would accept NASA's cancellation of the Radiation Budget Instrument mission, the

Agency would nevertheless be directed to ensure options remain to leverage the investment in its development and report to Congress on plans to address data that RBI would have gathered. The omnibus would also provide \$175.8 million for Landsat-9, and \$55.4 million for NISAR. The explanatory statement is absent any language regarding the National Academies' Earth Science and Applications from Space (ESAS 2017) Decadal Survey, although recognition of its recommendations is expected in the FY 2019 appropriations bills.

Congress would provide \$850 million for the Astrophysics Division, a \$100 million increase above FY 2017. Of that amount, \$150 would be for continued development of NASA's WFIRST telescope. The omnibus reflects concerns with cost overruns and scope, specifically the level of risk involved with such an expensive and strategically important mission. NASA would be required to brief Congress within 60 days of enactment on steps needed to reduce mission risk and provide additional information on future budgetary requirements. The omnibus would reject House language directing NASA to seek input on the value of a new large class of competitive, PI-led Astrophysics Probes and instead urges consideration of the concept in the upcoming 2020 Astronomy and Astrophysics Decadal Survey. Notably, NASA has indicated that if Congress agreed to the proposed cancellation of WFIRST in the FY 2019 budget request, the Division would have released an Astrophysics Probe Announcement of Opportunity (AO). Lastly, \$15 million would be allocated to work on starshade and "search for life" technology development.

Consistent with the Administration's request, the James Webb Space Telescope (JWST) would be funded at \$533.7 million, a planned decrease from FY 2017. No mention is made of a recent Government Accountability Report that expects additional schedule slips and a possible a breach of JWST's \$8 billion cost cap.

The omnibus would provide the Heliophysics Division (HPD) with \$688.5 million in FY 2018, an increase of \$10 million or 1.5 percent over the FY 2017 enacted level. This level would also be \$10.7 million above the Administration's request. The increase marks the second consecutive year of growth for HPD following a prolonged period of stagnating or declining budgets. Consistent with priorities outlined in the Senate mark, the bill offers explicit support for key priorities outlined in the National Academies of Sciences' decadal survey. These include a two-year cadence of alternating Small Explorer (SMEX) and Medium-class Explorer (MIDEX) missions and accompanying Missions of Opportunity (MOs), as well as full implementation of the *Diversity, Realize, Integrate, Venture, Educate (DRIVE)* initiative. Of relevance to the academic community, *DRIVE* would support the creation of new Heliophysics Science Centers, which NASA envisions as university-led centers designed to address fundamental questions in solar and space physics through multidisciplinary research. Additionally, the omnibus would include \$10 million to establish a space weather research program and encourage collaboration with the Department of Defense and the National Oceanic and Atmospheric Administration (NOAA) on the translation of NASA's research outcomes into operational improvements to enable more accurate space weather forecasting.

The explanatory statement does not resolve discrepancies between the House and Senate on funding derivations for SMD's Education and Public Outreach activities. Currently, EPO is funded jointly out of the Astrophysics and Planetary Science divisions. The Senate mandated that funding for SMD-wide EPO activities reside in the Astrophysics Division, while the House directed each division to include respective EPO work in future budget requests. It is not clear how NASA will resolve this discrepancy.

The bill would provide \$760 million for the Space Technology Mission Directorate (STMD) in FY 2018, an increase of \$73.5 million or 10.7 percent over the FY 2017 enacted level. The omnibus level would also be \$81.4 million above the Administration's request. The explanatory statement would reinforce

several priorities included in the Senate mark: \$75 million for nuclear thermal propulsion (\$40 million over FY 2017); \$130 million for the RESTORE-L in-orbit satellite servicing mission; and \$20 million for the Flight Opportunities program. The omnibus would also allocate \$25 million for additive manufacturing, which was initially included in the House mark, and maintain support for other House priorities such as the development of starshade technology for WFIRST, next-generation propulsion technologies, and a roadmap for developing an interstellar propulsion system. Lastly, the bill would also provide \$5 million for advancing the large-scale production of nanoscale materials relevant to NASA mission needs.

Congress and the Administration may be on different trajectories regarding their ultimate plans for the STMD. President Trump's FY 2019 request would terminate STMD and reorient its constituent programs toward more narrow human exploration-focused mission needs, effectively ending the independent status of NASA's technology program. While the omnibus does not directly address this proposal, the relatively large increase that would be provided to STMD, the diversity of the priorities outlined in the omnibus, and their broad applicability across the agency indicate that appropriators may not share the Administration's desire to restructure the program.

