# The Federal Budget Process

## The Federal Budgeting and Appropriations Process

<table>
<thead>
<tr>
<th>July – February</th>
<th>March – June</th>
<th>July – October</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Executive Branch Process</strong></td>
<td><strong>Legislative Process</strong></td>
<td><strong>Congress Finalizes Spending Levels</strong></td>
</tr>
</tbody>
</table>

**Budget Formulation**
-OMB sets guidance to federal agencies about levels of funding and priorities.
-Once agencies work within those guidelines to structure a budget proposal.
-OMB submits final documents about the agencies’ proposed budget.

**Budget Submission**
-Generally, the President’s Budget Request is submitted to Congress circa the 1st Monday in February.

**House and Senate Budgets**
-The House and Senate develop their own budget resolutions to set spending levels. These will often deviate from each other as well as from the President’s request. These resolutions are NOT signed into law.

**Appropriations Committees**
-The House and Senate Appropriations Committees, through their 12 subcommittees, hold hearings to examine the budget requests and needs of federal spending programs.

**Appropriations Contingency**
-The House and Senate Appropriations Committees, after approval by the Appropriations Committees, prepare appropriation bills to fund the federal government.

**Floor Consideration**
-After approval, the Appropriations Committees, the bill heads to the House and Senate floors where they may be further amended and eventually pass. Most bills, the bills passed by the House and Senate differ in some significant ways, and must be reconciled.

**Final Passage**
-Once a final bill has been negotiated between the two chambers, it must then pass the House and Senate and be signed by the President.
-If Congress cannot agree on new funding levels before Oct 1, a continuing resolution is required.

Source: NSF
President Biden’s budget request for FY2022 includes approximately $171.3 billion for research and development (R&D), $13.5 billion (8.5%) above the FY2021 estimated level of $157.8 billion. In constant FY2022 dollars, the FY2022 R&D request represents an increase of $10.6 billion (6.6%) above the FY2021 estimated level.

Under the President’s FY2022 budget request, nearly all federal agencies would see their R&D funding increase relative to FY2021. The only exception is DOD.
Total Requested R&D by Agency, FY 2022

- DOD, $62.8 billion
- HHS, $51.2 billion
- DOE, $21.5 billion
- NASA, $14.6 billion
- NSF, $8.2 billion
- USDA, $3.6 billion
- Commerce, $2.7 billion
- All Other, $6.7 billion

Total R&D = $171 billion

Source: OMB R&D data. R&D includes conduct of R&D and R&D facilities. © 2021 AAAS
How can we use this information?

If we understand the climate and priorities of the federal government, we can write responsive proposals (increased likelihood of proposal success)

Targeted hiring of faculty with expertise in priority areas

Planning – facilities, staffing, research infrastructure

Build interdisciplinary teams
The following tables are in millions of dollars.

