



The BUZZ

Special Edition - Update
October 2019

FEDERAL AGENCY PROGRAMS REFERENCE

Inside this Special Edition:	
DOT U.S. Department of Transportation	2
EPA Environmental Protection Agency	4
FEMA Federal Emergency Management Agency	9
HUD U.S. Department of Housing and Urban Development	16
NASA National Aeronautics and Space Administration	18
NOAA NWS National Weather Service	19
NOAA OCM Office for Coastal Management	22
NRCS Natural Resources Conservation Service	25
USACE U.S. Army Corps of Engineers	27
USFWS U.S. Fish and Wildlife Service	34
USGS U.S. Geological Survey	36

Welcome to the fourth Special Edition of the Silver Jackets Newsletter. Agencies comprising the National Silver Jackets Team have updated this reference to assist state-led Silver Jackets teams with identifying Federal agency programs, services and tools available to support state flood risk management priorities and goals.

Complementing this resource is an on-line searchable Federal Flood Risk Management Programs database. The database can be filtered by user type, Federal agency, program purpose, and type of assistance and is located at <https://ffrmp.nfrmp.us/>.

We hope that this consolidated information will be useful and serve as a catalyst to increase interagency coordination and collaboration among state and Federal agencies and improve the combined efficiency and effectiveness of agencies. The ultimate goal is to enhance the collective capacity to deliver integrated and adaptive approaches to flood risk management.

Please contact IWR.SilverJackets@usace.army.mil to be directed to an agency representative for any of the programs described in this Special Edition.

At a Glance Summary Table

Agency	When Can Agency Provide Assistance?			
	Preparation	Response	Mitigation	Recovery
DOT	✓	✓	✓	✓
EPA	✓	✓	✓	✓
FEMA	✓	✓	✓	✓
HUD	✓		✓	✓
NASA	✓	✓	✓	✓
NOAA NWS	✓	✓	✓	✓
NOAA OCM	✓		✓	✓
NRCS	✓		✓	✓
USACE	✓	✓	✓	✓
USFWS	✓		✓	✓
USGS	✓	✓	✓	✓



Agency Mission

The U. S. Department of Transportation (DOT) serves the United States by ensuring a fast, safe, efficient, accessible, and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, and Communities			

Programs and Services

Program or Service	Funding
<p>FEDERAL AID HIGHWAY PROGRAM (23 USC) Provides authority to provide funds to state, local, and Tribal governments for the development of transportation systems. For more information: https://www.fhwa.dot.gov/specialfunding/</p>	<ul style="list-style-type: none"> • 80-100 percent federally funded • Cost sharing depends on transportation mode, state versus local, and regular program versus emergency.
<p>EMERGENCY RELIEF PROGRAM (part of Federal Aid Highway Program) Establishes policy and provides program guidance for the administration of emergency funds for the repair or reconstruction of Federal-aid highways, which are found to have suffered serious damage by natural disasters over a wide area or serious damage from catastrophic failures.</p>	<ul style="list-style-type: none"> • State match generally varies from 10 to 20 percent, depending on class of Federal-aid highway. • No state match required for emergency repairs accomplished within 180 days of disaster to restore essential travel. • No state match required for repair of roads on Federal lands.

Other Resources and Tools

<p>FHWA Hydraulic Documents: http://www.fhwa.dot.gov/engineering/hydraulics/library_listing.cfm</p> <ul style="list-style-type: none"> • HDS 2 – Highway Hydrology: Provides information on hydrologic approaches, methods, and assumptions applied in design and analysis of highway drainage structures. • HDS 4 – Introduction to Highway Hydraulics: Provides an introduction to highway hydraulic and hydrologic techniques, such as fundamental hydraulic concepts, open channel flow principles and design applications, closed conduit principles and design applications, and an overview of energy dissipaters. • HDS 7 – Hydraulic Design of Safe Bridges: Provides technical information and guidance on the hydraulic analysis and design of bridges, with consideration of safety, optimization of costs, and limiting impacts to property and the environment. • HEC 17 - Highways in the River Environment – Floodplains, Extreme Events, Risk and Resilience: Provides technical guidance and methodologies on how to consider/incorporate floodplain management, risk, extreme events, resilience, and adaptation considerations when addressing highway planning and design within the riverine environment. • HEC 25 – Highways in a Coastal Environment Vol. 1: Provides guidance for the analysis, planning, design, and operation of highways in the coastal environment. The focus is on roads potentially impacted by coastal tides and waves during storm events. • HEC 25 – Highways in a Coastal Environment Vol. 2: Provides methods for assessing the vulnerability of coastal transportation facilities to extreme events and climate change.
--

Other Resources and Tools

FHWA Resilience Resources

FHWA has extensive research, technical assistance, and outreach available on improving the resilience of transportation infrastructure to natural hazards and changes in climate.

National Highway Institute (NHI) Training Courses

Transportation related hydraulic and hydrologic training courses offered by the Federal Highway Administration (FHWA).

For more information, visit <http://www.fhwa.dot.gov/engineering/hydraulics/training.cfm>

State of Good Repair Grants Program

The Federal Transit Authority's State of Good Repair Grants Program (49 U.S.C. 5337) provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.

