

formance of the center’s activities and the manufacturing capacity of the area served by the center.

*Manufacturing USA.*—The National Network for Manufacturing Innovation [NNMI] (also known as “Manufacturing USA”) program promotes American competitiveness by fostering the development of new manufacturing techniques and fields, accelerating commercialization, and providing technical assistance to U.S. companies. The Committee provides \$16,000,000 for NIST’s activities within Manufacturing USA. Of this amount, no more than \$5,000,000 may be used for coordination activities, of which up to \$1,000,000 may be used to support the Food and Drug Administration’s participation in biomanufacturing innovation institutes. Within funding provided, NIST shall strive to minimize administrative costs in order to provide support for collaborative research and development projects between institutes.

In addition, the Committee notes the passage of legislation to reauthorize NNMI by the Senate as part of the National Defense Authorization Act for Fiscal Year 2020 and provides \$1,000,000 for a competitive grant program to develop technology roadmaps for promising advanced manufacturing clusters. These grants should be made available to establish new or strengthen existing industry-driven consortia that address high-priority research challenges in order to grow advanced manufacturing in the United States. The Committee supports the GAO recommendations included in GAO-19-409 and directs NIST to implement them.

CONSTRUCTION OF RESEARCH FACILITIES

Appropriations, 2019 .....	\$106,000,000
Budget estimate, 2020 .....	<sup>1</sup> 40,690,000
Committee recommendation .....	123,000,000

<sup>1</sup>Does not include the legislative proposal for Construction of Research Facilities, proposed in the fiscal year 2020 budget submission.

The Committee provides \$123,000,000 for construction of research facilities. The recommendation is \$17,000,000 above the fiscal year 2019 enacted level and \$82,310,000 above the budget request. The funding provided includes no less than \$43,000,000 for the continued renovation of NIST’s Building 1 laboratory.

*Safety, Capacity, Maintenance, and Major Repairs [SCMMR].*—Within the amount provided for Construction of Research Facilities, the Committee provides \$80,000,000 for SCMMR.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

(INCLUDING TRANSFER OF FUNDS)

Appropriations, 2019 .....	\$5,424,695,000
Budget estimate, 2020 .....	4,456,968,000
Committee recommendation .....	5,337,343,000

The Committee’s recommendation provides \$5,337,343,000 for the National Oceanic and Atmospheric Administration [NOAA]. The recommendation is \$87,352,000 below the fiscal year 2019 enacted level and \$880,375,000 above the budget request.

The Committee commends the Department for its work to bring down the costs associated with NOAA’s Procurement, Acquisition and Construction [PAC] accounts. The decrease in PAC resources

in fiscal year 2020 reflects, as expected, the reduced financial need of NOAA's flagship weather satellite programs as the satellites launch and enter into the operational phase. This allows for an increase in Operations, Research, and Facilities [ORF] resources in fiscal year 2020.

OPERATIONS, RESEARCH, AND FACILITIES

(INCLUDING TRANSFER OF FUNDS)

Appropriations, 2019 .....	\$3,596,997,000
Budget estimate, 2020 .....	3,058,383,000
Committee recommendation .....	3,727,466,000

The Committee's recommendation provides \$3,727,466,000 for NOAA's ORF. The recommendation is \$130,469,000 above the fiscal year 2019 enacted level and \$669,083,000 above the budget request.

NOAA NATIONAL OCEAN SERVICE

The Committee's recommendation provides \$588,806,000 for the National Ocean Service [NOS]. NOS programs provide scientific, technical, and management expertise to promote safe navigation; assess the health of coastal and marine resources; respond to natural and human-induced threats; and preserve coastal and ocean environments.

The Committee's recommendations are displayed in the following table:

NATIONAL OCEAN SERVICE OPERATIONS, RESEARCH, AND FACILITIES

[In thousands of dollars]

	Committee recommendation
Navigation, Observations and Positioning:	
Navigation, Observations and Positioning .....	160,706
Hydrographic Survey Priorities/Contracts .....	32,000
Integrated Ocean Observing System—Regional Observations .....	38,500
Total, Navigation, Observations and Positioning .....	231,206
Coastal Science and Assessment:	
Coastal Science, Assessment, Response and Restoration .....	78,000
Competitive External Research .....	18,000
Total, Coastal Science and Assessment .....	96,000
Ocean and Coastal Management and Services:	
Coastal Zone Management and Services .....	45,000
Coastal Zone Management Grants .....	76,500
National Oceans and Coastal Security Fund .....	30,000
Coral Reef Program .....	27,600
National Estuarine Research Reserve System .....	27,000
National Marine Sanctuaries .....	55,500
Total, Ocean and Coastal Management and Services .....	261,600
GRAND TOTAL NOS .....	588,806

*Navigation, Observations and Positioning.*—The Committee strongly supports activities under Navigation, Observations and

Positioning, including the full operational funding for NOAA's Navigation Response Teams.

*Physical Oceanographic Real-Time System [PORTS] Program.*—The Committee provides no less than \$7,500,000 for PORTS, a \$2,500,000 increase above fiscal year 2019. The Committee supports the continued expansion of the PORTS network, which is now in place in 33 locations, including the Nation's top 20 seaports by tonnage. The Committee directs NOAA to provide a report detailing the program's full costs, by location, including operations and maintenance, within 180 days of enactment of this act.

*Geospatial Modeling Grants.*—The Committee provides \$8,000,000 within Navigation, Observations and Positioning for the competitive Geospatial Modeling Grants program for which all funding shall be distributed externally.

*Hydrographic Research and Technology Development.*—The Committee supports the intended use of funds requested for Hydrographic Research and Technology Development and provides an additional \$500,000 above the fiscal year 2019 level for these purposes. In addition, the Committee provides \$2,000,000 above the request for NOAA to designate and continue supporting joint ocean and coastal mapping centers in other areas of the country to be collocated with an institution of higher education as authorized by the Omnibus Public Land Management Act of 2009 (Public Law 111–11). The Committee emphasizes that additional funding is provided for the designation of other joint ocean and coastal mapping centers and therefore shall not decrease funding levels for any existing centers.

*Coastal Survey Data.*—The State of Alaska lacks adequate coastal survey data necessary to establish the legal delineation of the shoreline, protect coastal communities, improve maritime safety and navigability, inform earthquake and tsunami hazard assessments and mitigation, establish baselines for long-term monitoring of coastal evolution, support economic development, enhance national security, and provide a framework for scientific research. The Committee believes that collecting this data would directly support NOAA and contribute to the development of the Blue Economy of Alaska and the Nation. Therefore, NOS is directed to submit a plan to the Committee, within 1 year of enactment of this act, to conduct comprehensive coastal survey work in Alaska, including an estimate of annual cost by project, program, or activity.

*Hydrographic Surveys and Contracts.*—The Committee continues to be concerned with NOAA's slow progress in reducing the backlog of hydrographic survey work for navigationally significant U.S. waters. Within the amount provided for Hydrographic Survey Priorities/Contracts, NOAA is directed to accelerate the acquisition of survey data and the preparation of navigational charts needed to minimize the risks associated with increased maritime traffic. In addition, not more than 5 percent of funds available for the Hydrographic Survey Priorities/Contracts program may be used for internal Hydrographic Survey Priorities/Contracts program management costs.

*Hydrographic Charting in the Arctic.*—Despite the massive backlog for charting of navigationally significant areas, nationally, and in the Arctic, specifically, NOAA's fiscal year 2020 budget request

continues to propose underfunding the acquisition of data from contract surveys. Hydrographic survey work in the Arctic, in particular, is subject to a shorter operational season than other U.S. coastal regions. The Committee believes Arctic surveys could be completed more efficiently through increased and accelerated contracting. Therefore, NOAA is directed to award contracts for hydrographic surveys in the Arctic as early in the calendar year as possible to maximize the operational season, utilizing effective and efficient contract services. Within the amount provided for Hydrographic Survey Priorities/Contracts, NOAA is directed to accelerate the acquisition of survey data through the use of contractors necessary to minimize the risks associated with increased maritime traffic. In addition, NOAA is directed to utilize all contractors that are available, qualified, and experienced in the Arctic for U.S. Arctic hydrographic surveys.

*Gulf of Mexico Coast Survey.*—The Committee encourages NOS to engage in high-priority cooperative habitat mapping in the Gulf of Mexico, particularly in areas currently unmapped but prone to disaster. In doing so, NOS may prioritize areas where understanding the long-term implications of new energy exploration would be critical.

*Integrated Ocean Observing System [IOOS].*—Within funding provided for IOOS, NOS shall work to complete and operate the National High Frequency Radar System to close key gaps in the U.S. surface current mapping system. Furthermore, NOS shall expand the regional underwater profiling gliders program to ensure streamlined access to data for weather forecasting and hurricane prediction, disaster response, forecasting of freshwater and marine water quality, detection of harmful algal blooms, and safe maritime operations.

Further, the Committee provides IOOS with \$1,000,000 for pilot programs to enhance the nation's capacity for monitoring and detection of harmful algal blooms by leveraging the expertise of the IOOS regional associations. These programs shall focus on data integration and information dissemination to provide coastal managers, seafood harvesters and aquaculture practitioners, drinking water utilities, animal stranding networks, and others with information about the extent, toxicity, and length of blooms. IOOS is directed to coordinate with the National Centers for Coastal Ocean Science on the implementation of these funds.

*Coastal Science, Assessment, Response and Restoration.*—Within the funds provided for Coastal Science, Assessment, Response and Restoration, the Committee provides no less than the fiscal year 2019 enacted level for operations and staffing of the Gulf of Mexico Disaster Response Center [DRC]. The Committee reiterates that the DRC shall serve as the Gulf Coast's headquarters for NOAA's emergency preparedness, response, and recovery operations. As such, NOAA is directed to further co-locate NOS personnel and assets that are currently positioned elsewhere on the Gulf Coast at the DRC. In addition, the Committee provides \$500,000 above the fiscal year 2019 enacted level for the Disaster Preparedness Program to bolster NOS's emergency response efforts to coastal storms and other disasters.

*Marine Debris.*—The Committee provides no less than the fiscal year 2019 enacted level for NOAA’s Marine Debris Program. The Committee strongly supports NOS’s ongoing efforts, including its competitive extramural funding programs, to address marine debris around the country. NOS is encouraged to prioritize funding projects in urban communities that support or enhance waterway cleanup efforts to remove any and all forms of marine debris from the aquatic environment, as well as projects in rural and remote communities that lack infrastructure to address the marine debris problem.

*National Centers for Coastal Ocean Science [NCCOS].*—The Committee expressly rejects the proposal to terminate NCCOS and the Competitive External Research program, and provides no less than the fiscal year 2019 enacted level for both. The Committee supports the ground-breaking research NCCOS conducts, in areas such as coral health and restoration, ecotoxicology, harmful algal blooms, and aquaculture, and is puzzled as to why NOAA would propose to terminate these efforts, which directly support NOAA’s priorities to “Expand the Blue Economy” and “Reduce the Seafood Trade Deficit.” The Committee remains supportive of NCCOS’s contributions to NOAA’s mission and priorities and directs NOAA to continue supporting these efforts through the collective expertise of Federal, State, and academic partners.

*Harmful Algal Blooms [HABs].*—The Committee understands that HABs in their various forms are a national problem that require collaboration with local partners to monitor, predict, track, and respond to HAB events. Within funding for Coastal Science and Assessment, the Committee provides up to \$5,000,000 to accelerate deployment of effective methods of intervention and mitigation to reduce the frequency, severity, and impact of harmful algal bloom events in freshwater systems. Additionally, the Committee encourages NOS to expand its collaboration with coastal States across the country to address HABs in the marine environment.