The Aeronautics Research Mission Directorate (ARMD) would receive \$685 million in FY 2018, an increase of \$25 million or 3.8 percent above the FY 2017 enacted level and \$61 million over the Administration's FY 2018 request. This amount would include \$79.2 million for the Low Boom Flight Demonstrator X-plane, which is scheduled for its first flight in FY 2021. Within the overall amount for ARMD, the omnibus would provide \$118.7 million for the Airspace Operations and Safety program (\$10 million above the request) to help facilitate the safe integration of unmanned aerial systems (UAS) into the national airspace. The omnibus would also adopt language from the House report encouraging NASA to continue pursuing fundamental hypersonics research, and incorporate language from the Senate authorizing NASA to support research in advanced composites at the level proposed in the Administration's FY 2018 request.

As in the FY 2017 omnibus, Congress would reject major cuts to NASA-wide Education programs proposed in the FY 2018 request. The legislation would include funding for both the Space Grant and EPSCoR programs at last year's levels.

### **National Aeronautics and Space Administration** (in thousands of \$)

	<b>FY 2017 Enacted</b>	<b>FY 2018 House</b>	<b>FY 2018 Senate</b>	<b>FY 2018 Omnibus</b>	<b>FY 2018 Omnibus vs. FY 2017</b>
<b>NASA, total</b>	19,653,300	19,871,834	19,529,300	<b>20,736,140</b>	<b>1,082,840 (5.5%)</b>
<b>Science</b>	5,764,900	5,858,500	5,571,800	<b>6,221,500</b>	<b>456,600 (7.9%)</b>
Earth Science	1,921,000	1,704,000	1,921,000	<b>1,921,000</b>	--
Planetary Science	1,846,000	2,120,900	1,611,900	<b>2,227,900</b>	<b>381,900 (20.7%)</b>
Astrophysics	750,000	822,000	816,700	<b>850,400</b>	<b>100,400 (13.4%)</b>
James Webb Space Telescope	569,400	533,700	533,700	<b>533,700</b>	<b>-35,700 (6.3%)</b>

Heliophysics	678,500	677,900	688,500	<b>688,500</b>	<b>10,000</b> <b>(1.5%)</b>
Education and Public Outreach (EPO)*	37,000	44,000	44,000	<b>44,000</b>	<b>8,000</b> <b>(18.9%)</b>
<b>Aeronautics</b>	660,000	660,000	650,000	<b>685,000</b>	<b>25,000</b> <b>(3.8%)</b>
<b>Space Technology</b>	686,500	686,500	700,000	<b>760,000</b>	<b>73,500</b> <b>(10.7%)</b>
<b>Exploration</b>	4,324,000	4,550,000	4,395,000	<b>4,790,000</b>	<b>466,000</b> <b>(10.8%)</b>
Exploration Systems Development	3,929,000	4,100,000	4,045,000	<b>4,395,000</b>	<b>466,000</b> <b>(11.9%)</b>
Exploration Research and Development	395,000	450,000	350,000	<b>395,000</b>	--
<b>Space Operations</b>	4,950,700	4,676,634	4,751,500	<b>4,751,500</b>	<b>-199,200</b> <b>(4.0%)</b>
<b>Education</b>	100,000	90,000	100,000	<b>100,000</b>	--
Aerospace Research & Career Dev.	58,000	58,000	58,000	<b>58,000</b>	--
<i>Space Grant</i>	40,000	40,000	40,000	<b>40,000</b>	--
<i>EPSCoR</i>	18,000	18,000	18,000	<b>18,000</b>	--
Minority University Research and Education Project	32,000	32,000	32,000	<b>32,000</b>	--
STEM Education & Accountability	10,000	0	10,000	<b>10,000</b>	--
<b>Safety, Security, and Mission Services</b>	2,768,600	2,826,200	2,826,900	<b>2,826,900</b>	<b>58,300</b> <b>(2.1%)</b>
<b>Construction and Environmental Compliance and Restoration</b>	360,700	486,100	496,100	<b>562,240</b>	<b>201,540</b> <b>(55.9%)</b>
<b>Office of Inspector General</b>	37,900	37,900	38,000	<b>39,000</b>	<b>1,100</b> <b>(2.9%)</b>

\*Funds for EPO are currently drawn equally from Planetary Science and Astrophysics.

Source: Division B, Commerce, Justice, Science and Related Agencies Appropriations Act 2018  
<http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>.

## National Endowment for the Arts and National Endowment for the Humanities

The FY 2018 omnibus appropriations bill would fund both the National Endowment for the Humanities (NEH) and National Endowment for the Arts (NEA) at nearly \$153 million, an almost \$3 million increase over the past fiscal year level for each respective agency and a full rejection of the President's proposal to eliminate the agencies.

