

UNITED STATES PATENT AND TRADEMARK  
OFFICE

SALARIES AND EXPENSES

(INCLUDING TRANSFERS OF FUNDS)

The agreement includes language making available to the United States Patent and Trademark Office (USPTO) \$4,058,410,000, to be derived from offsetting fee collections estimated for fiscal year 2022 by the Congressional Budget Office. The new appropriation methodology proposed in fiscal year 2022 is roundly rejected. The agreement expects future USPTO budget requests will reflect the longstanding practice of providing USPTO with complete and unfettered access to the amount equal to the estimated patent and trademark fee collections for a given fiscal year.

*Intellectual Property Attachés.*—USPTO shall continue to follow the directives contained in the explanatory statement accompanying Division B of Public Law 116-260 regarding USPTO's intellectual property attachés.

NATIONAL INSTITUTE OF STANDARDS AND  
TECHNOLOGY

The agreement includes \$1,230,063,000 for the National Institute of Standards and Technology (NIST).

SCIENTIFIC AND TECHNICAL RESEARCH AND  
SERVICES

(INCLUDING TRANSFER OF FUNDS)

The agreement provides \$850,000,000 for NIST's Scientific and Technical Research and Services (STRS) account. House funding levels for programs in STRS are not adopted, rather the agreement provides not less than the fiscal year 2021 enacted level for: (1) Advanced Communications Research and Standards; (2) Next-Generation Semiconductor Research and Standards; (3) Greenhouse Gas Program and Urban Dome Initiative; and (4) Disaster Resilience Research Grants. The agreement further adopts: (1) House direction on Quantum Information Science and provides no less than \$49,000,000; and (2) House direction on Malcolm Baldrige Performance Excellence Program and provides no less than \$2,500,000. The agreement accepts the proposed reorganization of units within the Associate Director Laboratory Programs included in the budget request.

*NIST Center for Neutron Research (NCNR) Restart.*—The agreement provides sufficient funding to address costs associated with the cleanup, restart, and corrective actions related to the restart of the NCNR. NIST is reminded that timely communication with the Committees is critical to address incidents of this nature that occur outside of the budget cycle. Given the lateness in the communication, no later than 45 days after the enactment of this Act, NIST shall provide the Committees with a spending plan detailing where and which programs and/or which budgetary accounts NIST proposes to obligate, reprogram, or transfer from to pay for these costs. NIST is directed to examine all unobligated balances and prior-year recoveries first prior to proposing reductions to programmatic efforts. As the NCNR reactor is more than 50 years old and its current U.S. Nuclear Regulatory Commission license will expire in 2029, NIST is encouraged to engage with the academic and research community on an assessment of future needs.

*Climate and Energy Measurement, Tools, and Testbeds.*—The agreement includes an increase of no less than \$2,500,000 above the fiscal year 2021 enacted level to support the request for Climate and Energy Measurement, Tools, and Testbeds. Within these funds, NIST is encouraged to expand its work on direct air capture and carbon dioxide removal and sequestration research.

*Forward-Looking Building Standards.*—Within the increase provided for Climate and En-

ergy Measurement, Tools, and Testbeds, NIST is directed to continue to coordinate work with NOAA and other appropriate Federal agencies and interested non-Federal parties, as needed, to identify a consistent and authoritative set of climate information that emphasizes forward-looking climate data and projections that should be utilized in the standard-setting process. These data shall include projections of both chronic climate impacts, such as sea level rise, and extreme weather events, such as hurricanes, floods, and droughts. This effort shall serve to aid both Federal and non-Federal bodies to develop standards, building codes, and voluntary standards that take into account increasingly extreme weather events and other climate change challenges.

*Wildfires and the Wildland-Urban Interface.*—The agreement adopts House direction on Wildfires and the Wildland-Urban Interface and provides an increase of up to \$1,000,000 above the fiscal year 2021 enacted level for this purpose from within the increase provided for Climate and Energy Measurement, Tools, and Testbeds.

*Artificial Intelligence (AI).*—The agreement provides no less than \$31,000,000 for NIST's AI research and measurement science efforts. NIST is directed to develop resources for government, corporate, and academic uses of AI to train and test systems, model AI behavior, and compare systems. Within funding provided, NIST is encouraged to meet growing demand for the Facial Recognition Vendor Test and to improve the test as outlined in Senate Report 116-127 and adopted by Public Law 116-93.