*HABs Regional Watershed Integrated Assessments and Action Strategies.*—The Committee recognizes the importance of the Great Lakes Integrated Assessment and Action Strategy to harmful algal bloom prevention, control, and mitigation efforts in the Great Lakes region, and encourages the Federal Inter-agency Task Force on Harmful Algal Blooms and Hypoxia, established under section 4001 of title 33, and the Interagency Working Group tasked with implementing the Harmful Algal Bloom and Hypoxia Research and Control Act to identify and prioritize additional watersheds that would benefit from the development of regionally-specific Integrated Assessments and Action Plans, including those regions that have been impacted by freshwater and saltwater harmful algal blooms.

*Integrated Water Prediction [IWP].*—Within funding provided for Coastal Zone Management and Services, the Committee provides no less than the fiscal year 2019 level for NOS to continue supporting the development and operation of the IWP program with NOAA’s National Weather Service.

*Regional Data Portals.*—Within funding for Coastal Zone Management and Services, \$1,500,000 is for the regional ocean partnerships, or their equivalent, to enhance their capacity for sharing and

integration of Federal and non-Federal data to support regional coastal, ocean, and Great Lakes management priorities as outlined in Executive Order 13840. The Office of Coastal Management shall coordinate with the IOOS Program Office on the implementation of these funds, to ensure continuity of funding provided to IOOS in fiscal year 2019 for this purpose.

*The National Oceans and Coastal Security Fund.*—The Committee provides \$30,000,000 for the National Oceans and Coastal Security Fund, also known as Title IX Fund grants, for collaborative partnerships that incorporate non-Federal matching funds with a priority on supporting authorized activities not otherwise funded within this act. In selecting the areas of focus for the National Oceans and Coastal Security Fund, NOAA and the National Fish and Wildlife Foundation should consider proposals that enhance ocean and coastal management; bolster coastal infrastructure and resilience; support regional collaborative efforts and partnerships; advance the collection, synthesis, and public sharing of ocean data; and help coastal communities adapt to changing ocean conditions.

*Coral Reef Program.*—The Committee recognizes the unique ecological and economic value of coral reefs, including the benefit of buffering coastal communities from hazards such as coastal storms and hurricanes. Furthermore, urgent efforts are needed to reverse the decline of coral populations in the United States. Therefore, the Committee provides up to \$5,000,000 for NOS to work with academic institutions and non-governmental research organizations to establish innovative restoration projects to restore degraded coral reefs. This may include implementing landscape-scale coral reef restoration initiatives to outplant lab-grown or aquaculture-raised coral fragments representing diverse assemblages of native coral species, as well as the necessary research and development for these efforts. Restoration projects should utilize genetic strains that demonstrate enhanced resiliency to increased water temperatures, decreased pH, and coral disease, and include designs for multiyear monitoring to assess survival and ecosystem health.

*Temperate and Cold-Water Corals.*—The Committee urges NOAA's coral reef program to support research of all coral species, including temperate and cold-water corals.

*Marine National Monuments.*—Within funding provided for National Marine Sanctuaries, up to \$1,000,000 may be used for competitive research and management grants for existing marine national monuments administered by NOS, provided such grants are subject to a 100 percent non-Federal match.

*National Estuarine Research Reserve System [NERRS].*—The Committee rejects the elimination of NERRS and provides \$27,000,000 for the system. NERRS sites provide mixed-use areas that are protected for long-term research, monitoring, education, and coastal stewardship. The program is a positive example of State and Federal partnership. The Committee is aware of the Blue Ribbon Panel recommendation to expand the NERRS network and awaits action from NOAA on site nominations that are currently pending. Within funding provided for NERRS, up to \$2,000,000 may be used for the Margaret A. Davidson Graduate Research Fel-

lowship administered by the Office of Coastal Management. The fellowship program is not subject to any matching requirement.

NOAA is further encouraged to work with its NERRS and National Marine Sanctuary partners on efforts for early detection of, rapid response to, and control of invasive species, especially those that jeopardize endangered or threatened native species.

NOAA NATIONAL MARINE FISHERIES SERVICE

The Committee’s recommendation provides \$944,867,000 for the National Marine Fisheries Service [NMFS]. NMFS programs provide for the management and conservation of the Nation’s living marine resources and their environment, including fish stocks, marine mammals, and endangered species.

Committee recommendations are displayed in the following table:

NATIONAL MARINE FISHERIES SERVICE OPERATIONS, RESEARCH, AND FACILITIES

[In thousands of dollars]

	Committee recommendation
Protected Resources Science and Management:	
Marine Mammals, Sea Turtles, and Other Species .....	122,164
Species Recovery Grants .....	7,000
Atlantic Salmon .....	6,500
Pacific Salmon .....	65,000
Total, Protected Resources Science and Management .....	200,664
Fisheries Science and Management:	
Fisheries and Ecosystem Science Programs and Services .....	146,427
Fisheries Data Collections, Surveys and Assessments .....	172,909
Observers and Training .....	54,968
Fisheries Management Programs and Services .....	123,836
Aquaculture .....	15,500
Salmon Management Activities .....	56,043
Regional Councils and Fisheries Commissions .....	40,247
Interjurisdictional Fisheries Grants .....	3,365
Total, Fisheries Science and Management .....	613,295
Enforcement .....	74,023
Habitat Conservation and Restoration .....	56,885
GRAND TOTAL NMFS .....	944,867

*NMFS Project Consultations.*—Within Protected Resources Science and Management, the Committee provides no less than the fiscal year 2019 enacted amount for NMFS to address the backlog of consultation requests under the Endangered Species Act [ESA] (Public Law 93–205). The backlog of consultation requests, particularly those from the U.S. Army Corps of Engineers [USACE], has caused significant permitting delays for local communities seeking to implement various projects across the Nation. The Committee directs NMFS to work with USACE and other Federal agencies to improve coordination and efficiency of consultations within the permitting process.

*Marine Mammal Protection.*—The Committee supports NMFS’s mission under this activity to monitor, protect, and recover at-risk

marine mammal species listed under the ESA in 2005, but whose populations continue to decline. The Committee encourages NMFS to utilize funding for the protection and recovery of marine mammal species at risk due to factors such as limited prey species, water-borne toxin accumulation, and vessel and sound impacts.

*North Atlantic Right Whale.*—The Committee remains concerned that North Atlantic right whale populations remain critically low, especially given the number of whale mortalities this summer. Therefore, the Committee rejects the proposed reduction and provides an additional \$2,000,000 above the fiscal year 2019 enacted level within Marine Mammals, Sea Turtles, and Other Species for North Atlantic right whales-related research, development, and conservation efforts. Within funding provided, not less than \$1,000,000 shall be for a pilot program to develop, refine, and field test innovative fishing gear technologies designed to reduce North Atlantic right whale entanglements in partnership with relevant stakeholders, including, but not limited to: states, commercial fishermen, gear manufacturers, research institutions, and nongovernmental organizations. NMFS shall provide the Committee with an implementation plan for the pilot program, including metrics, within 60 days of enactment of this act. Improving NOAA's understanding of right whale distribution and habitat is necessary to better inform management actions. As such, NOAA is encouraged to prioritize development of a habitat suitability index and long-term tagging methods. NOAA shall also continue to support disentanglement, stranding response, necropsy activities, aerial surveys, and passive acoustic monitoring in the waters of the Atlantic Ocean. NOAA is also directed to fully evaluate the feasibility and economic implications of any management actions relating to the North Atlantic right whale.

Further, the Committee recognizes the transboundary nature of the North Atlantic right whale and directs NMFS to continue to work in coordination with counterparts in the Canadian government to reduce risks throughout its range. Examples of ongoing opportunities for U.S.-Canada collaboration on North Atlantic right whale conservation include, but are not limited to, continued collaboration on surveillance in the Gulf of St. Lawrence, cooperative research on the distribution of the whales and their food sources, support for disentanglement and necropsy work including cross-training between U.S. and Canadian response teams, coordinated gear marking efforts across jurisdictions, and collaborative work on innovative, real-time solutions to reduce risks from fishing gear entanglement and ship strikes.

The Committee recognizes that the Northeast lobster fishery has made significant changes to harvesting practices to protect North Atlantic right whales, including reducing vertical lines, marking gear, requiring the use of weaker rope, and implementing sinking ground lines, which precipitated the North Atlantic right whale's population growth from roughly 258 in the 1990s to more than 450 in 2015. The Committee also understands that sightings of North Atlantic right whales have declined in the Gulf of Maine over the past decade, as has the species' primary food source, *Calanus finmarchicus*, in the eastern Gulf of Maine. In any rulemaking regarding the North Atlantic right whale, NMFS shall consider re-



cent research on *Calanus* that indicates these zooplankton have been steadily decreasing in abundance in the Gulf of Maine since 2010. The North Atlantic right whale risk reduction target proposed by NMFS depends heavily on how unknown cases are assigned by fishery and country, and the Committee believes that any misattributions of whale entanglements that NMFS has acknowledged must be considered by NMFS and incorporated in relevant rulemaking.

*False Killer Whales.*—The Committee encourages NMFS to study interactions between the U.S. fishing fleet and false killer whales in the Western Pacific.

*Sea Turtle Conservation.*—NOAA committed to the Committee that it would continue its sea turtle stranding and rehabilitation programs at the NMFS Galveston Laboratory until it found suitable non-governmental partners to assume the program in full. However, NMFS has not reported to the Committee that it has secured commitments from any suitable partners. Therefore, NMFS is directed to maintain adequate capacity of the sea turtle stranding and rehabilitation program until it can report to the Committee that these critical activities have been fully assumed by partner organizations.

*Hawaiian Monk Seals and Sea Turtles.*—Within funding for Marine Mammals, Sea Turtles, and Other Species, the Committee provides NOAA no less than the fiscal year 2019 amount for Hawaiian Monk Seals and Hawaiian Sea Turtles.

*Prescott Grants.*—Within Marine Mammals, Sea Turtles, and Other Species, the Committee provides \$4,000,000 for the John H. Prescott Marine Mammal Rescue Assistance grant program.

*Species Recovery Grants.*—The Committee directs NMFS to utilize both the ESA Recovery Plan and the Marine Mammal Protection Act Take Reduction Plan priorities when evaluating marine mammal projects.

*Atlantic Salmon.*—NOAA has identified major threats to Atlantic salmon, including interrelated effects of freshwater salmon habitat loss, lost prey buffering, and marine derived nutrients from declines of co-evolved diadromous species. Within the funding provided for Atlantic Salmon, the Committee directs NOAA to enable a broader use of funds for restoration of diadromous species and habitats that support salmon recovery by providing ecological functions critical to the Atlantic salmon life cycle. The Committee further directs NOAA to ensure that adequate resources continue to be provided for State agencies to implement the recovery strategy effectively.

*Pacific Salmon.*—Within the funding provided for Pacific Salmon, NOAA shall consider expanding salmonid monitoring activities, including through the use of tags and acoustic tracking to utilize real-time monitoring to avoid impacts to protected species. NOAA is also encouraged to work with partners to address the backlog of hatchery genetic management plans and expedite approval.

*Promote and Develop Fisheries Products and Research Funding Transfer.*—The bill maintains the provision restricting the use of the Promote and Develop Fisheries Products and Research funds transferred from the Department of Agriculture to NOAA in a way that better meets the intended purpose of the transfer mandated

by the Saltonstall-Kennedy Act. None of the funds may be used for internal NOAA or DOC management, but rather, funds may only be used for activities that directly benefit U.S. fisheries and fishery communities. Specifically, these funds may only be used for: cooperative research; annual stock assessments; efforts to improve data collection, including catch monitoring and reporting for commercial, charter, and recreational fisheries; interjurisdictional fisheries grants; and Fisheries Information Networks.

As part of the fiscal year 2020 spending plan, NOAA shall include a detailed accounting, by object class, of how the Promote and Develop transfer funds will be allocated based on the funding criteria described in this bill.