For the NEH, the accompanying report language encourages funding to be used towards preserving Native American languages and culture, as well as increasing local infrastructure and capacity building through the NEH's Challenge Grants program. In the bill's report language, the Committee acknowledges that many seats on the National Council on the Humanities (the NEH's governing body) remain unfilled and encourages NEH to fill the vacant seats as soon as possible. In addition, the Committee also commends the NEH for funding grants that help wounded warriors and troops transitioning back to civilian life.

For the NEA, the Committee expects the increased funding to be used specifically for the Creative Forces: Military Healing Arts Network, Native American Tribes, and rural and underserved areas. Drawing on both the House and Senate FY 2018 appropriations bill language, the Committee commends the NEA for its work "incorporating arts therapy into the treatment of active-duty military patients, veterans, and their families." Similar to the NEH, the Committee also recommends that the National Council on the Arts (the NEA's governing body) fills its vacant seats in a timely manner.

### National Endowment for the Humanities & National Endowment for the Arts *(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>NEH, total</b>	<b>149,848</b>	<b>145,000</b>	<b>149,848</b>	<b>152,848</b>	<b>3,000 (2.0%)</b>
Research Programs	13,755	13,780	13,780	15,000	1,245 (9.0%)
Education Programs	12,000	12,000	12,000	12,750	750 (6.2%)
Federal/State Partnerships	46,000	48,000	48,000	47,200	1,200 (2.6%)
<b>NEA, total</b>	<b>149,849</b>	<b>145,000</b>	<b>149,849</b>	<b>152,849</b>	<b>3,000 (2.0%)</b>
Grants	71,508	69,400	69,400	72,419	911 (1.3%)
State and Regional Partnerships	47,671	45,750	45,750	48,280	609 (1.3%)

Source: Division G, Department of The Interior, Environment, And Related Agencies Appropriations Act, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20G%20INTERIOR%20SOM%20FY18%20OMNI.OCR.pdf>.



## National Science Foundation

The National Science Foundation (NSF) would be funded at \$7.767 billion in the FY 2018 omnibus, an increase of \$295.1 million or 3.9 percent over the FY 2017 enacted level. This amount is above both the House and Senate proposed amounts. The Research and Related Activities (R&RA) account, which funds all of NSF's research directorates, would be funded at \$6.33 billion, an increase of 5 percent over FY 2017.

For the R&RA account, the omnibus report clarifies language in the House report to provide \$1.8 million for the Antarctic Infrastructure Modernization for Science program. The report reiterates both House and Senate report language related to support for existing NSF research infrastructure and directs NSF to continue to inform the Committees on the status of divestment activities related to observatories. The omnibus report directs NSF to repair facilities damaged by hurricanes in 2017 and highlights the importance of support for marine seismic research capabilities. Additionally, \$170.69 million would be provided for the Established Program to Stimulate Competitive Research (EPSCoR) as recommended by the House and incorporating Senate language regarding efficiencies.

The omnibus would provide \$182.8 million for the Major Research Equipment and Facilities Construction Account (MREFC), \$26.2 million below the FY 2017 level and consistent with the Senate level. Of this amount, \$105 million would be to support continued construction of three Regional Class Research Vessels; \$20 million for the Daniel K. Inouye Solar Telescope; and \$57.8 million for the Large Synoptic Survey Telescope.

The bill would support the Education and Human Resources (EHR) account at \$902 million, \$22 million above the FY 2017 level. The explanatory statement would maintain funding for broadening participation programs: \$51.9 million for Science, Technology, Engineering, Mathematics + Computing (STEM + C) Partnerships and \$62.5 million for Advancing Informal STEM Learning (AISL). The agreement would also provide \$55 million for CyberCorps: Scholarships for Service, "including no less than \$7,500,000 for qualified community colleges as directed by the Senate." The explanatory report would additionally provide \$30 million in funding for the new Hispanic Serving Institution (HSI) program to support capacity building "at institutions of higher education that typically do not receive high levels of NSF funding."

In addition to items specified in the explanatory statement, House and Senate committee report language that is not addressed would carry forward, including items related to cybersecurity research, I-Corps, neuroscience, math institutes, sustainable chemistry, astronomy, tornadoes, fire research, resilience, and supercomputing planning.