Factsheet: <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grants/38011/5337-state-good-repair-fact-sheet.pdf>

Program information: <https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337>

Other Websites

- DOT Headquarters Homepage: <https://www.transportation.gov/>
- FHWA Hydraulics Website: <http://www.fhwa.dot.gov/engineering/hydraulics>
- FHWA Resilience Website: <https://www.fhwa.dot.gov/environment/sustainability/resilience/>



Agency Mission

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, Communities, and Individuals			

Programs and Services

Program or Service	Funding
<p>DRINKING WATER AND CLEAN WATER STATE REVOLVING LOAN FUNDS</p> <p>Federal/state partnership where states provide loans for wide range of water quality and public health projects, including storm water management, infrastructure improvements at wastewater and drinking water treatment facilities, water conservation & reuse, watershed protection and management, purchase land for buffers to protect drinking water sources, emergency back-up power, and planning and design. Loans may be used to increase a utility's resiliency to disasters. A 2019 MOU establishes framework for State Revolving Funds to meet cost-sharing requirements or, after disaster declarations, provide interim financing for FEMA-funded projects. https://www.epa.gov/sites/production/files/2019-05/documents/mou_between_epa_and_dhs.pdf</p> <ul style="list-style-type: none"> • Drinking Water State Revolving Fund (SRF) – https://www.epa.gov/drinkingwatersrf • Clean Water State Revolving Fund (SRF) - https://www.epa.gov/cwsrf 	<ul style="list-style-type: none"> • Low interest loans. • States are required to match EPA funding • Assistance recipients are not required to match, although they must have dedicated source of repayment. • Grants and principal forgiveness available in certain states. • Technical assistance and training.
<p>WATER INFRASTRUCTURE AND FINANCE AND INNOVATION ACT LOAN FUNDS (WIFIA)</p> <p>New Federal loan and guarantee program to accelerate investment in our nation's water infrastructure. Authorizes EPA to provide long-term, low-cost loans at U.S. Treasury Rates for projects of regional and national significance. For more information: www.epa.gov/wifia</p>	<ul style="list-style-type: none"> • \$20 million: Minimum project size for large communities. • \$5 million: Minimum project size for small communities • 49 percent: Maximum portion of project that WIFIA can fund.
<p>WATER FINANCE CENTER</p> <p>Provides one-stop-shop for all things water finance. Easily navigable web-based portal helps communities locate information and resources to assist with making informed decisions for drinking water, wastewater, and stormwater infrastructure needs. Includes two searchable data sets: 1) available funding sources for water infrastructure and 2) resources, such as reports, web links, and webinars on financing mechanisms and approaches to access capital to meet water infrastructure needs.</p> <p>For more information: https://www.epa.gov/waterfinancecenter or www.epa.gov/wfc</p>	<p>Technical assistance</p>

Program or Service	Funding
<p>CLEAN WATER ACT – SECTION 319 Provides grants to states, Tribes, and territories for development of programs to reduce pollution from unregulated and diffuse sources (nonpoint sources), such as agricultural and urban runoff. Grants can be used to reduce runoff and monitor and evaluate progress and may include wetland restoration and improved stormwater management. Recipients must have an approved watershed plan in place in accordance with CWA 319. For more information: https://www.epa.gov/nps/319-grant-program-states-and-territories</p>	<ul style="list-style-type: none"> • Federal share may not exceed 60 percent implementation cost. • Non-Federal share must be from non-Federal sources and must be at least 40 percent for entire grant (CWA section 319(h)(3); 40 CFR 35.265).
<p>SMART GROWTH/SUSTAINABLE COMMUNITIES PROGRAM Provides technical assistance through Building Blocks Program to strengthen local capacity to implement sustainable approaches, including presentations and exercises to facilitate discussion on a priority topic, leading to agreed-upon actions. Assistance has been provided to 45 states through 150 projects. In 2016, 25 communities will receive technical assistance using one of five sustainability tools. The <i>Flood Resilience for Riverine and Coastal Communities</i> tool helps communities prepare for flooding or sea level rise and plan for disaster resilience. A useful report generated under this program, <i>Disaster Recovery And Long-Term Resilience Planning In Vermont</i>, is listed in the Other Resources and Tools table below. For more information: https://www.epa.gov/smartgrowth</p>	<p>Technical assistance</p>
<p>LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE Provides resources and training materials to implement stormwater management practices and programs to reduce runoff and protect water quality, including design and planning guides; case studies; examples of regulatory and non-regulatory policy approaches; and descriptions of EPA’s past assistance projects, archived webinars, and upcoming technical assistance and webinars. For more information: https://www.epa.gov/green-infrastructure and https://www.epa.gov/nps/urban-runoff-low-impact-development</p>	<p>Technical assistance</p>
<p>EPA DISASTER RESPONSE AND RECOVERY OPERATIONS Response and recovery are two separate but coordinated phases of disaster relief that may overlap. Response - Carries out actions under the National Oil and Hazardous Substances Pollution Contingency Plan and the National Response Framework. Typically conducted on a weeks to months timeframe for any large scale events. Addresses immediate health and safety needs of the affected community. Recovery - Carries out actions under the National Disaster Recovery Framework. Process can last years and focuses on long-term restoration of places and communities affected by disaster. Depending on nature of disaster, over 20 EPA programs may become involved in disaster recovery operations. For more information: https://www.epa.gov/homeland-security/epas-role-disaster-recovery</p>	<p>Varies</p>

Program or Service	Funding
<p>FEDERAL FUNDING FOR WATER/WASTEWATER UTILITIES IN NATIONAL DISASTERS - WATER/WASTEWATER Web-based tool designed to assist utilities in identifying disaster and mitigation funds from multiple Federal agencies. Helps utilities document damages and costs for repair and provides examples of successful applications and access to utility funding mentors. For more information: https://www.epa.gov/fedfunds</p>	<p>Technical assistance</p>