<table>
<thead>
<tr>
<th>Institutes/Centers</th>
<th>2021/22</th>
<th>2022/23</th>
<th>2023/24</th>
<th>2024/25</th>
<th>2025/26</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Cancer Institute</td>
<td>6,440</td>
<td>6,559</td>
<td>6,733</td>
<td>+174</td>
<td></td>
</tr>
<tr>
<td>National Heart, Lung, and Blood Institute</td>
<td>3,625</td>
<td>3,665</td>
<td>3,849</td>
<td>+181</td>
<td></td>
</tr>
<tr>
<td>National Institute of Dental and Craniofacial Research</td>
<td>478</td>
<td>485</td>
<td>516</td>
<td>+31</td>
<td></td>
</tr>
<tr>
<td>National Institute of Diabetes and Digestive and Kidney Diseases</td>
<td>2,265</td>
<td>2,282</td>
<td>2,361</td>
<td>+79</td>
<td></td>
</tr>
<tr>
<td>National Institute of Neurological Disorders and Stroke</td>
<td>2,447</td>
<td>2,511</td>
<td>2,763</td>
<td>+32</td>
<td></td>
</tr>
<tr>
<td>National Institute of Allergy and Infectious Diseases</td>
<td>5,876</td>
<td>6,067</td>
<td>6,246</td>
<td>+197</td>
<td></td>
</tr>
<tr>
<td>National Institute of General Medical Sciences</td>
<td>2,937</td>
<td>2,991</td>
<td>3,096</td>
<td>+105</td>
<td></td>
</tr>
<tr>
<td>Eunice K. Shriver National Institute of Child Health and Human Development</td>
<td>1,798</td>
<td>1,818</td>
<td>1,842</td>
<td>+104</td>
<td></td>
</tr>
<tr>
<td>National Eye Institute</td>
<td>823</td>
<td>836</td>
<td>859</td>
<td>+23</td>
<td></td>
</tr>
<tr>
<td>National Institute of Environmental Health Sciences: Labors (NIH)</td>
<td>803</td>
<td>815</td>
<td>837</td>
<td>+123</td>
<td></td>
</tr>
<tr>
<td>National Institute of Environmental Health Sciences: Inter</td>
<td>81</td>
<td>82</td>
<td>84</td>
<td>+2</td>
<td></td>
</tr>
<tr>
<td>National Institute on Aging</td>
<td>3,146</td>
<td>3,000</td>
<td>4,036</td>
<td>+136</td>
<td></td>
</tr>
<tr>
<td>National Institute of Arthritis and Musculoskeletal and Skin Diseases</td>
<td>623</td>
<td>634</td>
<td>680</td>
<td>+46</td>
<td></td>
</tr>
<tr>
<td>National Institute on Deafness and Communication Disorders</td>
<td>491</td>
<td>498</td>
<td>512</td>
<td>+14</td>
<td></td>
</tr>
<tr>
<td>National Institute of Mental Health</td>
<td>2,043</td>
<td>2,026</td>
<td>2,214</td>
<td>+108</td>
<td></td>
</tr>
<tr>
<td>National Institute on Drug Abuse</td>
<td>1,458</td>
<td>1,480</td>
<td>1,853</td>
<td>+372</td>
<td></td>
</tr>
<tr>
<td>National Institute on Alcohol Abuse and Alcoholism</td>
<td>547</td>
<td>555</td>
<td>570</td>
<td>+15</td>
<td></td>
</tr>
<tr>
<td>National Institute of Nursing Research</td>
<td>172</td>
<td>173</td>
<td>200</td>
<td>+25</td>
<td></td>
</tr>
<tr>
<td>National Human Genome Research Institute</td>
<td>604</td>
<td>636</td>
<td>633</td>
<td>+17</td>
<td></td>
</tr>
<tr>
<td>National Institute of Biomedical Imaging and Bioengineering</td>
<td>405</td>
<td>413</td>
<td>422</td>
<td>+11</td>
<td></td>
</tr>
<tr>
<td>National Institute on Minority Health and Health Disparities</td>
<td>369</td>
<td>392</td>
<td>562</td>
<td>+263</td>
<td></td>
</tr>
<tr>
<td>National Center for Complementary and Integrative Health</td>
<td>152</td>
<td>134</td>
<td>184</td>
<td>+50</td>
<td></td>
</tr>
<tr>
<td>National Center for Advancing Translational Sciences</td>
<td>833</td>
<td>855</td>
<td>879</td>
<td>+24</td>
<td></td>
</tr>
<tr>
<td>Fogarty International Center</td>
<td>81</td>
<td>84</td>
<td>96</td>
<td>+12</td>
<td></td>
</tr>
<tr>
<td>National Library of Medicine</td>
<td>457</td>
<td>462</td>
<td>475</td>
<td>+13</td>
<td></td>
</tr>
<tr>
<td>Office of the Director (L, K)</td>
<td>2,007</td>
<td>2,175</td>
<td>2,445</td>
<td>+70</td>
<td></td>
</tr>
<tr>
<td>21st Century Cures Innovation Accounts (L)</td>
<td>157</td>
<td>109</td>
<td>150</td>
<td>+41</td>
<td></td>
</tr>
<tr>
<td>Buildings and Facilities</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>+50</td>
<td></td>
</tr>
<tr>
<td>Total, Program Level</td>
<td>41,685</td>
<td>42,936</td>
<td>51,953</td>
<td>+9,017</td>
<td></td>
</tr>
</tbody>
</table>