*Saltonstall-Kennedy [S-K] Grant Program.*—The Committee rejects the Administration’s proposal to eliminate the S-K grant program and directs NOAA to obligate no less than 95 percent of the S-K grant program funds externally through a competitive grant process. NOAA shall consult with a diverse group of industry participants representing the entirety of the supply chain, from all regions of the country, to identify funding priorities. Prior to obligating these funds, NOAA shall provide the Committee with a detailed spending plan describing which fisheries activities will be funded in each of the regions and how the plan incorporates regional priorities. The Committee further encourages NOAA to prioritize marketing and development of the seafood industry, as was the original intent of the S-K grant program.

*NMFS Staffing.*—The Committee acknowledges that NMFS regional and scientific staff are most effective in meeting their mission when located in the communities they serve. To the greatest extent practicable, the Committee directs NMFS to proactively station regional science center staff and leadership within the regions they serve.

*NMFS Facilities.*—The Committee supports NOAA’s efforts to reduce costs and achieve a more efficient and effective facilities footprint, and adopts the proposed divestment of the Pacific Grove Laboratory and Building 74 of the James J. Howard Marine Sciences Laboratory. However, the Committee does not adopt the proposed divestment of the Estuarine Habitats and Coastal Fisheries Center. NOAA is encouraged to work with the other Federal occupants of the Estuarine Habitats and Coastal Fisheries Center to develop a plan to transfer ownership and transition NOAA personnel from the Center to another location on the U.S. Gulf Coast. NOAA shall deliver this plan to the Committee within 270 days of enactment of this act to inform any future action.

*Aleutian Island Pollock.*—The Committee directs NMFS to continue providing technical support, as needed, to the recipients of the Exempted Fishing Permit [EFP] for the pollock test fishery in the Bering Sea and Aleutian Islands management area. Depending on the results of the EFP, NMFS should consider additional regulatory changes to the management of Aleutian Islands pollock.

*Fisheries Surveys.*—The Committee is concerned that NMFS is not prioritizing and maintaining the needed level of fisheries survey coverage, despite having received more than adequate funding from the Committee in previous fiscal years to do so. The Committee notes that any reduction in fisheries survey coverage is un-

acceptable, especially in areas where the distribution of fish stocks are changing due to climate change. Therefore, an additional \$2,000,000 above the fiscal year 2019 enacted level is provided for NMFS to maintain historical levels of fisheries survey coverage in fiscal year 2020. At this funding level the Committee expects NMFS to contract no less than five vessels for Alaskan bottom trawl surveys and cooperative research, and no less than four vessels for west coast groundfish surveys. Further, NMFS shall provide the Committee, concurrent with the submission the fiscal year 2020 spending plan, a detailed accounting of how funding within Fisheries Data Collections, Surveys and Assessments will be allocated by region for fisheries surveys and assessments as well as how that compares with the levels provided in fiscal years 2017, 2018, and 2019.

*Gulf Reef Fish.*—The Committee recognizes that accurate estimates of reef fish, such as red snapper, gray triggerfish, greater amberjack, and gag grouper, in the Gulf of Mexico require additional resources for research and assessment. Within funding under Fisheries Ecosystem Science Programs and Services, the Committee provides no less than \$2,000,000 for NMFS to support Gulf reef fish surveys, research, and sampling. Additional direction and resources are provided within Oceanic and Atmospheric Research [OAR] to support agency-independent partnerships with academic research institutions. NMFS is encouraged to collaborate with OAR on the formulation and execution of this opportunity.

*State Management for Recreational Red Snapper.*—The Committee commends the Gulf of Mexico Fishery Management Council for approving “Reef Fish Amendment 50: State Management for Recreational Red Snapper,” and in so doing delegating management authority of the private angling component for recreational red snapper fishing to each Gulf State. The Committee urges the Department to approve this measure and believes successful implementation should be a top priority for NMFS. Therefore, within the amount provided for Fisheries Data Collections, Surveys and Assessments, the Committee provides \$5,000,000 for NMFS to continue to deliver technical support to the Gulf States to ensure successful implementation by each State.

Additionally, the Committee directs NMFS to continue to certify and incorporate agency-independent and alternative approaches to stock assessments, including surveys developed by Gulf States, into the agency’s stock assessments used for the management of reef fish in the Gulf of Mexico. Furthermore, all stock assessments used by NMFS for Gulf reef fish should include fishery data collected on artificial reefs, offshore oil platforms, and other offshore fixed energy infrastructure.

*South Atlantic Reef Fish.*—NMFS shall consider employing the independent and alternative stock assessment strategies directed by the Committee for the Gulf of Mexico to NMFS assessments of reef fish in the South Atlantic. The Committee provides up to \$1,500,000 for these activities and notes deficiencies that have plagued reef fish management in the Gulf of Mexico also affect NMFS management of reef fish in the South Atlantic.

*For-Hire Electronic Monitoring and Reporting [EM/ER] Implementation.*—Within Fisheries Management Programs and Services,

the Committee provides \$2,650,000 above the fiscal year 2019 level for data collection and catch and effort validation to support timely implementation of electronic logbooks for the federally permitted charter-for-hire sector in the Gulf of Mexico. Further, the Committee provides \$1,525,000 above the fiscal year 2019 level within Enforcement for associated State and Federal enforcement activities necessary to ensure successful implementation. Within existing resources, the Committee directs NMFS to continue supporting implementation of EM/ER in the South Atlantic.

*Fishing Gear Selectivity Study.*—Within funding provided for Fisheries Data Collections, Surveys and Assessments, NOAA shall consider conducting a multiyear, agency-independent study to evaluate the selectivity and potential bias of different gears used to assess reef fish populations in the South Atlantic region, which should build on recent work being conducted by State agencies on red snapper. Specifically, the study should address whether the use of certain gear by the South Atlantic Marine Resources Monitoring, Assessment, and Prediction Survey, such as Chevron traps, fail to adequately sample across age classes of reef fish, including red snapper, due to the different behaviors and habits exhibited by larger and smaller fish within the same or similar species. NOAA is further encouraged to initiate a multiyear, agency-independent study using multiple hooked-gears to sample South Atlantic red snapper for age composition, sexual maturity, and egg production.

*Lobster Fishing Gear.*—The Committee encourages further collaboration among states, the fishing industry, academic institutions, and nongovernmental organizations in the development of innovative gear through field trials and preliminary implementation.

*Fisheries Information Networks.*—Within funding provided for Fisheries Data Collections, Surveys and Assessments, \$24,000,000 is provided for Fisheries Information Networks. The Committee directs NMFS to dedicate the entire increase above the fiscal year 2019 enacted level to support Fisheries Information Systems grants.

*Northwest Fisheries Ecosystem Monitoring System.*—The Committee recognizes the importance of long-term data series monitoring ocean conditions and ecological indicators. This information is important in management decisions for salmon and other marine species, and to enable advance forecasting capabilities for early detection of ocean conditions known to produce harmful toxins that affect regional fisheries closures. Within funds for Fisheries Data Collections, Surveys and Assessments, the Committee provides \$500,000 to maintain a time-series monitoring system that includes no less than monthly data collection, analysis, and dissemination of hydrographic and ecological data to inform fishery management on the Northern California Current.

*Pacific Bluefin Tuna.*—The Committee is concerned by the depleted status of Pacific bluefin tuna. The Committee encourages NMFS to allocate resources in support of the Management Strategy Evaluations for Pacific bluefin tuna and other priority highly migratory species managed under international agreements. Further, the Committee calls upon NMFS to ensure a strong U.S. negotiating position on Pacific bluefin tuna recovery by providing resources to support engagement of the Pacific Fishery Management

Council and U.S. stakeholders to ensure continued progress on the international recovery plan.

*American Lobster and Jonah Crab Research.*—American lobster is the Nation’s most valuable single-species fishery, with 2017 landings valued at \$552,000,000. The Jonah crab fishery is a rapidly growing alternative fishery that allows American lobster harvesters to adapt to changing ocean conditions. Jonah crab landings were valued at \$16,200,000 in 2017 and are expected to grow. Adequate data are required to ensure that State and interstate managers can effectively and sustainably manage these stocks. The Committee provides up to \$300,000 within Fisheries Data Collections, Surveys and Assessments to support a cooperative research program to collect biological, fishery, and environmental data for American lobster and Jonah crab using modern technology on commercial fishing vessels.

*Fisheries Effort Survey [FES].*—The Committee is concerned by reports that the Marine Recreational Information Program FES may be vastly overstating fishing effort. While the FES methodology represents a clear improvement from previous methodologies, the Committee supports the cautious approach to utilizing these estimates advocated by the Gulf of Mexico Fishery Management Council and South Atlantic Fishery Management Council Scientific and Statistical Committees. The Committee encourages NMFS to conduct a thorough analysis of the effect of such estimates on stock status and allocation before they are used for stock management.

*Data Collection for Recreational Fisheries.*—Through passage of the Modern Fish Act (Public Law 115–405), Congress reaffirmed the need for NMFS to develop alternative management approaches and more reliable fishery data collection tools for recreational fisheries. The Committee provides no less than \$2,500,000 within Fisheries Data Collection, Surveys and Assessments, to support collaborative programs focused on improving recreational fishery data collection, as articulated in sections 201 and 202 of Public Law 115–405. This funding should focus on assisting States to establish, test, and implement more reliable recreational fishery data collection tools, such as smartphone applications or text messaging supplements. The Committee also looks forward to receiving the studies called for in sections 101 and 103 of Public Law 115–405.

*Atlantic Herring Stock Assessment.*—The Committee directs NMFS to ensure that its 2020 Atlantic herring assessment is completed on schedule and to notify the Committee if it anticipates that the deadline will not be met.

*Northeast Groundfish Research.*—The Committee is concerned about the decline of the Northeast multispecies fishery and the health of fishing stocks in the Gulf of Maine. Within funding provided for Fisheries Ecosystem Science Programs and Services, the Committee provides \$2,500,000 for groundfish research, with a focus on the effects of changing climatic conditions and warming waters on the fishery, including stock health and natural mortality. NOAA is further encouraged to prioritize research regarding relative gear efficiency and stock boundaries. Within funding provided, \$500,000 shall be obligated to develop methods for improving and increasing utilization of the full range of available fishery dependent data to better inform groundfish stock abundance esti-

mates, including implementation of the recommendations set forth in the New England Fishery Management Council's Fishery Data for Stock Assessment Working Group Report. This funding is intended to support research conducted by the Northeast Fisheries Science Center, research conducted separately by, or in collaboration with, outside partners such as higher education institutions or State agencies, and research conducted in cooperation with the fishing industry.

*Cooperative Research.*—Depleted fish stocks result in significant economic losses to our Nation. At a time when fishing opportunities are constrained by uncertainty in stock assessments and increased access to healthy stocks depends on better data, the Committee believes that maintenance of ongoing monitoring programs, surveys, and improved research is critical. The Committee encourages NMFS to continue to prioritize long-time series surveys that are conducted cooperatively with industry and States. NMFS is additionally encouraged to prioritize studies using video systems deployed in commercial trawl nets for surveys conducted cooperatively with States, industry, and nonprofit institutions that can be validated and incorporated into survey data. NMFS is also encouraged to focus on improved understanding of natural mortality and relative gear efficiency to ensure accurate measures of catchability. Furthermore, the Committee encourages the Northeast Fisheries Science Center to consider prioritizing cooperative research efforts for species that are experiencing shifts in range and population density due to warming waters and other global environmental changes.