Other Resources and Tools

<p>Healthy Watershed Assessment and Protection: Data, Tools, Methods, References Tools for rapid, large-scale identification of landscape, biotic, hydrologic, and geomorphic conditions; chemical and physical characteristics; ecological processes, e.g., energy and material flow and natural disturbance regimes. Enables states to prioritize protection efforts. Approach is also being used to determine water security. The <i>Watershed Index Online</i> component is a data library and comparative analysis tool. For more information: https://www.epa.gov/hwp/healthy-watersheds-assessment-overview and https://www.epa.gov/wsio</p>
<p>Flood Resilience: A Basic Guide For Water and Wastewater Utilities A web-based guide to assist utilities with assessing flood threats, determining flooding vulnerability of utility assets, identifying/evaluating mitigation measures, and developing mitigation implementation plans. The guide includes training videos, worksheets, and resource aids. Developed with FEMA, state agencies, and water/wastewater utilities. For more information: https://www.epa.gov/waterresilience</p>
<p>Recovery Potential Screening (RPS) Technical tools and methods to help government and private programs compare watersheds and plan for greater likelihood of restoration and protection success. For more information: https://www.epa.gov/rps</p>
<p>Hazard Mitigation and Emergency Response for Water and Wastewater Utilities Tools and guidance to support utility preparedness and recovery. Encourages water and wastewater utilities to work with their local mitigation planners to implement priority projects using FEMA or other source funding. Provides an overview of the mitigation process, along with practical examples of mitigation projects to address the impacts of earthquakes, tornados, floods, drought, wildfires, and power outages. For more information: https://www.epa.gov/waterutilityresponse</p>
<p>Tabletop Exercise Tool For Water Systems: Emergency Preparedness, Response & Climate Resiliency CD-ROM with resources to plan and facilitate tabletop exercises. Simplifies process of planning and conducting tabletop exercises, and provides resources that aid in development of customized scenario-driven, discussion-based tabletop exercises. Contains 15 all-hazard scenarios. Consistent with U.S. Department of Homeland Security's Homeland Security Exercise and Evaluation Program, Water/Wastewater Agency Response Network, and Incident Command System. For more information: https://www.epa.gov/waterresiliencetraining/develop-and-conduct-water-resilience-tabletop-exercise-water-utilities</p>
<p>Report – Disaster Recovery and Long-Term Resilience Planning In Vermont Report and planning checklist to help communities prepare, respond, and recover from floods. Checklist suggests strategies, such as conserving land in flood-prone areas; directing new development to safer areas; and using green infrastructure approaches, including rain garden installation, to manage stormwater. For more information: https://www.epa.gov/smartgrowth/smart-growth-strategies-disaster-resilience-and-recovery</p>

Other Resources and Tools

Regional Resilience Toolkit

From 2013 to 2018, FEMA and EPA helped three California regions take large-scale action for disaster resilience. Based on technical assistance projects, they partnered with the Metropolitan Transportation Commission/Association of Bay Area Governments (MTC/ABAG) to create a toolkit that helps regions plan for disasters by working across multiple jurisdictions and with non-governmental partners.

Available at <https://www.epa.gov/smartgrowth/regional-resilience-toolkit>

Creating Resilient Water Utilities (CRWU), Climate Resilience Evaluation and Awareness Tool (CREAT)

EPA's CRWU initiative assists water sector utilities (drinking water, wastewater, and stormwater) in becoming Climate Ready. CRWU offers a unique suite of practical and easy-to-use tools and resources to promote a clear understanding of climate science, risks, and pertinent adaptation options. CRWU resources, including Adaptation Strategies Guide, Extreme Events Workshop Planner, and CREAT, translate complex climate projections into actionable science in understandable formats to assist in building more resilient water sector infrastructure. Users of CREAT can estimate risks, such as extreme weather, sea level rise, and shifting precipitation patterns.

For more information: <https://www.epa.gov/crwu>

Climate Ready Estuaries, "Being Prepared For Climate Change: A Workbook For Developing Risk-Based Adaptation Plans"

Guide for conducting risk-based climate change vulnerability assessments and developing adaptation action plans. Workbook helps users identify, analyze, and prioritize climate change risks to what their organizations are trying to accomplish. In developing an action plan, the workbook guides users to address their most pressing risks and identify potential adaptation actions.

For more information: <https://www.epa.gov/cre>

Climate Ready Estuaries, "Synthesis of Adaptation Options for Coastal Areas"

This guide provides a brief introduction to key physical impacts of climate change on estuaries and a review of on-the-ground adaptation options available to coastal managers to reduce their systems' vulnerability to climate change impacts.

For more information: <https://www.epa.gov/cre/synthesis-adaptation-options-coastal-areas>

Contingency Planning and Area Contingency Planning Handbook

The 1990 Oil Pollution Act (OPA) requires preparation of response plans for certain facilities that store oil. EPA prepared the implementation regulations. Area Contingency Plans are required by the Clean Water Act with EPA as the designated lead for inland. Program information, including a reference guide to assist with development of Area Contingency Plans for environmental emergencies, is available at

www.epa.gov/oil-spills-prevention-and-preparedness-regulations/area-contingency-planning

The Watershed Academy

Located in EPA's Office of Water. Provides training and information about watershed implementation approaches. Self-paced training modules, webcast seminars, and live training courses provide current information from national experts across a broad range of watershed topics.

For more information: <https://www.epa.gov/watershedacademy>

How's My Waterway – Mobile App

A mobile web app and website that helps people find information about the condition of their local waterways using a smart phone, tablet, or desktop computer. Map option offers a view of the search area with waters color-coded by assessment status. This information can be useful in identifying flood risk management alternatives that may also benefit impaired waters or protect healthy waters.