## National Science Foundation

*(In thousands of \$)*

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>NSF, total</b>	<b>7,472,215</b>	<b>7,339,525</b>	<b>7,311,083</b>	<b>7,767,356</b>	<b>295,141 (3.9%)</b>
Research & Related Activities	6,033,645	6,033,645	5,917,803	6,334,476	300,831 (5.0%)
Education & Human Resources	880,000	880,000	862,400	902,000	22,000 (2.5%)
MREFC	209,000	77,800	182,800	182,800	-26,200 (12.5%)
Agency Operations and Award Management	330,000	328,510	328,510	328,510	-1,490 ( 0.5%)
NSB	4,370	4,370	4,370	4,370	--
Office of Inspector General	15,200	15,200	15,200	15,200	--

Source: Division B, Commerce, Justice, Science, and Related Agencies Appropriation Act, 2018  
<http://docs.house.gov/billsthisweek/20180319/DIV%20B%20CJS%20SOM-%20FY18-OMNI.OCR.pdf>

## U.S. Department of Agriculture

The omnibus appropriations bill would provide a total of \$23.3 billion in discretionary funding for the U.S. Department of Agriculture (USDA), an increase of \$2.4 billion above the FY 2017 enacted level. The National Institute of Food and Agriculture (NIFA) would receive \$1.41 billion, a 3.3 percent above the FY 2017 level. Within NIFA, the Agriculture and Food Research Initiative (AFRI) would receive \$400 million, an increase of \$25 million above the current enacted level.

Within NIFA, the omnibus would provide flat funding for key formula funding for land-grant institutions: \$243.7 million for formula assistance under the Hatch Act and \$300 million for cooperative extension-activities under the Smith-Lever Act 3(b) and 3(c) programs. The Capacity Building for Non Land-Grant Colleges of Agriculture (NLGCA) would also receive flat funding of \$5 million.

For the Agricultural Research Service (ARS), the omnibus would reject “the termination of research programs, redirections of research programs, or closure of research locations.” Instead, the FY 2018 omnibus bill would provide a 5.8% increase for a total of \$1.34 billion to ARS. The explanatory statement also specifies that extramural research should be funded at no less than the FY 2017 level, with increases for several enumerated research areas including: human nutrition research, warm water aquaculture, sustainable water use, and plant and animal genomic research preservation. Additionally, the omnibus directs no less than the FY 2017 level “to develop the necessary mechanisms to ensure a viable and qualified scientific workforce is available upon completion” of the new National Bio and Agro-Defense Facility (NBAF).

### USDA Research, Education, and Economics (In thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 2017 Enacted
<b>Agricultural Research Service</b>	<b>1,269,835</b>	<b>1,192,625</b>	<b>1,182,435</b>	<b>1,343,366</b>	<b>73,531 (5.8%)</b>
<b>National Institute of Food and Agriculture</b>	<b>1,362,909</b>	<b>1,341,278</b>	<b>1,373,247</b>	<b>1,407,797</b>	<b>44,888 (3.3%)</b>
AFRI	375,000	375,000	375,000	400,000	25,000 (8.3%)
Hatch Act	243,701	243,701	243,701	243,701	--
Smith-Lever Act 3(b) and 3(c)	300,000	300,000	300,000	300,000	--
McIntire-Stennis	33,961	33,961	33,961	33,961	--
Hispanic Serving Agricultural Colleges and Universities Endowment Fund	9,219	9,219	9,219	9,219	--

<b>Food Safety and Inspection Service (FSIS)</b>	<b>1,032,062</b>	<b>1,038,069</b>	<b>1,038,069</b>	<b>1,056,844</b>	<b>24,782 (2.4%)</b>
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Source: Division A, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2018,  
<http://docs.house.gov/billsthisweek/20180319/DIV%20A%20AG%20SOM%20FY18%20OMNI.OCR.pdf>.

## U.S. Geological Survey

The FY 2018 omnibus bill would provide \$1.148 billion for the U.S. Geological Survey (USGS), which is \$63.3 million or 5.8 percent above FY 2017 enacted level. Given the increased spending caps, the topline USGS funding level in the omnibus would be higher than both levels from the House FY 2018 appropriations bills passed in July, and the Senate version reported in November, exceeding the House level by \$110 million and the Senate level by \$63 million. Although President Trump had proposed a 15 percent reduction to the agency in the FY 2018 budget request, Congress rejected these drastic cuts. The omnibus would provide increases to all mission areas except for Ecosystems and Science Support, which would receive reductions of 1.3 and 2.6 percent, respectively. Increased funding would also be provided to support one-time “purchase of equipment, infrastructure related projects, and deferred maintenance.”