*Electronic Monitoring and Reporting.*—Within Fisheries Ecosystem Science Programs and Services, the Committee provides no less than the fiscal year 2019 level for EM/ER to support the development, testing, and installation of EM/ER technologies across the country. The Committee recognizes that advancements in EM/ER have the potential to cut costs and improve data collection for most U.S. fisheries. NMFS is directed to prioritize EM/ER implementation in fiscal year 2020, and expedite to the fullest extent practicable the transition to full EM/ER. Within the funds provided for these activities, not less than \$3,500,000 shall be available, in accordance with 16 U.S.C. 3701, for collaborative partnerships that include non-Federal matching funds to implement cost-shared EM/ER programs that support fisheries conservation and management. During the development and implementation of electronic reporting and monitoring programs, NOAA shall consult directly with industry and work through the Fishery Management Councils (established under sections 1851 and 1852 of title 16, United States Code) to develop appropriate cost-sharing arrangements that are commensurate with the ex-vessel value of the fishery.

Furthermore, NMFS shall continue to work in fiscal year 2020 with the charter for-hire recreational fishery fleet in the Gulf of Mexico; the Northeast multispecies groundfish fishery fleet, including small vessels within that fleet; the Maine lobster fleet; and any regional fishery fleet interested in implementing EM/ER technologies to better track information that is currently collected through the use of human observers.

*Northeast Multispecies Fishery.*—The Committee recognizes that the New England groundfish fisheries management programs continue to present substantial financial challenges to the participants as well as to the economic sustainability of those fisheries and fishing communities. NOAA is directed to fully fund the At-Sea Monitoring costs in the New England groundfish fishery, including sea and shore side infrastructure costs. The Committee provides no less than the fiscal year 2019 enacted amount within Observers and Training for this purpose. Before obligating any of these funds, NOAA shall provide the Committee with a detailed spending plan. Further, NOAA is directed to submit a report to the Committee not less than 180 days after enactment of this act that outlines the current status of electronic monitoring and reporting EM/ER technology for the Northeast multispecies fishery, including an assessment of whether fully operational EM/ER procedures will be ready to replace At-Sea Monitoring on a voluntary basis by September 30, 2021, and if not, an evaluation of the current barriers. The report should also specify methods that will improve the quality and utility of At-Sea Monitoring and electronic monitoring data for purposes of achieving more reliable estimates of stock abundance a \$1,000,000 increase above the fiscal year 2019 level.

*International Fisheries Management Coordination.*—The Committee is aware that conflicting American and Canadian fisheries management measures in the Gulf of Maine have generated concerns from the domestic fishing and lobster industries, due to differing conservation regulations. The Committee encourages NOAA to work with Canadian and state fisheries officials to explore the possibility of developing an agreement that provides for cooperative fisheries management of this unique area.

*North Pacific Observer Coverage.*—Within Observers and Training, the Committee provides no less than \$7,000,000 for the North Pacific Observers Program a \$1,000,000 increase above the fiscal year 2019 level.

*Illegal, Unreported, and Unregulated [IUU] Fishing.*—Under Fisheries Management Programs and Services, the Committee provides no less than the fiscal year 2019 amount to combat IUU fishing, including continued execution of the program established under section 539 of the Commerce, Justice, Science, and Related Agencies Act, 2018 (Public Law 115–141).

Under Enforcement, an additional \$1,600,000 is provided for NMFS to improve its enforcement of the program and strengthen efforts to detect and deter illegally harvested and improperly documented seafood, including working with other U.S., international, and foreign agencies to ensure fair competition for our country's domestic fishermen and safety for American consumers.

Additionally, NOAA is directed to consider how innovative remote sensing technology could help fulfill its IUU mission, including satellite imaging and traceability, and shall consider developing a comprehensive IUU enforcement strategy in consultation with the U.S. Coast Guard. NOAA may also confer with the Federal Law Enforcement Training Center [FLETC] and may contract with FLETC to assess and provide technical assistance to improve NOAA's current law enforcement strategy.

The Committee encourages NOAA to work with U.S. Customs and Border Protection to improve and expand efforts to identify high-risk shipments and collect critical import data in order to increase enforcement of import restrictions on IUU seafood products and expand investigations of foreign IUU hotspots.

*Bycatch Reduction.*—The development and implementation of practical bycatch solutions is a priority for U.S. and international fisheries management and protected species conservation. The Committee supports the requested amount for reducing bycatch, of which NMFS is directed to make no less than the fiscal year 2019 amount available for competitive grants to non-Federal researchers working with U.S. fishermen on the development of improved fishing practices and innovative gear technologies.

*Pacific Coast Groundfish Fishery.*—The Committee recognizes the ongoing impacts on the Pacific coast groundfish fishery trawl industry resulting from NMFS's delay in promulgating regulations to collect loan payments for the 2003 fishing vessel and permit buyback program. This delay caused an additional \$4,000,000 in interest to accrue, resulting in an estimated \$10,000,000 of additional loan payments for the Pacific coast groundfish fishery trawl industry. The Committee notes the implementation of the Revitalizing the Economy of Fisheries in the Pacific Act of 2014, section 3095 of Public Law 113–291, which is intended to provide relief related to this legacy issue.

*Regional Pilots in Sustainable Aquaculture.*—The NMFS Aquaculture Office is directed to continue regional pilot programs for partnerships between the seafood industry and community partners that can develop, validate, and deploy economically and environmentally sustainable aquatic farming techniques and regional business practices to grow domestic seafood production. To maximize the impact of these pilot grants, NMFS is encouraged to give priority consideration to promising but less commercially developed technologies, such as those targeting shellfish, seaweed, and other relative newcomers to the domestic aquaculture industry. The Committee provides \$2,500,000 in the NMFS Aquaculture budget for this purpose. This funding is in addition to the laboratory funding for NOAA's fisheries science centers engaged in aquaculture research, which shall be funded at no less than the fiscal year 2019 enacted level.

*Aquaculture Activities at Fisheries Science Centers.*—The Committee remains concerned about the staffing levels at NMFS fisheries science centers. NOAA is encouraged to grow staffing levels and improve resources and facilities at the Northeast and Northwest Fisheries Science Centers to return staffing levels to those in fiscal year 2010.

*Oyster Aquaculture, Research, and Restoration.*—Within the funding level provided for NMFS Aquaculture, the Committee provides no less than \$5,000,000 to support ongoing research in off-bottom Eastern oyster production in coastal areas, particularly in areas where this method is being exploited for commercial production, including the Gulf of Mexico, and encourages NMFS to dedicate resources to support regional partnerships for genetics, disease, and economic modeling.



In addition, the Committee recognizes that the shellfish farming industry is composed of thousands of small farmers who are unable to fund critical research in the fields of shellfish disease, food safety, warming waters, and ocean acidification. To improve coordination and consistency, the Committee directs NMFS Aquaculture to engage and partner with industry, academic institutions, and States to conduct collaborative research to address the challenges facing this growing industry. Further, NMFS Aquaculture is encouraged to coordinate with the Department of Agriculture's Agricultural Research Service [ARS] to leverage and supplement existing ARS shellfish research partnerships.

*Salmon Management Activities.*—Within the amount provided for Salmon Management activities, the Committee recommends \$34,500,000, an increase of \$19,000,000 above fiscal year 2019, to enable NOAA, the Pacific States, and tribal communities to begin implementation of the obligations set forth in the 2018 Pacific Salmon Treaty. Before any of these funds may be obligated, NOAA is directed to provide the Committee with a detailed spending plan that is reflective of the funding recommendations produced by the U.S. section of the Pacific Salmon Commission and that strikes an appropriate balance between annual and initial funding needs. In doing so, NOAA is directed to consult with the Pacific States, tribal communities, and other stakeholders. Further, NOAA is encouraged to minimize, to the extent practicable, the amount of funds withheld for administrative expenses.

The Committee also provides no less than the fiscal year 2019 amount for the operation and maintenance of Mitchell Act hatcheries.

*Genetic Stock Identification.*—The Committee supports continued research and testing of genetic stock identification [GSI] management techniques in the Pacific salmon fishery to meet the dual purpose of protecting declining and the ESA listed stocks, while allowing for sustainable commercial and recreational access to healthy stocks in the wild. NMFS shall continue to support GSI research, including the collection, analysis, and testing of methods that rely on genetics-based data to identify and track the location of federally protected stocks in the wild.

*Fishery Councils and Commissions.*—The Committee provides \$40,247,000 to support the Regional Fishery Management Councils, Interstate Marine Fisheries Commissions, and International Fisheries Commissions. The Committee recognizes the important role that regional management plays in sustaining a balanced ecosystem and healthy fish populations and the advantage that aggregate data can provide in understanding emerging trends across our Nation's fisheries. The Committee directs the Regional Councils and Fisheries Commissions to prioritize research and monitoring of high priority species in the face of changing environmental conditions.

*Cooperative Agreements with States.*—The Committee rejects the administration's proposal to eliminate funding for cooperative enforcement agreements with States, including execution of Joint Enforcement Agreements. Instead, the Committee provides \$18,500,000 for these agreements, which are critical for proper surveillance and enforcement of our nation's fisheries laws.

The Committee is concerned that NMFS's Office of Law Enforcement [OLE] has overly bureaucratized its administration of these agreements, to the point that some longstanding State and Territorial enforcement partners have considered no longer participating. Therefore, no later than 90 days after enactment of this act, NMFS OLE is directed to convene a meeting with the State and Territorial enforcement partners to discuss measures that can be taken to reduce administrative and bureaucratic burdens that have been levied upon them. NMFS shall brief the Committee, not later than 180 days after enactment of this act, on the results of the meeting, including what actions will be taken to reduce burdens.

*Northeast Lobster Enforcement.*—The Committee encourages continued collaboration between States, NOAA, and the U.S. Coast Guard to improve Federal capacity for offshore lobster enforcement in the Northeast. Offshore enforcement and tracking of vessels in the fixed-gear fisheries, such as lobster, is critical to ensure fishing gear is compliant and minimizes negative impacts on whale health.

*Horseshoe Crab Survey.*—The Committee remains concerned about the ability to estimate the abundance of the mid-Atlantic horseshoe crab population. Adequate data are required to ensure State and interstate managers can effectively manage the stock, which is important to the biomedical and commercial fishing industries, as well as to the ecology of the mid-Atlantic region. The Committee directs NMFS to continue this important survey to generate the data necessary to ensure the mid-Atlantic horseshoe crab stock remains on a sustainable path.

*Seafood Reporting.*—The United States leads the world in responsibly managed fisheries and aquaculture, and the Committee supports NOAA's activities to inform consumers about our Nation's sustainable fisheries through the agency's FishWatch program. However, the Committee is concerned that the exclusive use or recognition of third-party certifications for seafood sustainability by the Department could have unintended consequences for various domestic fisheries. The Committee acknowledges that some U.S. fisheries voluntarily utilize third-party seafood sustainability certification schemes but believes it is not the Department's role to adopt such certification schemes when doing so could result in the Department arbitrarily influencing the U.S. domestic seafood market. The Committee believes support for third-party certifications is best presented in non-governmental forums. Therefore, the Committee directs the Department not to adopt, use, or promote any third-party certification scheme for seafood sustainability but to instead continue providing consumers with independent and accountable information generated from within the Department.

*Economic Impact of Turtle Excluder Devices [TEDs].*—The Committee encourages NMFS to continue its efforts to pursue alternatives that would lessen the negative economic impacts of any potential rule requiring all skimmer trawls, pusherhead trawls, and wing nets rigged for fishing to use TEDs in their nets, while still maintaining conservation measures.

*Habitat Conservation and Restoration.*—The Committee provides \$56,885,000 for Habitat Conservation and Restoration activities. The Committee provides no less than the fiscal year 2019 enacted amount to address the Essential Fish Habitat consultation backlog.