For more information: www.epa.gov/waterdata/how-my-waterway

Water Data and Tools

This site aggregates EPA water data and tools including integrated analysis, ambient water quality, watershed plan building, and financing.

For more information: <https://www.epa.gov/waterdata>

Other Resources and Tools

Integrated Climate and Land-Use Scenarios (ICLUS)

Explores future changes in human population, housing density, and impervious surface for the United States. Example study of its use in projecting future flood damages is "Estimates of present and future flood risk in the conterminous United States," Environmental Research Letters, Volume 13, Number 3 (<http://iopscience.iop.org/article/10.1088/1748-9326/aaac65>).

For more information: <https://www.epa.gov/gcx/about-gcx-iclus-tool>

DWMAPS - Drinking Water Mapping Application to Protect Source Waters

Online mapping application that provides users with information to assess sources of drinking water for threats and develop protection plans. Provides access to critical datasets, including sites of potential contaminant sources (RCRA, NPDES, Superfund, Brownfields, TRI, BRAC, roads and hazardous materials, railroads, etc.), public water system service areas (counties-served) and source watersheds, location of Sole Source Aquifers, pollution-impaired waterways, land use/land cover, and more. Provides "up-stream" search functionality that allows users to identify NPDES facilities discharging waste directly to a waterbody. Allows users to input external data sources to overlay information from local to national sources.

For more information: <https://geopub.epa.gov/DWWidgetApp/>

Emergency Response On-Scene Coordinator Training Resources

EPA and external training on hazardous materials and disaster emergency response and related topics.

For more information: <https://response.epa.gov/main/training.aspx>

Other Websites

- EPA Homepage: <https://www.epa.gov/>
- On-Scene Coordinators Emergency Response: <https://response.epa.gov/>



FEMA

Agency Mission

The Federal Emergency Management Agency (FEMA) supports citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, Communities, and Individuals			

Programs and Services

Program or Service	Funding
<p>HAZARD MITIGATION PLANNING Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. It is most effective when implemented under a comprehensive, long-term mitigation plan. State, Tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.</p> <p>Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage. Moreover, a FEMA-approved hazard mitigation plan is a condition for receiving certain types of nonemergency disaster assistance, including funding for mitigation projects.</p>	<p>FEMA's Hazard Mitigation Assistance (HMA) programs provide planning grants under the following programs:</p> <ul style="list-style-type: none"> • Hazard Mitigation Grant Program (HMGP) • Pre-Disaster Mitigation (PDM) Program • Flood Mitigation Assistance (FMA) <p>For more information on HMA planning grants, see HMGP, PDM, and FMA entries below or visit: https://www.fema.gov/hazard-mitigation-assistance.</p> <p>FEMA-approved mitigation plans are an eligibility requirement for certain FEMA assistance, including:</p> <ul style="list-style-type: none"> • Public Assistance (PA) Categories C-G • Fire Management Assistance Grants (FMAG) • HMA – HMGP, PDM and FMA <p>For more information on the hazard mitigation plan requirements, visit: https://www.fema.gov/hazard-mitigation-plan-requirement</p>
<p>RISK MAP (MAPPING, ASSESSMENT, PLANNING) Supports community resilience by providing data, building partnerships, and supporting long-term hazard mitigation planning. In particular, Risk MAP's Flood Risk Products work alongside regulatory products to provide flood risk information and support community's overall floodplain management and hazard mitigation strategies.</p> <p>For more information: https://www.fema.gov/risk-mapping-assessment-and-planning-risk-map</p>	<p>Federal appropriation funding</p>

Program or Service	Funding
<p>NATIONAL FLOOD INSURANCE PROGRAM (NFIP) Aims to reduce the impact of flooding on private and public structures. Does so by providing affordable insurance to property owners, renters and businesses, and by encouraging communities to adopt and enforce floodplain management regulations. Efforts help mitigate the effects of flooding on new and improved structures. Reduces socio-economic impact of disasters by promoting purchase and retention of general risk insurance, but also of flood insurance, specifically.</p> <p>For more information: http://www.fema.gov/national-flood-insurance-program or https://www.floodsmart.gov/</p>	<p>Premiums collected by the National Flood Insurance Program are used to pay claims and program expenses.</p>
<p>NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY RATING SYSTEM (CRS) Allows communities to earn flood insurance premium discounts for measures implemented at local level that reduce flood risk. These measures include 19 different activities, including public outreach, building code enforcement, floodplain management planning, and drainage system maintenance, specifically under Activity 330 Outreach Projects, Activity 450 Stormwater Management, Activity 540 Drainage System Maintenance, Activity 620 Levee Safety, and Activity 630 Dam Safety. CRS gives credit to communities that identify unique and significant flood hazards faced by the community and for floodplain management practices to manage these risks.</p> <p>For more information: http://www.fema.gov/national-flood-insurance-program-community-rating-system</p>	<p>FEMA provides flood insurance policy premium discounts for floodplain management measures implemented by communities that reduce flood risk and exceed Federal minimum NFIP requirements.</p>
<p>NATIONAL DAM SAFETY PROGRAM (NDSP) Federal government has used the NDSP to protect Americans from dam failure for more than 30 years. A partnership of states, Federal agencies, and other stakeholders that encourages and promotes the establishment and maintenance of effective Federal and State dam safety programs to reduce the risks to human life, property, and the environment from dam related hazards. Provides training for dam safety officials, technical assistance, conducts research related to dam safety, and provides grants to states. States use NDSP funds for the following types of activities:</p> <ul style="list-style-type: none"> • Dam safety training for state personnel • Increasing number of dam inspections • Supporting and testing of emergency action plans • Timely review and issuance of permits • Improving coordination with state emergency preparedness officials • Identifying dams to be repaired or removed • Conducting dam safety awareness workshops, and creating dam safety videos and other outreach materials <p>For more information: https://www.fema.gov/national-dam-safety-program</p>	<p>Federal appropriation funding.</p>