*Framework for Managing AI Risks.*—NIST shall continue the multi-stakeholder process of developing a framework for managing risks related to the reliability, robustness, and trustworthiness of AI systems as directed in Public Law 116-260. No later than 180 days after the enactment of this Act, NIST shall report to the Committees on efforts to engage with stakeholders, its progress in developing a framework, and identify the timeline needed to finalize its first iteration.

*Cybersecurity.*—The agreement adopts House direction on Cybersecurity and provides an increase of no less than \$1,500,000 above the fiscal year 2021 enacted level, including an increase of no less than \$500,000 above the fiscal year 2021 enacted level for the National Initiative for Cybersecurity Education (NICE) Regional Alliances and Multi-stakeholder Partnerships to Stimulate (RAMPS) Cybersecurity and Workforce Development program. Additionally, NIST is encouraged to address the rapidly emerging threats to data privacy by furthering the development of new and needed cryptographic standards and technologies.

*National Initiative for Improving Cybersecurity in Supply Chains.*—NIST is encouraged to establish a National Initiative for Improving Cybersecurity in Supply Chains, in partnership with the private sector, to bolster the technology foundations and put in place the practical steps needed to ensure the security and integrity of the technology supply chain in accordance with Executive Order 14028.

*Cybersecurity of Genomic Data.*—The agreement provides up to \$2,000,000 for NIST and the National Cybersecurity Center of Excellence (NCCoE) to continue the cybersecurity of genomic data use case that was initiated in fiscal year 2021. NIST and NCCoE shall continue to partner with non-governmental entities who have existing capability to research and develop state-of-the-art cybersecurity technologies for the unique needs of genomic and biomedical-based systems.

*Forensic Sciences.*—The agreement provides \$20,500,000 for forensic science research, including no less than \$3,300,000 to support the

Organization of Scientific Area Committees and no less than \$1,200,000 to support technical merit evaluations.

*Circular Economy.*—The agreement supports NIST's work on the circular economy and provides no less than the fiscal year 2021 enacted level for these activities with plastics and other materials in the supply chain. The agreement provides up to \$1,000,000 to support further work on other classes of materials including electronics waste, battery and solar waste, and other waste streams. In addition, the agreement provides no less than the fiscal year 2021 enacted level for competitive external grants for academic institutions to investigate plastic and polymeric materials, as well as novel methods to characterize both known and newly developed materials. Such investigations should address ways to increase the strength of recycled plastics and better understand mechanical properties including tensile stress, compressive stress, thermal properties, and nanostructure of polymeric materials that could serve as industry standards for recycled plastic products.

*NIST Diversity, Equity, and Inclusion.*—The agreement provides \$11,500,000 for NIST to support development of a diverse workforce and new pipelines for the next generation of innovative scientists and engineers, helping to improve diversity, inclusion, and equity in STEM careers as outlined in Executive Order 13985.

*Pyrrhotite in Concrete Aggregate.*—The agreement provides \$2,000,000 for NIST to continue working with academic institutions to study and develop a reliable and cost-effective standard for testing for the presence of excessive amounts of the mineral pyrrhotite in concrete used in residential, commercial, and municipal foundations and structures. NIST shall also develop a risk rating scale which quantifies the amount of pyrrhotite that causes the concrete or the concrete foundation to become structurally unsound. Specifically, the risk rating scale should provide guidance to homeowners, local, state, and federal governments, the private sector, and the general public as to what quantities of pyrrhotite may exist in the concrete without significantly weakening the material. NIST is also directed to work with academic partners to investigate mitigation strategies for concrete structures that may not yet have developed cracking but contain pyrrhotite. Mitigation research may include both laboratory research and/or research on properties in situ.

*Regenerative Medicine Standards.*—The agreement adopts House direction on Regenerative Medicine Standards and provides \$2,500,000.

*Public Health Risk to First Responders.*—The agreement includes \$3,000,000 for NIST to continue the study of new and unused personal protective equipment worn by firefighters to determine the prevalence and concentration of PFAS in the equipment, as well as the extent to which PFAS may be released from the gear during normal wear and under what conditions.