Within the amount provided, NOAA is encouraged to include funding for the multi-year Habitat Blueprint Focus Area partnership agreements developed under the Habitat Blueprint initiative. The Committee encourages NOAA to include a broader ecosystem-based management philosophy; expand criteria to include recreational species, managed commercial species, and forage species; and prioritize proposals that engage local communities. NOAA should continue to emphasize the value of partnerships when evaluating grant applications.

*Oyster Restoration.*—The Committee encourages NOAA to work with external partners to research alternative substrates for oyster restoration. NOAA is encouraged to consider survivability as part of the oyster restoration program in the Chesapeake Bay. The Committee provides no less than the fiscal year 2019 enacted amount within Habitat Conservation and Restoration to support oyster restoration in the Chesapeake Bay.

*Kelp Forests.*—Kelp forests found off the U.S. West Coast are vibrant ecosystems that sustain a variety of unique species. However, these ecosystems face a number of compounding pressures that threaten their survival, including warming waters and overpopulation of purple sea urchins. The Committee encourages NOAA to investigate measures to protect kelp forests, including controlling urchin populations. In addition, the Committee encourages NOAA to support efforts to survey kelp forests.

*Regional Biosecurity Plan for Micronesia and Hawaii.*—The Committee looks forward to receiving the report required in fiscal year 2019 appropriations act and requires an update for fiscal year 2020.

NOAA OCEANIC AND ATMOSPHERIC RESEARCH

The Committee’s recommendation provides \$531,207,000 for Oceanic and Atmospheric Research [OAR]. OAR programs provide environmental research and technology needed to improve NOAA weather forecasts, climate predictions, and marine services. To accomplish these goals, OAR supports a network of scientists in its Federal research laboratories, universities, and joint institutes and partnership programs.

Committee recommendations are displayed in the following table:

OCEANIC AND ATMOSPHERIC RESEARCH OPERATIONS, RESEARCH AND FACILITIES

[In thousands of dollars]

	Committee recommendation
Climate Research:	
Laboratories and Cooperative Institutes .....	61,000
Regional Climate Data and Information .....	39,000
Climate Competitive Research .....	60,000
Total, Climate Research .....	160,000
Weather and Air Chemistry Research Programs:	
Laboratories and Cooperative Institutes .....	80,758
U.S. Weather Research Program .....	22,080
Tornado Severe Storm Research/Phased Array Radar .....	14,134
Joint Technology Transfer Initiative .....	15,000

OCEANIC AND ATMOSPHERIC RESEARCH OPERATIONS, RESEARCH AND FACILITIES—Continued  
 [In thousands of dollars]

	Committee recommendation
Total, Weather and Air Chemistry Research .....	131,972
Ocean, Coastal, and Great Lakes Research:	
Laboratories and Cooperative Institutes .....	35,000
National Sea Grant College Program .....	75,000
Marine Aquaculture Research .....	13,000
Sustained Ocean Observations and Monitoring .....	44,000
Integrated Ocean Acidification .....	12,000
Ocean Exploration .....	42,000
National Oceanographic Partnership Program [NOPP] .....	5,000
Total, Ocean, Coastal, and Great Lakes Research .....	226,000
High Performance Computing Initiatives .....	13,235
GRAND TOTAL OAR .....	531,207

*Climate Research.*—The Committee rejects OAR's request to eliminate Climate Competitive Research.

*Coastal Resilience.*—Within funding provided for Climate Competitive Research, NOAA is encouraged to partner with State Sea Grant programs and work to enhance the coastal resilience of remote communities at most risk to natural disasters and chronic events, with a priority given to challenges faced by tribal, indigenous, or economically disadvantaged communities.

*Arctic Research.*—The Committee provides no less than \$6,000,000, an increase of \$1,000,000 above the fiscal year 2019 level, for Arctic research funded under OAR's Climate Laboratories and Cooperative Institutes and Regional Climate Data and Information.

*Weather & Air Chemistry Laboratories and Cooperative Institutes.*—The Committee adopts the proposed transition of the Unmanned Aircraft Systems office from OAR to the Office of Marine and Aviation Operations, as part of the establishment of an unmanned systems operations program. The Committee rejects all other proposed cuts to Weather & Air Chemistry Laboratories and Cooperative Institutes, including the elimination of the Air Resources Laboratory [ARL]. No less than the fiscal year 2019 level is provided for ARL.

*Vortex-Southeast [Vortex-SE].*—The Southeastern United States commonly experiences devastating tornadoes under variables and conditions that differ considerably from the Midwest, where tornado research has historically been focused. Within funds provided for Weather and Air Chemistry Research Programs, no less than \$5,000,000 is provided for OAR to continue collaborating with the National Science Foundation's Vortex-SE initiative to better understand how environmental factors that are characteristic of the Southeastern United States affect the formation, intensity, and storm path of tornadoes for this region.

*Hydrologic Modeling Grants.*—The Committee recognizes the success of the National Water Model in advancing flood forecasting and predicting other water related hazards. Within funding for the

U.S. Weather Research Program, the Committee provides no less than the fiscal year 2019 level for OAR to make grants available for research activities to advance the National Water Model, including improving measurements of snow depth and soil moisture data, and the development of high resolution hydrologic modeling systems to address issues related to floods, drought, water quality, and ecosystem health. Research should include addressing water-related issues in the Southeastern United States, including those relating to agriculture.

*Infrasonic Weather Monitoring Research.*—Within funding provided for the U.S. Weather Research Program, the Committee provides up to \$1,000,000 to support external research opportunities with academic institutions in infrasonic monitoring methods of violent weather. The Committee believes that advanced infrasound signal processing methodologies and studies, deployed through a network of infrasound arrays to detect tornadoes and hurricanes, have the potential to improve forecast accuracy.

*Weather Modeling Improvement and Innovation.*—Within funding for the U.S. Weather Research Program, the Committee provides no less than \$7,000,000 for NOAA to establish the Earth Prediction Innovation Center [EPIC], as authorized by the National Integrated Drought Information System Reauthorization Act of 2018 (Public Law 115–423). The Committee expects that this investment will lead to improvements in NOAA’s operational weather forecasting capabilities to protect life and property. Before any funds for EPIC may be obligated, NOAA is directed to provide the Committee with a five-year strategic plan for EPIC that outlines: (1) NOAA’s investment strategy for the Center, which is expected to consist of an extramural center approach that is leveraged by intramural investment; and (2) quantitative goals for improving NOAA’s operational weather forecasting capabilities.

*Phased Array Radar [PAR] Program.*—The Committee recognizes the importance of the PAR program and other advanced radar research and development in satisfying the agency’s weather and related requirements, and provides an additional \$1,500,000 for these purposes. The Committee looks forward to receiving the plan requested in the Joint Explanatory Statement accompanying the Consolidated Appropriations Act, 2019, (Public Law 116–6).

*Radiative Forcing.*—The Committee is aware of the National Academies of Sciences’ [NAS] development of a research agenda and governance approaches for climate intervention strategies and the participation of NOAA in this process. The Committee looks forward to receiving the results of the NAS study to inform future action.

*Ocean, Coastal, and Great Lakes Laboratories and Cooperative Institutes.*—The Committee provides \$35,000,000 for Ocean, Coastal, and Great Lakes Research Laboratories and Cooperative Institutes and expects the administration to fully fund Cooperative Institutes at appropriate levels in future years. This funding level reflects the Committee’s adoption of the proposed transition of the Autonomous Underwater Vehicle Demonstration Testbed from OAR to the Office of Marine and Aviation Operations, as part of the establishment of an unmanned systems operations program.

The Committee continues to strongly support the established institutes, including those focused on watershed effects on marine ecosystems, remote sensing, long-term monitoring of oil spill impacts on marine ecosystem health, coastal resilience, ocean exploration within the U.S. Exclusive Economic Zone, and harmful algal blooms.

*Cooperative Institutes for the 21st Century [CI21].*—The Committee supports the vision of NOAA’s “Prospectus for Cooperative Institutes in the 21st Century,” and directs NOAA to fully implement the CI21 recommendations to the extent to which the agency has not already done so. Within 90 days of enactment of this act, NOAA is directed to submit a report to the Committee that details how each of the CI21 recommendations have been, or are being, implemented. Furthermore, OAR is directed to provide the Committee the results of the review of Cooperative Institute research themes and efforts called for within CI21.

*National Sea Grant College Program.*—The Committee roundly rejects the administration’s proposed elimination of NOAA’s Sea Grant program. Instead, the Committee provides an increase of \$7,000,000 above the fiscal year 2019 level for the Sea Grant program and its research, education, extension, and outreach activities, which are critical for coastal communities and benefit the entire Nation. This level of funding supports the key focus areas in the program’s strategic plan: sustainable fisheries and aquaculture, resilient communities and economies, healthy coastal ecosystems, environmental literacy, and workforce development. In addition, the Committee directs NOAA to continue funding all Sea Grant STEM education and fellowship programs. Further, NOAA is directed to continue its partnership with academic programs that provide legal expertise related to Sea Grant’s mission and also encourages the Sea Grant program to prioritize providing training, education, outreach, and technical assistance for young fishermen.

Additionally, the Committee understands that the Sea Grant program provides no less than \$1,000,000 in annual base funding, or \$4,000,000 over the course of the 4-year grant cycle, to each Sea Grant program with Institutional or College Program status. NOAA is directed to continue this funding model.

*Sea Grant Fellowship Program.*—NOAA’s Sea Grant program is reminded that the Committee’s broad support is due to the program’s historically objective standards, State-driven goals, and non-partisan priorities. Within NOAA’s Sea Grant program, the National Sea Grant Fellowship program serves as a valuable pipeline for our Nation’s future ocean science and policy experts. The Fellowship program should remain objective and apolitical, and should increase its efforts to recruit qualified, non-partisan candidates who are committed to working on oceans and coastal issues for any Member of Congress, regardless of political affiliation.

*Fisheries-Related Research.*—The Committee looks forward to receiving, and being briefed on, the results of the Sea Grant sponsored project to “Estimate the Absolute Abundance of Red Snapper in the U.S. Gulf of Mexico” in fiscal year 2020.

The Committee remains concerned about the negative impacts of short recreational fishing seasons for other reef-fish in the Gulf of Mexico. Additional data sources and assessment approaches are

also needed for these species and these efforts should continue to be pursued by entities other than NOAA's regulating line office, NMFS. Therefore, the Committee provides \$5,000,000 within Sea Grant above the fiscal year 2019 level to partner with academic research institutions to develop agency-independent estimates of the abundance of greater amberjack in the Gulf of Mexico. Sea Grant is encouraged to coordinate with NMFS during the formulation and execution of this opportunity.

*American Lobster Research.*—Within funding for the Sea Grant program, the Committee provides \$2,000,000 for partnerships between State agencies, academia, and industry to address American lobster research priorities in the Gulf of Maine, Georges Bank, and southern New England. Research should focus on overcoming reduced availability of herring for lobster bait and stock resilience in the face of environmental changes, including life history parameters, distribution and abundance, and species interactions, with the purpose of informing future management actions.

*Highly Migratory Species.*—The Committee provides no less than the fiscal year 2019 enacted level within OAR for the Sea Grant program to partner with State agencies, academia, and the fishing industry to research highly migratory fish species in the Gulf of Mexico and the Atlantic. This should include examining the impact of offshore oil platforms on the biology of highly migratory species, such as yellow fin tuna. Highly migratory species, and the coastal communities that rely on the health of these stocks, could greatly benefit from improved, science-based management and conservation.

*Aquaculture Research.*—The Committee provides \$13,000,000 for marine aquaculture research. NOAA is directed to support marine aquaculture research and development in partnership with universities, including with Historically Black Colleges and Universities. Similar research efforts have led to beneficial outcomes such as the development and commercialization of new technologies to meet the domestic demand for seafood, including finfish, shrimp, and oysters. NOAA is encouraged to use the increase above fiscal year 2019 levels to explore new research topics, including engineering of ocean-based infrastructure, accumulation and metabolization rates of brevetoxins in commonly farmed shellfish, and integrated multi-trophic aquaculture.