Program or Service	Funding
<p>THE REHABILITATION OF HIGH HAZARD POTENTIAL DAMS (HHPD) GRANT PROGRAM</p> <p>Provides technical, planning, design and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams. Eligible applicants must be non-Federal sponsors, which include non-Federal governments and non-profit organizations. Eligible non-Federal dams are:</p> <ul style="list-style-type: none"> • Located in a state or territory with state or territorial dam safety program; • Classified as ‘high hazard potential’ by dam safety agency in state or territory where dam is located; • Has an emergency action plan approved by state or territorial dam safety agency; and • State or territory in which dam is located determines either of these criteria – dam fails to meet minimum dam safety standards of state or territory; and dam poses an unacceptable risk to public. <p>For more information: https://www.fema.gov/rehabilitation-high-hazard-potential-dam-grant-program</p>	<p>Federal appropriation funding.</p>
<p>FLOOD MITIGATION ASSISTANCE (FMA)</p> <p>Created as part of the National Flood Insurance Reform Act of 1994 (42 U.S.C. 4101) with goal of reducing or eliminating claims under the NFIP. FEMA provides FMA funds to states and communities to implement measures that reduce or eliminate long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the NFIP. Generally, funding is 75 percent Federal cost share unless otherwise specified. Historically, program has funded following types of projects:</p> <ul style="list-style-type: none"> • Advance Assistance: Seed funding that can be used to develop mitigation strategies and obtain data to prioritize, select and develop community mitigation projects for future funding. • Projects: Neighborhood level mitigation projects that address community flood risk for purpose of reducing NFIP flood claim payments. • Technical Assistance • Flood Mitigation Planning • Property flood mitigation projects including acquisition, relocation, elevation, and reconstruction of structures that are insured under NFIP and are prioritized based on Severe Repetitive Loss (SRL) and Repetitive (RL) status. <p>For more information: http://www.fema.gov/flood-mitigation-assistance-program</p>	<ul style="list-style-type: none"> • Maximum Federal share for FMA sub-applications per 42 U.S.C. 4104c is as follows: <ul style="list-style-type: none"> – \$50,000 for state plans – \$25,000 for local plans • Maximum 10 percent of awarded grant funds can be used by state emergency management agencies (EMA) for management costs. • Maximum 5 percent of awarded grant funds can be used by local EMA for management costs. • Period of performance for FMA program begins with opening of application period and ends no later than 36 months from the selection date. • SRL properties are funded at up to 100% Federal cost share • RL properties are funded at up to 90% Federal cost share

Program or Service	Funding
<p>HAZARD MITIGATION GRANT PROGRAM (HMGP) Provides grants to state and local governments for planning and to implement long-term hazard mitigation measures after a major disaster declaration. Purpose is to reduce loss of life and property due to natural disasters and enable mitigation measures to be implemented during immediate recovery from a disaster. Authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Eligible recipients and/or subrecipients include state and local governments, Indian Tribes or other Tribal organizations, and private nonprofit organizations.</p> <p>Three types of grants are available:</p> <ul style="list-style-type: none"> • Planning grants to prepare FEMA approved hazard mitigation plans and for planning related activities. • Project grants to implement measures to reduce losses • Management cost grants for states to help administer the HMGP program. <p>For more information: http://www.fema.gov/hazard-mitigation-grant-program</p>	<ul style="list-style-type: none"> • Available funding under a particular disaster declaration is limited. • Amount of HMGP funding available to applicant is based on estimated Federal assistance, subject to sliding scale formula outlined in 44 CFR 206.432(b). • For states and Tribes with Standard Mitigation Plan - up to 15 percent of first \$2 billion of estimated aggregate amounts disaster assistance is available. See 44 CFR 206.432(b). • For states and Tribes with Enhanced Mitigation Plans - eligible assistance is up to 20 percent for estimated aggregate amounts of disaster assistance. See 44 CFR 206.432(b). • FEMA can fund up to 75 percent of eligible costs for each project. • State or recipient must provide 25 percent cost share match. Can be combination of cash and in-kind sources. • Funding from other Federal sources cannot be used for 25 percent share with one exception: funding provided to states under CDBG program from HUD can be used to meet the non-Federal cost share requirement.
<p>PRE-DISASTER MITIGATION PROGRAM (PDM) Provides grants to state, local, and Tribal governments to implement and sustain cost-effective measures designed to reduce risk to individuals and property from natural hazards, while also reducing reliance on Federal funding from future disasters. Authorized under Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Three types of grants are available:</p> <ul style="list-style-type: none"> • Planning grants to prepare FEMA approved hazard mitigation assistance plans. • Project grants to implement measures to reduce losses, such as safe rooms; structural retrofits for wind and earthquake; or elevation, acquisition, or relocation of structures. • Management cost grants for states to help administer PDM program. Up to 10 percent of project grants may be awarded to states for management costs. <p>For more information: https://www.fema.gov/pre-disaster-mitigation-grant-program</p> <p>Please note: FY 2019 is the last funding cycle for the PDM Program. A new Building Resilient Infrastructure and Communities (BRIC) grant program will be replacing the PDM Program in FY 2020 onwards.</p>	<ul style="list-style-type: none"> • Maximum 10 percent of awarded grant funds can be used by state or recipient for management costs. • Maximum 5 percent of awarded grant funds can be used by local sub-recipients for management costs. • Period of performance begins with opening of application period and ends no later than 36 months from the selection date. • FEMA can fund up to 75 percent of eligible costs for each project. • Recipient or sub-recipient must provide 25 percent cost share match.