There is significant bipartisan support for the Natural Hazards Programs which would have the largest increase of the USGS mission areas in FY 2018. The omnibus would fund the Natural Hazards account at \$179 million, a \$34 million or 23 percent increase compared to FY 2017. Specifically, the bill would provide \$12.9 million to continue to develop and begin a limited public rollout of the ShakeAlert Earthquake Early Warning System, an increase of \$2.7 million over last fiscal year. Additionally, \$10 million would be provided for capital costs for the warning system’s buildout. The Advanced National Seismic System would receive \$5 million to enable technical upgrades. The omnibus directs USGS to work with the National Science Foundation on acquiring seismic stations from the Earthscope USArray initiative and to report back on progress. The omnibus also includes funding for the Central and Eastern U.S. Seismic Network and other regional seismic networks.

The omnibus would provide \$152 million for Land Resources, a 2.2 percent increase from FY 2017, and would accept the Administration’s proposed renaming and restructuring of this account from its current title of Climate and Land Use Change. In the FY 2018 bills, the House had accepted this restructuring, while the Senate had rejected it. The renaming of the Climate Science Centers to be Climate Adaptation Science Centers was accepted in this compromise bill, but the proposed 31 percent cut included in the FY 2018 budget request and House bill were rejected. The bill specifies that funding would be provided to fully fund all eight regional science centers, and directs USGS to inform Congress when these grants have been awarded in full. The bill also directs USGS to continue stable funding, consistent with FY 2017, for all programs from the Climate and Land Use Change account that will migrate to be within the Land Change Science program. Within the new designation of National Land Imaging, the bill would provide full funding for the Landsat-9 satellite.

Ignoring the FY 2018 budget request’s proposed elimination, the bill would restore funding for the Water Resources Research Institutes at the FY 2017 enacted level of \$6.5 million.

In reference to the Biological Survey Unit in the Ecosystems mission area, the omnibus directs USGS to coordinate with the Smithsonian Institution regarding transitioning the curation of this collection. Also within Ecosystems, the Cooperative Research Units would receive level funding of \$17.31 million.

In Core Science Systems, the National Cooperative Geological Mapping Program would be flat funded relative to FY 2017 at \$24 million. The 3D Elevation Program would be funded at \$23 million.

**U.S. Geological Survey**  
(in thousands of \$)

	FY 2017 Enacted	FY 2018 House	FY 2018 Senate	FY 2018 Omnibus	Omnibus vs. FY 17 Enacted
<b>USGS, total</b>	<b>1,085,167</b>	<b>1,038,922</b>	<b>1,085,167</b>	<b>1,148,457</b>	<b>63,290 (5.8%)</b>
<b>Natural Hazards</b>	<b>145,013</b>	<b>141,504</b>	<b>143,773</b>	<b>178,613</b>	<b>33,600 (23.2%)</b>
Earthquake Hazards	64,303	64,303	63,627	83,403	19,100 (29.7%)
Global Seismographic Network	6,653	6,653	6,612	6,653	--
<b>Ecosystems</b>	<b>159,732</b>	<b>153,032</b>	<b>154,129</b>	<b>157,732</b>	<b>-2,000 (1.3%)</b>
<b>Land Resources*</b>	<b>149,275</b>	<b>120,603</b>	<b>147,907</b>	<b>152,499</b>	<b>3,224 (2.2%)</b>
National and Regional Climate Adaptation Science Centers†	25,335	17,435	25,145	25,335	--
<b>Energy, Minerals, and Environmental Health</b>	<b>94,311</b>	<b>96,091</b>	<b>97,530</b>	<b>102,838</b>	<b>8,527 (9.0%)</b>
<b>Water Resources</b>	<b>214,754</b>	<b>210,754</b>	<b>213,189</b>	<b>217,554</b>	<b>2,800 (1.3%)</b>
Water Resources Research Act	6,500	6,500	6,500	6,500	--
<b>Core Science Systems</b>	<b>116,050</b>	<b>114,737</b>	<b>113,618</b>	<b>116,302</b>	<b>252 (0.2%)</b>
<b>Science Support</b>	<b>105,611</b>	<b>100,331</b>	<b>102,828</b>	<b>102,828</b>	<b>-2,783 (2.6%)</b>
<b>Facilities</b>	<b>100,421</b>	<b>101,870</b>	<b>112,193</b>	<b>120,091</b>	<b>19,670 (19.6%)</b>

\*The Land Resources funding level from the omnibus and the House report is compared with the Climate and Land Use Change level from the FY 2017 level and the Senate report.

†Funding levels compared between the National and Regional Climate Adaptation Science Centers and the Climate Science Centers.

Source: Division G, Department of the Interior, Environment, and Related Agencies Appropriations Act, 2018

<http://docs.house.gov/billsthisweek/20180319/DIV%20G%20INTERIOR%20SOM%20FY18%20OMNI.OCR.pdf>.