*Composites.*—NIST is encouraged to work with academic institutions, in collaboration with State and industry partners, to develop new composite technologies to solve problems in the manufacturing space and related materials industries. NIST is also encouraged to work with relevant Federal agencies to aggregate existing standards and test methods for the use of composites and other innovative materials in infrastructure, as well as to identify barriers to broader market adoption.

*Unmanned Aerial Vehicle (UAV) Challenges and Credentialing.*—The agreement provides no less than the fiscal year 2021 enacted level for NIST's UAV research challenges and

credentialing program. Within the funding provided, NIST shall continue to partner with academic institutions to execute UAV prize-based challenges and to establish the measurements and standards infrastructure necessary for credentialing remote pilots.

**Voluntary Voting System Guidelines.**—The agreement commends NIST for the release of Voluntary Voting System Guidelines 2.0. NIST is encouraged to continue advanced research to ensure that voting machines are secure and accessible to all eligible voters.

**NIST External Projects.**—The agreement includes \$37,598,000 for NIST External Projects as detailed in the table below. NIST is directed to provide the amounts listed in the table, and NIST shall perform the same level of oversight and due diligence as with any other external partners.

**NIST EXTERNAL PROJECTS**

Recipient	Project	Amount
CNY Defense Alliance .....	Smart Technology Lab Initiative.	\$200,000
Colorado State University ....	Soil Carbon Sequestration Research Project.	\$1,000,000
Emporia State University ....	Cyber Security Center .....	\$1,500,000
Mississippi State University .....	Training and Standards for UAS Certification.	\$4,000,000
Pittsburg State University ...	Polymer and Plastic Research at the National Institute for Materials Advancement.	\$3,000,000
Plymouth State University ...	Technology and Equipment Upgrades.	\$1,000,000
Rensselaer Polytechnic Institute.	Nuclear Magnetic Resonance Facility Enhancement.	\$984,000
Roux Institute at Northeastern University.	Advanced and Additive Manufacturing Center Development.	\$1,000,000
The University of Mississippi.	Core Testing Facility for Graphene and Graphene-Like Materials.	\$2,000,000
University at Buffalo .....	High-performance Computing Drug Discovery Initiative.	\$1,000,000
University of Charleston (WV).	Advanced Biomedical Instrumentation and Research Training.	\$385,000
University of Colorado .....	JILA Laboratory Equipment	\$950,000
University of Delaware .....	Biopharmaceutical Manufacturing Innovation Equipment.	\$3,000,000
University of Kansas Medical Center.	Research Equipment Upgrades.	\$5,000,000
University of New Mexico ....	University of New Mexico Decedent Image Database.	\$374,000
University of Rhode Island ..	Blue Technology Research Initiative.	\$1,500,000
University of Southern Mississippi.	Establishment of a Joint Industry-Academic Laboratory to Provide Calibration Services.	\$5,000,000
University of Southern Mississippi.	Graphene Product Validation Laboratory.	\$2,000,000
West Virginia University .....	Procurement of Technology and Equipment to Respond to Opioid and Violence Epidemics in WV.	\$705,000
Wichita State University .....	Additive Manufacturing Technologies Research and Standardization.	\$3,000,000

**INDUSTRIAL TECHNOLOGY SERVICES**

The agreement includes \$174,500,000 for Industrial Technology Services, including \$158,000,000 for the Hollings Manufacturing Extension Partnership (MEP), an increase of \$8,000,000 above the fiscal year 2021 enacted level. The agreement further provides \$16,500,000 for the Manufacturing USA Program, of which up to \$1,000,000 may be used to support the U.S. Food and Drug Administration's participation in biomanufacturing innovation institutes and \$10,000,000 shall be used for the continuation of the existing NIST-funded institute. The agreement modifies House language on MEP Supply Chain Database to encourage NIST to support these activities from within available funds.

**CONSTRUCTION OF RESEARCH FACILITIES**

The agreement includes \$205,563,000 for Construction of Research Facilities.

**NIST Extramural Construction.**—The agreement includes \$125,563,000 for NIST Extramural Construction projects as detailed in

the table below. NIST is directed to provide the amounts listed in the table, and NIST shall perform the same level of due diligence as with any other external partners.