Program or Service	Funding
<p>COMMUNITY ASSISTANCE PROGRAM - STATE SUPPORT SERVICES ELEMENT (CAP-SSSE) Funds designated state NFIP Coordinator office to provide technical assistance to communities in the NFIP and evaluate community performance in implementing NFIP floodplain management activities. CAP-SSSE helps to:</p> <ul style="list-style-type: none"> • Ensure that NFIP flood loss reduction goals are met. • Build state and community floodplain management expertise and capability. • Leverage state knowledge and expertise in working with their communities. <p>The National Flood Insurance Act of 1968 prohibits provision of flood insurance in a community unless that community adopts and enforces floodplain management measures that meet/exceed minimum criteria in 44 CFR Part 60.3. Measures can take the form of floodplain management ordinances, building codes, or zoning provisions.</p> <p>For more information: https://www.fema.gov/community-assistance-program-state-support-services-element</p>	<ul style="list-style-type: none"> • FEMA regional offices and the designated state agency negotiate a CAP-SSSE agreement that specifies activities and products to be completed by a state in return for CAP-SSSE funds. • Non-Federal cost share is 25 percent.
<p>PUBLIC ASSISTANCE (PA) Under a Presidentially declared emergency or major disaster, PA provides supplemental Federal disaster grant assistance for debris removal; emergency protective measures; and repair, replacement, or restoration of disaster-damaged, publicly-owned facilities and facilities of certain private nonprofit organizations. The program also encourages protection from future damage by providing assistance for hazard mitigation measures during the recovery process.</p> <p>For more information: https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit</p>	<ul style="list-style-type: none"> • Federal share is not less than 75 percent of eligible cost for emergency measures and permanent restoration. • Recipient (usually the state) determines how the non-Federal share (up to 25 percent) is split with sub-recipient. • Recipient must have FEMA-approved mitigation plan to be eligible for Categories C-G. More information on hazard mitigation plan requirements: https://www.fema.gov/hazard-mitigation-plan-requirement
<p>INDIVIDUAL ASSISTANCE (IA) Under a Presidentially declared emergency or major disaster, IA provides financial assistance or direct services to those who have necessary expenses and serious needs if unable to meet the needs through other means. Up to the Individuals and Households Program (IHP) maximum is available in financial help (adjusted each year based on the Department of Labor Consumer Price Index). Flood insurance may be required. Forms of help include Housing Assistance (financial and/or direct assistance), and Other Needs Assistance (SBA-dependent or non-SBA-dependent). Generally, more than one type of IA assistance may be provided to the household.</p> <p>For more information: https://www.fema.gov/individual-assistance-program-tools</p>	<ul style="list-style-type: none"> • Funds are allocated from the President’s Disaster Relief Fund for use in a designated emergency or major disaster. • Households receive assistance directly from FEMA or through disaster aid programs of other participating Federal or state agencies.

Program or Service	Funding
<p>NATIONAL HURRICANE PROGRAM (NHP) A multi-agency Federal partnership led by FEMA along with USACE and NOAA National Hurricane Center (NHC). Mission is to provide technical assistance to local, state, Tribal, territorial and Federal government partners. Technical assistance focuses on hurricane evacuation and response, spanning from steady-state deliberate planning to operational decision support and crisis planning when hurricanes threaten the United States and its territories. Main NHP goals designed to meet requirements of legislative mandate that include:</p> <ul style="list-style-type: none"> • Provide data, resources, and technical assistance to support hurricane evacuation and response planning. • Deliver comprehensive hurricane preparedness training to emergency managers (EMs) and partners. • Provide operational tools, information, and technical assistance to EMs to support hurricane evacuation and response decisions during hurricane approach. <p>Consists of eight major components to deliver the three program goals:</p> <ul style="list-style-type: none"> • Sea, Lake, and Overland Surge from Hurricanes (SLOSH) Storm Surge Model Development and Products • Hurricane Evacuation Studies (HES) and Evacuation Planning • Hurricane Decision Support Tool (HURREVAC) • Hurricane Preparedness Training for Emergency Managers and Partners • Operational Decision Support and Technical Assistance (Hurricane Liaison Team) • Intergovernmental Hurricane Preparedness Coordination (ICCOH and NEMA Hurricane Subcommittee) • Technology Development and Integration • Post-Storm Assessments of NHP Products and Services 	<ul style="list-style-type: none"> • FEMA receives an annual NHP budget to conduct these mandated activities. • FEMA has a national program manager at headquarters, as well as program managers at each region with hurricane risk. • USACE and NOAA NHC receive funding from FEMA to conduct NHP technical activities, execute program components, and to produce NHP deliverables. USACE and NOAA NHC also contribute funding, staff time, and in-kind services from their agency budgets. • USACE and NHC do not have specific NHP authorization or budget; therefore, the financial value of their contribution varies from year to year. Both agencies obtain resources to support the NHP from authorities and budgets that support broader agency initiative.

Other Resources and Tools

Emergency Management Institute (EMI)

Serves as national focal point for development and delivery of emergency management training to minimize impact of disasters by enhancing capabilities of Federal, state, local, and Tribal government officials; volunteer organizations; and public and private sectors.