*Ocean Exploration.*—The Committee directs OAR to maximize the amount of appropriated funding provided to the new Ocean Exploration Cooperative Institute. NOAA is also encouraged to work with the Department of Defense and other relevant agencies to continue fundamental ocean exploration in which open source data are collected for the oceanographic community and private industries in real-time through telepresence technology.

*National Oceanographic Partnership Program.*—The Committee provides \$5,000,000 to advance ocean science research through the National Oceanographic Partnership Program [NOPP] (10 U.S.C. 7901–7903), provided that none of the funding provided may be used to support more than 50 percent of any particular project cost.

The Committee supports the original intent of NOPP, and encourages NOAA to leverage this investment by partnering with other Federal agencies with a shared interest in ocean research,

operations, technology, education, and natural resource management, to pursue research that advances multiple agency missions.

*Environmental Genomics.*—The Committee rejects the administration’s proposal to terminate the environmental genomics program. Instead, the Committee provides no less than the fiscal year 2019 enacted level for these activities. The Committee notes that NOAA’s work in this area suggests that environmental genomics is a promising, reliable, and affordable ocean observation tool.

NOAA NATIONAL WEATHER SERVICE

The Committee’s recommendation provides \$1,060,045,000 for the National Weather Service [NWS]. NWS programs provide timely and accurate meteorologic, hydrologic, and oceanographic warnings and forecasts to ensure the safety of the population, mitigate property losses, and improve the economic productivity of the Nation. NWS is also responsible for issuing operational climate forecasts for the United States. The Committee has made saving lives and livelihoods through accurate weather forecasting a priority.

The Committee’s recommendations are displayed in the following table:

NATIONAL WEATHER SERVICE OPERATIONS, RESEARCH, AND FACILITIES  
[In thousands of dollars]

	Committee recommendation
Observations .....	229,662
Central Processing .....	97,980
Analyze, Forecast, and Support .....	509,850
Dissemination .....	75,093
Science and Technology Integration .....	147,460
<b>GRAND TOTAL NWS .....</b>	<b>1,060,045</b>

*Information Technology Officers [ITOs].*—The Committee does not approve the NWS proposal to consolidate ITOs. The Committee notes that NWS was again invited to submit a proposal for a single pilot Regional Enterprise Application Development and Integration [READI] team comprised of volunteer ITOs. However, the Committee still has not yet received such a proposal. Should NWS decide to submit a proposal for a single pilot READI team project, its subsequent successes and challenges will assist the Committee in evaluating the larger consolidation proposal if resubmitted in future fiscal years.

*NWS Staffing.*—The Committee recognizes NWS’s work to fill vacancies, especially for weather forecast personnel. However, there is a long way to go, and the Committee continues to be concerned with the number of NWS employee vacancies. Given the importance of the NWS mission to protect the lives and property of our Nation’s citizens, extended vacancies are unacceptable—particularly when the Committee has provided more than adequate resources and direction to fill vacancies expeditiously for the past several fiscal years. The Committee does not adopt the proposed NWS workforce savings and directs NWS to continue efforts to fill all vacancies as expeditiously as possible.



Furthermore, NOAA shall continue to provide quarterly briefings to the Committees on all NWS staffing issues, to include: a list of funded vacancies, by type and location, including the length of time the positions have been vacant; the Program, Project, or Activity [PPA] from which each vacancy is funded, and the plan for addressing each vacancy; an update on the implementation of the Operations and Workforce Analysis; budget execution by PPA; major procurements; and other topics as appropriate.

*Observations.*—The Committee rejects all proposed cuts to Upper Air, Surface, and Marine Observations.

*Weather Radar Interference.*—The Committee encourages the mitigation of interference and impacts from wind farms on Doppler weather radars, particularly in the interior portions of the United States where the most new wind power capacity is being added. The Committee supports the directive included in Section 318 of the Conference Report accompanying Public Law 115–232, for NOAA and the Department of Defense to conduct a joint study on the impact of wind farms on weather radars. NOAA is directed to provide the Committee with the results of this study upon completion and recommendations regarding the Federal Aviation Administration obstruction evaluation process under 49 U.S.C. 44718.

*National Ice Center Technical Transfer.*—The Committee adopts the proposed transfer of the National Ice Center from the National Environmental Satellite and Data Information Service [NESDIS] to NWS.

*National Mesonet Program.*—The Committee provides \$20,000,000, an increase of \$1,000,000 over the fiscal year 2019 level, for the continuation and expansion of the National Mesonet Program. Investments going forward should sustain coverage of data types and areas now included within the national mesonet, as well as an expansion of in-situ and remote sensing capabilities to include weather measurements in high-risk areas. The Committee encourages the National Mesonet Program to proactively work with other Federal agencies, including the National Science Foundation and the U.S. Geological Survey, to identify observations and platforms of opportunity in areas with sparse instrumentation that may be transferred to the National Mesonet Program.

*NEXRAD Coverage Gaps.*—The Committee remains concerned about gaps in national coverage by the NEXRAD system. The Committee encourages NWS to continue its close coordination with local governments and weather officials to ensure that radar gaps are lowered to the maximum extent practicable.

*NWS Staffing in Alaska.*—The Committee remains concerned about potential NWS staffing reductions in Alaska and reminds NWS that any staffing changes must comply with the reprogramming procedures set forth in section 505 of this act. Prior to proposing any staffing reductions, NWS shall conduct community outreach meetings in all affected communities.

*National Centers for Environmental Prediction [NCEP].*—The Committee does not adopt the NWS proposal to consolidate centers under NCEP in fiscal year 2020.

*Facilities Maintenance.*—Within funding for Analyze, Forecast, and Support, the Committee continues to encourage NWS to ad-

dress its highest priority facilities repair and deferred maintenance requirements at Weather Forecast Offices.

*Advanced Hydrologic Prediction Services Expansion [AHPS].*—The Committee again rejects NWS's proposal to slow the expansion of AHPS, which will enable greater information on the magnitude and likelihood of floods and droughts across certain areas of the nation. No less than the fiscal year 2019 level is provided for AHPS activities.

*National Data Buoy Center [NDBC].*—The Committee provides sufficient funding to maintain, at a minimum, NDBC operations at 80 percent data availability. The Committee directs NOAA to provide adequate funding to support maintenance and service of the Tropical Atmosphere/Ocean Array and Deep Ocean Assessment and Reporting of Tsunamis Array across the equatorial Pacific. The Committee further directs NOAA to include a schedule to restore existing data buoy operability and its strategy to minimize outages in the future as part of the agency's spending plan.

*Tsunami Warning Program.*—The Committee rejects NWS's proposed cut to the Tsunami Warning Program. Funding is provided at no less than the fiscal year 2019 amounts, including for the National Tsunami Hazard Mitigation program grants, to ensure that high-quality tsunami watches, warnings, and advisories are issued to safeguard lives and property. The Committee expects NWS to expeditiously fill the current vacancies.

Further, the Committee directs NWS to submit a report explaining: (1) how tsunami warnings are issued and how the information is disseminated to all communities under a warning; (2) what NWS is doing to ensure that tsunami warnings reach all communities, including those with limited cellular service and broadband infrastructure; (3) how the alert and warning systems work and interact with other emergency notification alert systems; (4) how third-party disseminators are educated to interpret and use the alert and warning systems, including test messages; and (5) what NWS is doing to conduct outreach and trainings with local emergency managers in advance of a warning being issued.

*Office of Water Prediction [OWP].*—The Committee provides no less than \$33,000,000 for OWP, which receives funding across multiple NWS budget lines. The Committee rejects the proposed decrease for OWP within Analyze, Forecast, and Support and provides increased funding above fiscal year 2019 levels to continue to expedite hiring within the National Water Center [NWC] Water Prediction Operations Division and reach full operating capability. The Committee notes that the unprecedented flooding season of 2019 further demonstrates the urgent need to achieve full operating capability at the NWC as soon as possible in order to adequately support its role as the NWS center of excellence for water resources prediction and related decision support services. Therefore, NOAA is directed to transition OWP personnel from other offices to the NWC, as deemed necessary to improve effectiveness and efficiency. Within 45 days of enactment of this act, NOAA is directed to provide the Committee with an updated staffing plan for the NWC that reflects the direction provided herein.

The Committee is pleased with the ongoing research-to-operations efforts within OWP and provides increased funding over fis-

cal year 2019 levels to continue to expedite development of the National Water Model and other next-generation water modeling capabilities. NWS shall leverage this funding with resources provided to NWS for hydrology and water resource programs, NOS for IWP, and OAR for hydrologic modeling grants. The Committee directs NWS to continue to expeditiously transition the water resources prediction capabilities developed by OWP into operations.

*Dissemination Technical Transfer.*—The Committee adopts the technical transfer of \$25,000,000 from PAC to ORF for Dissemination.

*Hydrology and Water Resource Programs.*—The Committee provides no less than \$6,000,000 for NWS, in coordination with existing academic research consortiums, to collaborate with external academic partners to improve fine and large-scale measurements of snow depth and soil moisture data that can be used to expand and improve the National Water Model and contribute directly to the mission of NOAA's National Water Center.

*Consumer Option for an Alternative System To Allocate Losses [COASTAL] Act Implementation.*—Within funding provided for Science and Technology Integration, the Committee provides not less than \$5,000,000 for the continued development and implementation of the COASTAL Act, which was included in the Moving Ahead for Progress in the 21st Century Act (Public Law 112–141). The Committee supports NOAA's work to assist homeowners impacted by destructive winds and storm surges associated with hurricanes and super-storms. The Committee directs NOAA to continue to leverage existing Federal assets, expertise, and partnerships in carrying out COASTAL Act activities.

*Storm Surge Modeling Technology.*—The Committee recognizes the need to deploy more precise, accurate, and real-time modeling technology that is tailored to specific regions. These activities would improve and complement NOAA's Sea, Lake, and Overland Surge from Hurricanes [SLOSH] model. The Committee directs NOAA to expand existing collaborations with research universities that will produce better predictive capabilities than NOAA's current SLOSH model provides. The Committee directs NOAA, in collaboration with academic research institutions and other Federal agencies, to integrate improved technologies into standard modeling operations for storm surge and inland flooding.

*Science and Technology Integration.*—The Committee provides no less than the fiscal year 2019 level for Mid-Range Weather Outlooks, including seasonal to subseasonal forecasting, and Investments in Numerical Weather Prediction Modeling, which provides critical support to the Hurricane Forecast Improvement Project, among other important forecasting activities. Furthermore, the Committee urges NOAA to expedite the project plan described by the Hurricane Forecast Improvement Act (Public Law 115–25). The Committee encourages NWS to reduce errors in tracking and intensity forecasts of hurricanes by identifying technology and methods available to significantly improve hurricane forecasting.

NOAA NATIONAL ENVIRONMENTAL SATELLITE, DATA AND  
INFORMATION SERVICE

The Committee's recommendation provides \$259,739,000 for National Environmental Satellite, Data and Information Service [NESDIS] operations. NESDIS programs operate environmental polar-orbiting and geostationary satellites and collect and archive global environmental data and information for distribution to users in commerce, industry, agriculture, science, and engineering, the general public, and Federal, State, and local agencies.