**NIST EXTRAMURAL CONSTRUCTION**

Recipient	Project	Amount
Burlington Technical Center	Burlington Aviation Technology Center Facility.	\$10,000,000
Fort Hays State University ..	Renovation of Forsyth Library.	\$17,000,000
Kansas State University Salina Aerospace and Technology Campus.	Acquisition and Renovation of Aerospace Simulation Center.	\$4,750,000
Missouri State University ....	Ozarks Health and Life Science Center.	\$20,000,000
University of Maine .....	Green Engineering and Materials Research Factory of the Future.	\$10,000,000
University of New Hampshire.	Jackson Estuarine Lab Expansion and Renovation.	\$3,813,000
University of South Alabama College of Medicine.	Renovation and Expansion of Research Facilities.	\$60,000,000

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

**Fire Weather.**—House language on Fire Weather is modified to encourage NOAA to advance its work on fire weather across the agency within available funds. Further, any and all progress in understanding and modeling fire weather accomplished with supplemental funds provided in the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58) and the Disaster Relief Supplemental Appropriations Act, 2022 (Public Law 117-43), shall be incorporated into operational fire weather products as expeditiously as possible to protect life and property.

**Enterprise Infrastructure Solutions (EIS).**—The agreement provides the various requested increases for EIS.

**NOAA Commissioned Officer Corps.**—The agreement accepts the administration's proposal to consolidate funding for the NOAA Commissioned Officer Corps and its supporting functions into a single Program, Project, or Activity (PPA) within the Office of Marine and Aviation Operations.

**OPERATIONS, RESEARCH, AND FACILITIES (INCLUDING TRANSFERS OF FUNDS)**

The agreement includes a total program level of \$4,423,843,000 under this account for NOAA's coastal, fisheries, marine, weather, satellite, and other programs. This total funding level includes \$4,157,311,000 in direct appropriations, a transfer of \$243,532,000 from balances in the "Promote and Develop Fishery Products and Research Pertaining to American Fisheries" fund, and \$23,000,000 derived from recoveries of prior year obligations.

The following narrative descriptions and tables identify the specific activities and funding levels included in this Act.

**National Ocean Service (NOS).**—\$637,700,000 is for NOS Operations, Research, and Facilities.

**NATIONAL OCEAN SERVICE**

**OPERATIONS, RESEARCH, AND FACILITIES (In thousands of dollars)**

Program	Amount
Navigation, Observations and Positioning.	
Navigation, Observations and Positioning .....	\$169,000
Hydrographic Survey Priorities/Contracts .....	32,000
IOOS Regional Observations .....	41,000
Navigation, Observations and Positioning .....	242,000
Coastal Science and Assessment	
Coastal Science, Assessment, Response and Restoration ...	88,500
Competitive Research .....	21,500
Coastal Science and Assessment .....	110,000
Ocean and Coastal Management and Services	
Coastal Zone Management and Services .....	49,000
Coastal Zone Management Grants .....	79,000
National Oceans and Coastal Security Fund .....	34,000
Coral Reef Program .....	33,000
National Estuarine Research Reserve System .....	29,700

**NATIONAL OCEAN SERVICE—Continued**

**OPERATIONS, RESEARCH, AND FACILITIES (In thousands of dollars)**

Program	Amount
Sanctuaries and Marine Protected Areas .....	61,000
Ocean and Coastal Management and Services .....	285,700
Total, National Ocean Service, Operations, Research, and Facilities .....	\$637,700

**Navigation Response Teams.**—The agreement provides full operational funding for NOAA's Navigation Response Teams within Navigation, Observations and Positioning.

**Ocean Mapping and Coastal Charting.**—The agreement provides no less than the fiscal year 2021 enacted level for NOS to continue coordinating and implementing an inter-agency mapping, exploration, and characterization strategy for the U.S. Exclusive Economic Zone, as well as the Arctic and sub-Arctic shoreline and nearshore of Alaska consistent with prior year direction adopted in Public Law 116-260. In addition, through NOAA Community Project Funding/NOAA Special Projects, the agreement provides \$5,000,000 for coastal and nearshore mapping of Alaska.

The agreement notes that the IIJA provides \$492,000,000 over five years for coastal and inland flood and inundation mapping and forecasting, among other purposes, some of which may be obligated for ocean mapping and charting.