---

### NIH

- $52 billion for National Institutes of Health (NIH), which includes $6.5 billion to launch the Advanced Research Projects Agency for Health (ARPA-H) -- an initiative that will have an initial focus on cancer and other diseases such as diabetes and Alzheimer’s with the goal of driving transformational innovation in health research and speed application and implementation of health breakthroughs.
- The request includes funds for research on the health impacts of climate change. Most of the money would support extramural research efforts aimed at understanding health-related climate vulnerability and building health resilience, with special attention to the impact on vulnerable health disparities populations.
- Historic investment to end the opioid crisis including $2.2 billion across NIH Institutes and Centers for opioids, stimulant, and pain research, an increase of $627 million above FY 2021 enacted.
- Health disparities and inequities research: $330 million—$250 million for NIMHD and $80 million for targeted cardiovascular, nursing, and international health disparities and inequities research at NHLBI, NINR, and the Fogarty International Center, respectively.

---

NIH Highlights

• NIH topline: $52 billion ($+9 billion, +21%)
  • Topline LESS ARPA: +$2.5 billion, +6%

• Most institutes rise ~3%. Some outliers:
  • Minority Health +66%
  • Drug Abuse +25%
  • NIEHS: +14%
  • Neuro Disorders: +11%

• RPGs increase by almost 1,500, success rate rises to 22%

• ARPA-Health: “operationally unique...with a distinctive culture and organizational structure”
National Science Foundation
https://www.nsf.gov/about/budget/fy2022/tables.jsp#overview

- $10.2 billion, which is a 19.1% increase over FY 2021 enacted.
  - $1.2 billion for climate and clean energy research, which is $500 million above FY 2021 enacted.
  - $100 million, which is a $50 million increase over FY 2021 enacted, for funding programs that aim to increase participation in science and engineering of individuals from racial and ethnic groups who are traditionally underrepresented in these fields.
  - Proposes the creation of a new Technology Directorate at the agency, focused on funding for emerging technologies areas, such as artificial intelligence, disaster response and resilience, quantum informatics, advanced communications and biotechnology.
  - Proposes $8.14 billion for research and related activities, $1.3 billion for education and human resources, and $249 million for major research equipment and facilities construction.
  - Proposes $100 million, roughly a 50 percent increase, in funding for programs that aim to increase participation in science and engineering of individuals from racial and ethnic groups underrepresented in these fields.

<table>
<thead>
<tr>
<th>BIG IDEAS FUNDING</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harnessing the Data Revolution for 21st Century</td>
<td>$177.1M</td>
<td>$150.0M</td>
<td>$160.0M</td>
</tr>
<tr>
<td>Science and Engineering (S&amp;I)</td>
<td>$30.0M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>The Future of Work at the Human-Technology Frontier (FWHTF)</td>
<td>$30.0M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>Navigating the New Arctic (NAIA)</td>
<td>$27.2M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>The Quantum Leap (QL)</td>
<td>$30.0M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>Understanding the Rules of Life (URoL)</td>
<td>$29.8M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>Windows on the Universe (WU)</td>
<td>$30.0M</td>
<td>$30.0M</td>
<td>$30.0M</td>
</tr>
<tr>
<td>Daring Convergence Research (DCR)</td>
<td>$15.5M</td>
<td>$15.0M</td>
<td>$22.1M</td>
</tr>
<tr>
<td>Inclusion across the Nation’s Communities of Learners of Underrepresented Sciences in Engineering and Science (NSF INCLUDES)</td>
<td>$20.7M</td>
<td>$20.0M</td>
<td>$45.0M</td>
</tr>
<tr>
<td>Molecular R. Track 1</td>
<td>$30.3M</td>
<td>$109.0M</td>
<td>$126.25M</td>
</tr>
<tr>
<td>Molecular R. Track 2</td>
<td>$30.37M</td>
<td>$32.87M</td>
<td>$38.00M</td>
</tr>
<tr>
<td>NSF 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>$260.89M</td>
<td>$294.92M</td>
<td>$348.82M</td>
</tr>
</tbody>
</table>