The Committee's recommendations are displayed in the following table:

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE OPERATIONS, RESEARCH,  
AND FACILITIES  
[In thousands of dollars]

	Committee recommendation
Environmental Satellite Observing Systems:	
Office of Satellite and Product Operations .....	166,063
Product Development, Readiness & Application .....	28,434
Commercial Remote Sensing Licensing & Enforcement .....	1,800
Office of Space Commerce .....	1,800
Group on Earth Observations [GEO] .....	500
Total, Environmental Satellite Observing Systems .....	198,597
National Centers for Environmental Information .....	61,142
GRAND TOTAL NESDIS .....	259,739

*National Centers for Environmental Information [NCEI].*—The Committee provides \$61,142,000 for NCEI, including not less than \$6,000,000 for Regional Climate Services, \$4,150,000 for Regional Climate Centers, and \$5,500,000 for Coastal Data Development. NOAA shall consider the Coastal Data Development program as the central repository to manage data collections and information services of the various Gulf of Mexico Restoration activities funded in response to the 2010 Deepwater Horizon oil spill for scientific stewardship. Furthermore, within NCEI, the Committee encourages NOAA to fully support critical international partnerships, including the Global Climate Observing System.

*NESDIS Technical Transfers.*—The Committee accepts the following technical transfers included in the request within the Office of Satellite and Product Operation: the transfer of the National Ice Center to NWS, and the transfer of Joint Polar Satellite System [JPSS]–1 and Metop-C operations from PAC to ORF. The Committee also accepts the transfer of funding for the Joint Center for Satellite Data Assimilation from Product Development, Readiness and Application to OAR.

*Office of Space Commerce.*—Funding for Commercial Remote Sensing Licensing and Enforcement and the Office of Space Commerce is provided within NESDIS. Further direction on the Department's transfer request for these offices is included under Departmental Management.

*Study on Satellite Instrumentation and Data.*—The Committee directs NOAA to submit a study, within 120 days of enactment of this act, which assesses the impacts to the agency’s weather satellites with instruments operating within the 23.6–24 GHz band under an out-of-band emissions limit of -28 decibel watts. The study should consider: (1) the performance impacts to on-orbit and planned NOAA scientific instrumentation, including passive microwave sensors on environmental satellite systems; (2) any expected effects on NOAA weather forecasting skill due to data degradation; and (3) the estimated costs to procure supplementary observations or to modify affected instrumentation on planned polar orbiting satellites.

NOAA MISSION SUPPORT

The Committee’s recommendation provides \$288,661,000 for NOAA’s mission support activities. These programs provide for overall NOAA management, including staffing of the Under Secretary’s office and services to NOAA field offices. These programs also support NOAA’s Education Office consistent with the recommendations of the Joint Ocean Commission.

Committee recommendations are displayed in the following table:

MISSION SUPPORT OPERATIONS, RESEARCH, AND FACILITIES  
[In thousands of dollars]

	Committee recommendation
Corporate Services:	
Executive Leadership .....	27,078
Mission Services and Management .....	155,934
IT Security .....	15,079
Payment to DOC Working Capital Fund .....	62,070
Total, Corporate Services .....	260,161
NOAA Education Program .....	28,500
GRAND TOTAL, MISSION SUPPORT .....	288,661

*Corporate Services.*—Within funding provided for Corporate Services, NOAA is directed to focus on improving workforce management, particularly expediting the hiring process to fill extended vacancies with highly qualified candidates across the agency’s line offices. NOAA shall also focus on improving its management of acquisition and grant services.

*Sexual Assault and Sexual Harassment.*—The Committee commends the agency for its efforts to provide employees a workplace free from sexual assault and sexual harassment, including issuance of NOAA Administrative Order [NAO] 202–1106 and creation of a Sexual Assault and Sexual Harassment prevention program. The Committee directs NOAA to continue implementing NAO 202–1106 and provides \$1,000,000 within Mission Services and Management for this purpose. NOAA shall provide the Committee with a copy of the report required under Section 12.02 of NAO 202–1106.

*NMFS Operations.*—NOAA shall enter into a contract with an independent organization with experience in assessing Federal

agencies for the purposes of evaluating efficiencies that can be made to NMFS's budgetary operations. This review shall consider options to restructure the NMFS budget to better inform and connect budgetary, planning, and decision-making processes with the distinct needs of each region served by NMFS. The contracted entity should consult with stakeholders, partners, other user groups, and NMFS employees. Any recommended changes should not result in any degradation of service by NMFS. The Committee provides \$1,000,000 for this purpose.

*National Capital Region Consolidation.*—The Committee provides \$1,000,000 within Mission Services and Management to begin the consolidation of the NOAA National Capital Region presence into a single, primary location at the Silver Spring Metro Center campus. No less than 90 days after enactment of this act, NOAA shall provide a full accounting of the long-term costs and savings of the consolidation.

*Commerce Business System [CBS].*—The Committee provides the requested increase within Mission Services and Management to support upgrades to the CBS financial system hardware and software.

*NOAA Environmental Security Computing Center [NESCC].*—The NESCC is a strategic resource supporting both NOAA's operational and research compute needs. The NESCC includes some of the highest priority NOAA programs including the Geostationary Operational Environmental Satellite [GOES]-R and JPSS backup ground stations, the NOAA Security Operations Center, and the Commerce Department Enterprise Security Operations Center. The Committee directs NOAA to provide the proposed funding levels for NESCC for the next 5 years as part of the fiscal year 2021 budget request.

*Cybersecurity.*—The Committee provides the requested increase within IT Security to establish a NOAA enterprise-wide Internal Risk Mitigation capability to address the current risk to sensitive data and operations systems from insider threats.

*Education.*—The Committee rejects the proposal to eliminate NOAA's Office of Education. Within the funds provided for NOAA's Education Program, \$5,000,000 is for competitive educational grants, which includes continued support for Environmental Literacy Grants and for improving geographic literacy; \$16,000,000 is for the Educational Partnership Program with minority-serving institutions; and \$7,500,000 is for Bay-Watershed Education and Training regional programs. NOAA is encouraged to engage students in live, interactive programming using telepresence technology.

*Cooperative Science Center for Ocean Education.*—The Committee supports this important effort to conduct research, build institutional capacity, and increase the number of graduate students, particularly from underrepresented communities, to help prepare a future workforce to support NOAA's scientific mission.

*Outstanding Loan Balances.*—The Committee encourages NOAA and its respective line offices to work with communities and businesses, on a case-by-case basis, to resolve outstanding balances in a manner that considers the borrower's current financial ability but remains fair to American taxpayers.

NOAA OFFICE OF MARINE AND AVIATION OPERATIONS

The Committee’s recommendation provides \$246,415,000 for NOAA’s marine and aviation operations. The Office of Marine and Aviation Operations [OMAO] provides aircraft and marine data acquisition, repair, and maintenance of the existing fleet; planning of future modernization; and technical and management support for NOAA-wide activities through the NOAA Commissioned Officer Corps.

OFFICE OF MARINE AND AVIATION OPERATIONS, RESEARCH, AND FACILITIES

[In thousands of dollars]

	Committee recommendation
Marine Operations and Maintenance .....	198,000
Aviation Operations .....	35,750
Autonomous Unmanned Technology Operations .....	12,665
GRAND TOTAL, OMAO .....	246,415

*Capital Assets.*—Any decisions related to laying up any vessels, grounding any aircraft, or decommissioning any capital asset are subject to the standard reprogramming procedures set forth in section 505 of this act. Any changes from the spending plan shall also be subject to section 505 of this act. NOAA shall continue to provide the Committee with a monthly operational status of the fleet and aircraft.

*Hi’ialakai Operations and Mitigation.*—The Committee notes the significant, unexpected negative revelations regarding the material condition of NOAA Ship *Hi’ialakai*. These discoveries reveal that the crew of *Hi’ialakai* was subjected to risk from a potentially catastrophic failure of the ship’s hull. These issues also frustrate the Committee’s efforts to establish an orderly cadence for the recapitalization of the aging NOAA Fleet. Neither is acceptable. In order to compensate for the unexpected failure of *Hi’ialakai*, the Committee provides no less than \$3,125,000 for the cost of maintaining mission integrity in the Pacific region, and other appropriate measures. NOAA shall report to the Committee about how the *Hi’ialakai* mission will be sufficiently covered before obligating the funds, including any plans to permanently or temporarily re-locate vessels to the Pacific Island region to compensate for the loss of the *Hi’ialakai*.

*Vessel Maintenance.*—The Committee directs NOAA to develop and submit a schedule within 30 days of enactment of this act to complete the material condition assessment of the full NOAA fleet by the end of fiscal year 2020. NOAA’s fleet recapitalization plan should be amended as needed in order to account for any further anomalies that threaten fleet operations and the planned cadence for recapitalization.

*NOAA Fleet Augmentation.*—NOAA is directed to provide the Committee, within 180 days of enactment of this act, a business case analysis, including budget estimates, for leasing and chartering non-NOAA vessels that would fully cover the mission of NOAA Ship *Hi’ialakai* and any NOAA vessel that is currently serving beyond its anticipated service-life.

*Charter Vessels.*—The Committee has closely followed and consistently supported NOAA’s plan to recapitalize its vessel fleet. However, the Committee is increasingly concerned about the growing backlog of unfulfilled responsibilities in NOAA’s charting and survey mission, particularly with respect to Arctic waters. This concern is heightened by the long lead times anticipated for vessel delivery under the plan, as well as the recent decommissioning of NOAA ship *Hi’ialakai*. For that reason, the committee encourages NOAA, beginning in fiscal year 2020 and from available funds, to enter into charter agreements for the services of not less than two private sector vessels to supplement its charting and survey efforts. In furtherance of this directive, NOAA shall focus on the need to conduct charting and survey activities in the Arctic.

*Monitoring of Atmospheric Rivers.*—Improving understanding of atmospheric rivers is critical to prepare for concentrated rain storms and flooding along the U.S. West Coast. Therefore, the Committee provides \$1,000,000 within Aviation Operations to better observe and predict these extreme weather events.

*Dropsondes.*—The Committee recognizes the importance of dropsondes as a critical tool for atmospheric data collection, including for hurricane forecast modeling. The Committee directs NOAA to provide, within 90 days of enactment of this act, a comprehensive accounting of its dropsonde use for data collection, including acquisition costs, for fiscal year 2019. Furthermore, the Committee encourages NOAA to outline specific dropsonde acquisition costs as part of its fiscal year 2021 budget request.

*High Altitude Hurricane Hunter Aircraft.*—The Weather Research and Forecasting Innovation Act of 2017 (Public Law 115–25) directed NOAA to obtain a back-up capability to support its high altitude hurricane surveillance operational mission. In fiscal year 2018, the Committee provided NOAA with funding to procure a new high altitude aircraft, which is expected to be operational in fiscal year 2022. However, the Committee is concerned that while NOAA awaits delivery of this new aircraft it does not currently have a viable back-up capability for the high altitude hurricane surveillance mission, particularly given that NOAA’s current high altitude aircraft is aging and has experienced technical issues in the past. Therefore, NOAA is directed to report to the Committee within 90 days of enactment of this act on how it intends to meet the high altitude hurricane surveillance back-up capability requirement.

*Autonomous and Unmanned Technology Operations [AUTO].*—The Committee approves NOAA’s request to establish an unmanned systems operations program within OMAO, as authorized by the Commercial Engagement through Ocean Technology Act (Public Law 115–394), and provides \$12,665,000. Within the funds provided, up to \$4,000,000 may be used to continue projects previously supported by the Unmanned Aircraft Systems Program Office or the Autonomous Underwater Vehicle Demonstration Testbed. Further, the Committee provides up to \$3,000,000 to continue data acquisition from unmanned maritime systems [UMS], as defined within Public Law 115–394, as well as for cooperative, competitive research and development of UMSs that can serve as a



cost-effective augmentation for relevant research missions and fisheries data collection.

Furthermore, in establishing the AUTO program office, the Committee encourages NOAA to leverage partnerships with universities and other Federal agencies, especially the Naval Meteorology and Oceanography Command and the Naval Undersea Warfare Center, to leverage UMS assets and facilities to support program development.