For more information: <https://training.fema.gov/emi.aspx>

NFIP Training Opportunities

Available through FEMA Emergency Management Institute (EMI) Independent Study Program. Includes courses for agents, adjusters, surveyors and community officials.

For more information: <https://nfipservices.floodsmart.gov/home/training>

Other Resources and Tools

The Center for Domestic Preparedness (CDP)

Identifies, develops, tests, and delivers training to states, local agencies, and Tribal emergency response providers. Provides on-site and mobile training at performance, management and planning levels, and facilitates training by HUD.

For more information <https://cdp.dhs.gov/>

HAZUS Model

HAZUS is a nationally applicable, standardized methodology for estimating potential losses from disasters including floods and hurricanes. Relies on models to estimate physical, economic and social impacts of disasters and provides users with a graphic of high-risk locations and visualization of where populations, geographic assets and resources are related to high risk areas.

Access here <https://www.fema.gov/hazus>

Other Websites

To learn about FEMA's extensive training, workshops, and informational opportunities, and stay informed about other events, such as conferences, testimonies, speeches, blogs, social media, news releases, situation reports, podcasts, and newsletters, visit <https://www.fema.gov/>.



Agency Mission

The U.S. Department of Housing and Urban Development's (HUD) mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers, meet the need for quality affordable rental homes, utilize housing as a platform for improving quality of life, build inclusive and sustainable communities free from discrimination, and transform the way HUD does business.

When Can We Help?	Preparation ✓	Response	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, and Communities			

Programs and Services

Program or Service	Funding
<p>COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) Flexible program that provides communities with resources to address wide range of unique community development needs. One of the longest, continuously run programs at HUD, CDBG provides annual grants on a formula basis to 1214 general units of local government, states, and four U.S. Territories. Three program areas include:</p> <ul style="list-style-type: none"> • Entitlement Communities - Allocates annual grants to larger cities and urban counties to develop viable communities by providing decent housing and a suitable living environment and expanding economic opportunities, principally for low- and moderate-income persons. • State Administered CDBG - States award grants to smaller units of general local government that carry out community development activities. Each state develops annual funding priorities and criteria for selecting projects. Commonwealth of Puerto Rico receives funding as a state. In Hawaii only, HUD distributes funds directly to three eligible counties. • Insular Areas CDBG – Allocates grants to four eligible U.S. Territories to carry out community development activities. <p>For more information: https://www.hudexchange.info/programs/cdbg/</p>	<ul style="list-style-type: none"> • Annual appropriation is allocated between states and "entitlement" communities (central cities of Metropolitan Statistical Areas, cities with populations of at least 50,000, or qualified urban counties with population of 200,000 or more, excluding population of entitled cities). • States distribute funds to non-entitlement localities not qualified as entitlement communities. • Grant amounts are determined by a community needs formula that includes poverty extent, population, housing overcrowding, housing age, and population growth lag in relation to other metropolitan areas. • The Insular Areas receive a separate annual appropriation, with funds distributed proportionally based on population.
<p>CDBG DISASTER RECOVERY ASSISTANCE Provides flexible grants to help cities, counties, and states recover from Presidentially-declared disasters, especially in low-income areas (subject to availability of supplemental appropriations). Congress may appropriate additional funding for CDBG to rebuild affected areas and provide crucial seed money to start the recovery process. Can help communities and neighborhoods that otherwise might not recover due to limited resources. Grants often supplement disaster programs of FEMA, Small Business Administration and USACE.</p> <p>For more information: https://www.onecpd.info/cdbg-dr/</p>	<p>HUD generally awards noncompetitive, nonrecurring Disaster Recovery grants by a formula that considers disaster recovery needs unmet by other Federal disaster assistance programs.</p>

Program or Service	Funding
<p>HUD MORTGAGE INSURANCE FOR DISASTER VICTIMS Individuals whose home has been damaged or destroyed in an area with a Presidential declaration of disaster may apply. Makes it easier for survivors to obtain mortgage loans and become homeowners or reestablish themselves as homeowners. Section 203(h) program provides mortgage insurance for loans to qualified disaster victims. Individuals are eligible for this program if previous residences (owned or rented) were located in a declared area and were destroyed or damaged to such an extent that reconstruction or replacement is necessary.</p> <p>HUD Disaster Resources include: https://www.hud.gov/program_offices/housing/sfh/ins/203h-dft https://www.hud.gov/hudprograms/mifdv_section203h</p>	<ul style="list-style-type: none"> • No downpayment required. Borrower eligible for 100 percent financing. Closing costs and prepaid expenses must be paid by borrower in cash or paid through premium pricing or by seller, subject to 6 percent limitation on seller concessions. • FHA mortgage insurance is not free. Mortgagees collect from borrowers an up-front insurance premium (may be financed) at time of purchase, as well as monthly premiums that are not financed, but instead are added to regular mortgage payment. • HUD sets limits on amount that maybe insured. To make sure that its program serve low and moderate income people, FHA sets limits on dollar value of mortgage. Figures may vary over time and place.
<p>DISASTER HOUSING ASSISTANCE PROGRAM (DHAP) - RENTAL ASSISTANCE Partnership between HUD and FEMA and operated through HUD's Public Housing Authorities that provides housing vouchers to displaced residents following a presidentially declared natural disaster. Program is activated in coordination with FEMA and is not activated for every disaster. For more information: https://www.hud.gov/program_offices/public_indian_housing/publications/dhap</p>	<p>Varies</p>

Other Websites

<ul style="list-style-type: none"> • HUD Homepage: https://www.hud.gov/ • Floodplain Management: https://www.hudexchange.info/environmental-review/floodplain-management/ • Agency contact information for floodplain management and environmental requirements: https://www.hudexchange.info/programs/environmental-review/hud-environmental-staff-contacts/#region-i-regional-and-field-environmental-officers



Agency Vision

The National Aeronautics and Space Administration (NASA) vision statement is “We reach for new heights and reveal the unknown for the benefit of humankind.”