*Co-funded in FY 2021, all Quantum Leap (QL) initiatives activities are integrated with the Brain-Science Information (Brain-Sci) portfolio (see the NSF Roadmap chapter for details on U.S.).
NSF Highlights

- NSF topline: $10 billion ($+1.7 billion, +20%)
  - Topline LESS Technology, Innovation, and Partnership Directorate (TIP): +$1.2 billion, +14%

- Largest increases for Geosciences (GEO) and Engineering (ENG), smallest for Math and Physical Sciences
  - Relatively larger increases for Advanced Industries (AI, quantum, biotech, etc)

- Research grants up 1,800, success rate: 28%
  - Also ~$22,000 increase in median annualized award size

- Education and Human Resources (EHR): +16% or +$177 million, mostly for STEM diversity

- Research Infrastructure up 5%; larger focus on midscale infrastructure and instrumentation
Budget includes $4 billion to support research to advance the competitiveness of U.S. agriculture, promote food security and increase climate change research.

- Investments are prioritized for research that advances innovation and science-based approaches to put technologies into the hands of farmers.
- Address threats from wildfires, including funding to address issues related to hazardous fuels and forest resilience projects.
- Increase in funding for climate smart agriculture, climate resilience, and clean energy.
- Expand broadband access in rural areas; to provide safe drinking water and waste-water infrastructure in rural communities; to improve voluntary public and private land conservation efforts; to help rural communities to use clean energy; to help with rural economic development issues; and to advance equity.
US Department of Education

https://www2.ed.gov/about/overview/budget/budget22/summary/22summary.pdf

- Boost in support for Children with Disabilities: $17.5 billion for special education programs, with $15.5 billion for IDEA, a $2.6 billion increase over FY 21 and the largest increase to the program in two decades
- Expanding Access to Broadband: $100 billion over 10 years to bring high-quality, reliable broadband to all American families which will close the homework gap
- Increases the funding level for programming intended to support historically underserved students in science and engineering fields by $100 million (approximately 50 percent).
- Increases to federal student aid programs (Pell, SEOG, Work Study)
**Department of Energy:**


$46.1 billion, which is a 10.2% increase over FY 2021 enacted.
- Proposes $200 million for the creation of an ARPA-Climate (ARPA-C) to invest in high-risk, high-reward research to address the climate crisis.
- Proposes $4.7 billion for the Energy Efficiency and Renewable Energy (EERE) office, which is a $1.8 billion increase over FY 2021 enacted.
- Proposes $501 million for ARPA-E, which is 17% increase over FY 2021 enacted.

**NASA:**


$24.7 billion, which is a 6.3% increase over FY 2021 enacted.
- $20 million for the Office of STEM Engagement to expand initiatives to attract and retain underserved and underrepresented students in engineering and other STEM fields, in partnership with minority serving institutions and other higher education institutions.
- Provides a $30 million increase to accelerate transformative science at the frontiers of biological and physical sciences research in space.
- $57 million for the Space Grant College and Fellowship Program ($6 million increase over FY21) and $48 million for the Minority University Research and Education Project ($10 million increase over FY 2021 enacted).
$11.4 billion, which is a 27.7% increase above FY2021 enacted.