*Unmanned Systems.*—The Committee notes the potential of unmanned aerial and marine systems as a mechanism to supplement the collection of observational data for weather forecasting. Therefore, the AUTO program office, in coordination with NWS, OAR, and NOS, is directed to provide the Committee with a cost-benefit analysis, including budgetary estimates, of using unmanned aerial and marine systems to expand NOAA's data collection capabilities for weather forecasting, including high-altitude hurricane missions. The analysis should also consider potential opportunities to mitigate limited unmanned system availability by sharing platforms with other Federal Government agencies, including through reimbursable agreements.

#### NOAA PROCUREMENT, ACQUISITION AND CONSTRUCTION

##### (INCLUDING TRANSFER OF FUNDS)

Appropriations, 2019 .....	\$1,755,349,000
Budget estimate, 2020 .....	1,406,236,000
Committee recommendation .....	1,552,528,000

The Committee's recommendation provides \$1,552,528,000 for NOAA's Procurement, Acquisition and Construction [PAC]. The recommendation is \$202,821,000 below the fiscal year 2019 enacted level and \$146,292,000 above the budget request.

Committee recommendations are displayed in the following table:

#### PROCUREMENT, ACQUISITION AND CONSTRUCTION

[In thousands of dollars]

	Committee recommendation
National Ocean Service:	
National Estuarine Research Reserve Construction .....	6,000
Marine Sanctuaries Construction/Acquisition .....	6,000
Total National Ocean Service—PAC .....	12,000
Ocean and Atmospheric Research:	
Research Super Computing .....	41,000
National Weather Service:	
Observations .....	16,250
Central Processing .....	66,761
Dissemination .....	9,934
WFO Construction .....	10,000
Total, National Weather Service—PAC .....	102,945
National Environmental Satellite, Data and Information Services:	
Geostationary Systems [GOES-R] .....	304,056
Polar Weather Satellites .....	755,038
Cooperative Data and Rescue Services [CDARS] .....	14,850

## PROCUREMENT, ACQUISITION AND CONSTRUCTION—Continued

[In thousands of dollars]

	Committee recommendation
Space Weather Follow-on .....	68,600
COSMIC-2 .....	5,892
Satellite Ground Services .....	58,000
System Architecture and Advanced Planning .....	17,197
Projects, Planning, and Analysis .....	37,500
Satellite CDA Facility .....	2,450
Commercial Weather Data .....	8,000
Total, NESDIS—PAC .....	1,271,583
Mission Support:	
NOAA Construction .....	40,000
Total, Mission Support—PAC .....	40,000
Office of Marine and Aviation Operations:	
Fleet Capital Improvements & Tech Infusion .....	23,000
New Vessel Construction .....	75,000
Total, OMAO—PAC .....	98,000
Unobligated balances from prior years .....	– 13,000
GRAND TOTAL, PAC .....	1,552,528

*National Estuarine Research Reserve [NERR] Construction.*—The Committee provides \$6,000,000 for NERR Construction to support the infrastructure needs of the NERR system. NOAA shall continue to follow direction provided by the Committee in Senate Report 115–275 and codified in Public Law 116–6 regarding NERR Construction. The Committee again requests a report, no later than 90 days after enactment of this act, should any new construction projects at NERR sites receive accreditation from a third-party green building rating system.

*National Marine Sanctuaries Construction.*—The Committee provides \$6,000,000 for PAC needs throughout the sanctuaries system. Within funding provided, the Committee encourages NOAA to prioritize recapitalization of National Marine Sanctuaries vessels.

*High Performance Computing.*—The Committee recognizes NOAA’s high performance computing needs and its current limitations on providing high fidelity results in near real-time. Within funding provided for OAR Research Supercomputing, \$15,000,000 shall be used to continue to develop a dedicated high performance computing facility in collaboration with partners that have existing high performance computing expertise and scientific synergies.

*National Weather Service.*—The Committee provides the requested amount for National Weather Service Observations to continue the Next Generation Weather Radar and the Automated Surface Observing System Service Life Extension Programs as planned.

*Integrated Water Prediction.*—The Committee provides no less than the fiscal year 2019 enacted level for Central Processing under NWS PAC, which includes not less than \$4,500,000 to pro-

cure operational high performance computing resources to enable modeling improvements associated with the IWP initiative.

*Polar Weather Satellites.*—The Committee provides \$755,038,000 for Polar Weather Satellites, which is equal to the request. The Committee approves combining the Joint Polar Satellite System and Polar Weather Follow-on [PFO] program offices. However, section 104 of this act maintains language capping the life cycle cost of JPSS to \$11,322,125,000 and the Committee expects NESDIS to maintain the PFO cost and schedule and looks forward to the program re-baselining as part of the Key Decision Point-C review occurring in fiscal year 2020. The Committee also adopts the technical transfer of JPSS-1 operations funding within Polar Weather Satellites from PAC to ORF.

*Space Weather Follow-on [SWFO].*—The Committee provides \$68,600,000 for Space Weather Follow-on. Within the funding provided above the request, the Committee expects NOAA to maintain its expected SWFO Lagrangian Point-1 mission pace, including signing a contract for the spacecraft no later than quarter four of fiscal year 2020. NOAA shall also begin preparations to integrate a compact coronagraph on GOES-U to ensure continuation of Federal space weather sentinel and forecasting capabilities.

*NESDIS Reorganization.*—The Committee does not adopt the proposed NESDIS budget and staffing reorganization. However, NESDIS is encouraged to re-submit the proposed staffing reorganization pursuant to the procedures set forth in section 505 of this act. NESDIS's proposed budget restructure will continue to be considered, and NOAA is encouraged to provide the Committee a revised proposal that clearly articulates the benefits of the reorganization and how current levels of program visibility will be maintained. The Committee is concerned that collapsing and combining individual projects, programs, and activities will reduce programmatic visibility and hinder the Committee's oversight capabilities.

*System Architecture and Advanced Planning.*—The Committee provides no less than \$2,000,000 for Joint Venture Partnerships with NASA and the commercial sector to leverage emerging capabilities for NOAA's operational use. The Committee also provides up to \$10,000,000 for potential flight demonstrations and industry analyses to assess ways to meet NOAA's future observation requirements from geostationary and extended orbits.

*Metop-SG.*—The Committee provides the requested funding to support Metop-SG within Projects, Planning, and Analysis.

*Commercial Weather Data.*—The Committee provides \$3,000,000 to support the assessment and potential use of commercial data in NOAA's weather modeling and forecasting through pilot purchases of commercial data.

The Committee also provides \$5,000,000 to initiate commercial purchase of radio occultation [RO] data for operational use. NOAA shall provide the Committee with a cost-benefit analysis of the commercial purchase of RO data 180 days after the obligation of these funds.

*NOAA Satellite Reporting.*—The Committee directs NOAA to provide quarterly programmatic and procurement status reports of all satellites actively orbiting, in space but in standby mode, and

under development unless any reprogramming, system failure, construction delay, or other extraordinary circumstance warrants an immediate update. As part of the agency's quarterly satellite briefing, NOAA shall include updates on preparations and enhancements necessary to accommodate an increased volume of satellite data and shall compare initial cost estimates to actual expenditures.

*Facilities Maintenance.*—The Committee provides \$40,000,000 for NOAA's highest priority facilities repair and deferred maintenance requirements. Within provided funds, NOAA shall complete regional facilities plans for the Northeast and Southeast. Thirty days before obligating any additional funds, NOAA shall submit a report detailing how the funds will be expended and an explanation of why these projects were prioritized. The Committee notes that funding may be used for facilities to accommodate the NOAA research vessels *Henry B. Bigelow* and *Fairweather*.

*NOAA Alaska Marine Operation Facility.*—The Committee is aware that NOAA is currently conducting an analysis of alternatives that is considering homeport options, including multiple locations in Alaska, for the NOAA research vessel *Fairweather*. NOAA is directed to complete this analysis and provide the results to the Committee within 180 days of enactment of this act. Furthermore, the Committee encourages NOAA to coordinate with the U.S. Coast Guard to consider cost-share opportunities in the development of shore side infrastructure needed to support the research vessel *Fairweather* in Ketchikan.

*Vessel Deferred Maintenance and Technology Infusion.*—The Committee has made a concerted effort over the past few fiscal years to help NOAA increase the number of available days at sea on the NOAA fleet by providing sufficient deferred maintenance funding within both ORF and PAC. The Committee expects that NOAA will continue to make progress and implement a progressive maintenance model to avoid future issues. To that end, the funding provided above the request for Fleet Capital Improvements and Technology Infusion shall be for deferred maintenance and technology infusion to transition to a progressive maintenance model.

*NOAA Fleet Recapitalization.*—The Committee is pleased that NOAA's fiscal year 2020 budget request includes \$75,000,000 for new vessel construction, which follows the Committee's direction and tempo for revitalizing the agency's aging fleet.

*Buy American Provisions.*—In recognition of the economic and national security importance of the domestic shipbuilding industrial base, the Committee included language in Senate Report 115–275, codified in Public Law 116–6, reminding DOC, NASA, and NSF of the Buy American provisions contained in law that apply to the Department of Defense, which require certain critical shipboard components to be domestically manufactured. The Committee urged these departments and agencies to make every effort to acquire, consistent with schedule and cost competition requirements, only U.S. manufactured components as listed in 10 U.S.C. 2534(a)(3) and (4), and auxiliary equipment (including pumps) for shipboard services, propulsion equipment (including engines, reduction gears, and propellers); shipboard cranes; and spreaders for shipboard cranes. Further, in Senate Report 115–139, codified in

Public Law 115–141, the Committee urged NOAA to make every effort to acquire domestically manufactured components for the vessels in the NOAA Fleet Recapitalization Plan. The Committee reiterates this direction as it relates to fiscal year 2020 and directs the Department to report how this direction was reflected in the ongoing Fleet Recapitalization Plan.

#### PACIFIC COASTAL SALMON RECOVERY FUND

Appropriations, 2019 .....	\$65,000,000
Budget estimate, 2020 .....	
Committee recommendation .....	65,000,000

The Committee’s recommendation provides \$65,000,000 for the Pacific Coastal Salmon Recovery Fund [PCSRF]. The recommendation is equal to the fiscal year 2019 enacted level and \$65,000,000 above the budget estimate. Funds are for conservation and restoration of Pacific salmon populations. State and local recipients of this funding will provide matching contributions of at least 33 percent of Federal funds. In addition, funds will be available to tribes without a matching requirement.

NOAA is directed to report on how its current priorities meet the intent of the PCSRF to support the recovery and protection of all declining salmon stocks.

#### FISHERMEN’S CONTINGENCY FUND

Appropriations, 2019 .....	\$349,000
Budget estimate, 2020 .....	349,000
Committee recommendation .....	349,000

The Committee’s recommendation provides \$349,000 for the Fishermen’s Contingency Fund. The recommendation is equal to both the fiscal year 2019 enacted level and the President’s request.

#### FISHERIES FINANCE PROGRAM ACCOUNT

Appropriations, 2019 .....	–\$8,000,000
Budget estimate, 2020 .....	–8,000,000
Committee recommendation .....	–8,000,000

The Committee recommends that direct loans administered through this account for individual fishing quotas may not exceed \$24,000,000. Traditional direct loans may not exceed \$100,000,000, which is the same as the fiscal year 2019 enacted level and budget request. The Committee encourages NOAA to facilitate new vessel construction, vessel replacement, and upgrades within the Fisheries Finance Program to the greatest extent practicable.

### OTHER

#### DEPARTMENTAL MANAGEMENT

##### SALARIES AND EXPENSES

Appropriations, 2019 .....	\$63,000,000
Budget estimate, 2020 .....	79,107,000
Committee recommendation .....	61,000,000

The Committee’s recommendation provides \$61,000,000 for Departmental Management Salaries and Expenses. The recommenda-