**Physical Oceanographic Real-Time System (PORTS) Program.**—The agreement provides no less than the fiscal year 2021 enacted level for PORTS.

**Precision Navigation.**—The agreement adopts prior year direction on Precision Navigation, adopted by Public Law 116-260, encouraging NOAA to commence additional precision navigation projects.

**Research and Technology Development.**—The agreement supports the efforts of the Joint Hydrographic Center funded through Hydrographic Research and Technology Development and provides an additional \$1,000,000 above the fiscal year 2021 enacted level for additional mapping and charting research and development activities demonstrating the use of autonomous vessels for the collection of hydrographic data as well as for collaborative demonstration, testing, evaluation, and research-to-operations transition of new technology. In addition, the agreement provides \$2,000,000 for NOAA to continue supporting joint ocean and coastal mapping centers in other areas of the country as authorized by the Omnibus Public Land Management Act of 2009 (Public Law 111-11).

**Coastal Survey Data.**—NOS shall submit a report to the Committees, no more than one year after enactment of this Act, on progress it has made toward conducting comprehensive coastal survey work in Alaska consistent with prior year direction adopted in Public Law 116-260.

**Hydrographic Surveys and Contracts.**—For fiscal year 2022, NOS shall follow prior year direction adopted in Public Law 116-260, on the following topics: "Hydrographic Surveys and Contracts," "Hydrographic Charting in the Arctic," and "Seafloor Mapping."

**Integrated Ocean Observing System (IOOS).**—The agreement provides an increase of \$500,000 to IOOS, including no less than \$2,500,000 to continue the five IOOS Harmful Algal Bloom (HAB) pilot programs initiated in fiscal year 2020 and to continue to support the HAB monitoring and detection test bed in the Gulf of Mexico initiated in fiscal year 2021. NOS is encouraged to: (1) work to complete and operate the National High Frequency Radar System to close key gaps in

COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS ACT, 2022

(Amounts in thousands)

	FY 2021 Enacted	FY 2022 Request	Final Bill	Final Bill vs Enacted	Final Bill vs Request
<b>National Institute of Standards and Technology</b>					
Scientific and Technical Research and Services.....	788,000	915,570	850,000	+62,000	-65,570
(transfer out).....	(-9,000)	(-9,000)	(-9,000)	---	---
Industrial Technology Services.....	166,500	441,650	174,500	+8,000	-267,150
Manufacturing extension partnerships.....	(150,000)	(275,000)	(158,000)	(+8,000)	(-117,000)
Manufacturing USA.....	(16,500)	(166,650)	(16,500)	---	(-150,150)
Construction of research facilities.....	80,000	140,000	205,563	+125,563	+65,563
Working Capital Fund (by transfer).....	(9,000)	(9,000)	(9,000)	---	---
<b>Total, National Institute of Standards and Technology.....</b>	<b>1,034,500</b>	<b>1,497,220</b>	<b>1,230,063</b>	<b>+195,563</b>	<b>-267,157</b>
<b>National Oceanic and Atmospheric Administration</b>					
Operations, Research, and Facilities.....	3,840,300	4,689,381	4,157,311	+317,011	-532,070
(by transfer).....	(246,171)	(246,171)	(243,532)	(-2,639)	(-2,639)
Promote and Develop Fund (transfer out)...	(-246,171)	(-246,171)	(-243,532)	(+2,639)	(+2,639)
<b>Subtotal.....</b>	<b>3,840,300</b>	<b>4,689,381</b>	<b>4,157,311</b>	<b>+317,011</b>	<b>-532,070</b>
Procurement, Acquisition and Construction... ..	1,532,558	2,226,982	1,672,689	+140,131	-554,293
Pacific Coastal Salmon Recovery.....	65,000	65,000	65,000	---	---
Fishermen's Contingency Fund.....	349	349	349	---	---
Fisheries Finance Program Account.....	-7,600	-18,000	-18,000	-10,400	---
<b>Total, National Oceanic and Atmospheric Administration.....</b>	<b>5,430,607</b>	<b>6,963,712</b>	<b>5,877,349</b>	<b>+446,742</b>	<b>-1,086,363</b>