- Economic Development Administration:
  - $10 million, an increase of $6 million, for STEM Apprenticeship Pilot program.
  - $10 million (new) for Regional Innovation Hubs
- NOAA: $6.9 billion, an increase of more than $1.4 billion over the 2021 enacted level, for the National Oceanic and Atmospheric Administration.
  - $722 million for Office of Oceanic and Atmospheric Research (OAR), which is a 27% increase over FY21 enacted.
  - $40 million allocation for proposed Advanced Research Projects Agency-Climate (ARPA-C).
  - $2 billion, an approximately $500 million increase over the 2021 enacted level, for the next generation of satellites.
- $1.497 billion for National Institute of Standards and Technology (NIST), which is a 45% increase over FY21 enacted.
  - $916 million, an increase of $128 million over the 2021 enacted level, to expand scientific and technological research at NIST.
  - $150 million in new funding to establish two additional Manufacturing USA Institutes.
Other Agencies

Department of Homeland Security

- $52 billion, which is a 0.2% increase over FY 2021 enacted.
  - Proposes $599 million for research and development with new investments in climate resilience, cybersecurity data analytics and transportation security technologies.
  - Proposes $45.8 million for university centers of excellence, which is a 13% increase over FY 2021 enacted.

EPA

- $936 million is provided for a new Accelerating Environmental and Economic Justice initiative to support environmental justice issues for low-income and marginalized communities, including for community air quality monitoring and other areas.
- Additional funding is provided related to protecting communities from hazardous waste and environmental damage, including for cleaning up environmentally damaged areas.
- $1.8 billion is provided to tackle climate change with urgency. Funding would support programs that would help to address climate change, including for greenhouse gas emissions, environmental justice, and other areas.

Department of Transportation

- $88 billion is requested for FY 2022.
  - The budget incorporates language suggesting that the President is committed to making a “once-in-a-lifetime” generational investment to significantly improve America’s transportation infrastructure.
  - $2.5 billion is provided for the Capital Investment Grant Program to assist with transit projects.
  - $250 million is provided to assist transit agencies with procuring low and no emission buses.
  - $1 billion is provided for the Better Utilizing Investments to Leverage Development (BUILD) grant program, which funds surface transportation infrastructure projects.
  - $88.5 million for clean climate research activities to reduce the impact of aviation on climate change and air quality.

National Endowment for the Humanities (NEH) / National Endowment for the Arts (NEA)

- The President’s budget request provides a funding level for the NEH at $177.5 million, a 6% increase over FY 2021.
- The NEA was funded at $201 million.
Stay informed!

**Listservs; Newsletters**
- Subscribe to agency communications because funding opportunities and other announcements can offer insight into priorities
- Free webinars

**Social Media Outlets**
- Many agencies have accounts on multiple platforms—their posts and tweets inform followers as to their priorities and what has been
How can we use this information?

President’s Budget – Key areas, common themes, proposed dollars allocated

Agency Budgets – Priority areas by office, institute, etc.

Institutional alignment – Faculty Insights, Research Interest Groups

Funding Opportunities – Pivot, Grants.gov, Faculty Insights, Others (October Session)

Ideas Labs, Form Teams, develop a proposal that is responsive to the federal priority/priorities
Resources

American Association for The Advancement of Science (AAAS)
- Historical Data
- Explanation of Budgeting Process
- Federal R&D Dashboard

American Institute of Physics (AIP)
- Up to date information on appropriations/budget tracker
  https://www.aip.org/fyi/federal-science-budget-tracker

Arts and Humanities
- NEH Appropriations History:
  https://www.neh.gov/neh-appropriations-history
- NEA Appropriations History:
  https://www.arts.gov/about/appropriations-history
Questions?
More from the Office of Research

Funding Your Research
Friday, October 22, 2021, Noon to 1 p.m. via Zoom
Register Online
Learn about the resources on campus that can help you find funding opportunities that match your research agenda. We will share the basics of using Pivot, the research analytics services available on campus, and learn about strategies that will help give your proposal a competitive edge.

Broader Impacts & Beyond
Friday, November 12, Noon to 1 p.m. via Zoom
Register Online
Join Dr. Sara Vassmer, Director of The Connector to learn about the resources and partners at Mizzou that can help you develop successful broader impacts activities and productive collaborations.

More events and opportunities at:
https://research.missouri.edu/researchfrst/