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	Federal / State Agencies, Tribes, Local Governments, Communities, and Individuals			

Programs and Services

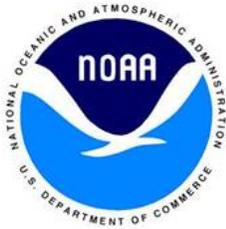
Program or Service	Funding
<p>NASA APPLIED SCIENCES PROGRAM: The Applied Sciences Program promotes efforts to discover and demonstrate innovative and practical uses of Earth science data and knowledge. The Program supports and funds applied research and applications projects that foster uses of Earth-observing satellite data and scientific knowledge by public and private sector organizations in their policy, business, and management decisions. The project results and enhanced decision-making improve quality of life and strengthen the economy. Applications address disasters (see below), ecological forecasting, health and air quality, water resources, and wildfires.</p> <p>For more information: https://appliedsciences.nasa.gov/</p>	<p>All products and tools produced by NASA are free and open, and available to anyone.</p>
<p>NASA DISASTERS PROGRAM: Promotes the use of Earth observations to improve the prediction of, preparation for, response to, mitigation of, and recovery from natural and technological disasters, including floods, hurricanes and landslides. Uses space and aerial based assets to answer complex questions, help with predictions, and incorporate cutting edge technology into disaster support. Produces ready to use products and services to help emergency responders make decisions. Program is made up of a diverse team of people with science, emergency management, and disaster risk reduction experience.</p> <p>For more information: https://disasters.nasa.gov/</p>	<p>All products and tools produced by the NASA Disasters Program are free and open, and available to anyone.</p>

Other Resources and Tools

<p>NASA Disasters Mapping Portal: The NASA Disasters Program Mapping Portal provides NASA disaster-related data products as GIS services, maps, and applications. The Disasters Mapping Portal contains Event-Based products, focused on a single disaster event, and Near-Real Time products that are continuously updated. All products on the Disasters Mapping Portal are free and openly available to all users.</p> <p>All GIS services are available at: https://maps.disasters.nasa.gov</p>
--

Other Websites

<p>NASA Homepage: https://www.nasa.gov/</p>



Agency Mission

The National Weather Service (NWS) is a line office of NOAA, an agency of the U.S. Department of Commerce. The NWS mission is to provide weather, water, and climate forecasts and warnings for the protection of life and property and enhancement of the national economy. NWS data and products form a national information database and infrastructure that can be used by other governmental agencies, the private sector, the public, and the global community.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	Federal/State Agencies, Tribes, Local Governments, and Communities			

Programs and Services

Program or Service	Funding
<p>ADVANCED HYDROLOGIC PREDICTION SERVICES (AHPS) Provides enhanced hydrologic information, products, and services through the infusion of new science and technology. River flooding and drought forecasts are prepared by hydrologists and hydro-meteorologists at the NWS 13 River Forecast Centers and 122 Weather Forecast Offices. River forecasts and observations are available at the AHPS website, as well as Precipitation Analysis, Long Range Flood Risk, Probabilistic Forecasts, and Flood Inundation Mapping (FIM). These products and services are provided to assist community leaders and emergency managers in making better life- and cost-saving decisions about evacuations and movement of property before flooding occurs. Please see AHPS User's Guide for description of the suite of graphical and numerical products. For more information: https://water.weather.gov/ahps/</p>	<ul style="list-style-type: none"> • 100 percent federally funded. • Sponsors asked to contribute \$4,000 to help defray NWS FIM costs to host AHPS.
<p>THE NATIONAL WATER MODEL (NWM) In August 2016, NOAA NWS Office of Water Prediction (OWP) released version 1.0 of the NWM to enhance and expand NOAA's water flow forecasts, which previously had been available for approximately 4,000 river locations with stream gages predominantly operated by USGS. The new model expands forecasts to 2.7 million stream locations nationwide and leverages the full network of nearly 8,000 USGS stream gauges and NOAA's investment in atmospheric modeling. The NWM will provide high-resolution forecasts of soil moisture, surface runoff, snow water equivalent, and other parameters. With implementation of Version 2.0 of the NWM, forecasts are now also available for Hawaii. Download program brochure at: https://water.noaa.gov/documents/wrn-national-water-model.pdf Read more about this new cornerstone of the NOAA Water Initiative: https://water.noaa.gov/about/nwm Learn how to access information to help gage your watersheds: https://water.noaa.gov/documents/OWP-interface-PDD.pdf</p>	<ul style="list-style-type: none"> • 100 percent federally funded. • NWM output is freely available in various resolutions (1km, 250m, and along a point at a channel or reservoir).

Program or Service	Funding
<p>WEATHER READY NATION (WRN) The WRN initiative is about helping our nation become more resilient to increasing extreme weather, water, and climate events. NOAA is working to keep these threats from becoming disasters with greater accuracy in forecasts and warnings, evolving services to community decision makers, and better ways to communicate risk to stakeholders and the public (https://www.weather.gov/wrn/).</p> <p>NOAA partners with emergency management officials, businesses, and the media to motivate individuals and communities to prepare for a potential weather disaster and take actions to save lives at home, in schools, and in the workplace. Help build a Weather-Ready Nation by becoming a WRN Ambassador and serving a pivotal role in affecting societal change by promoting WRN messages, collaborating with NOAA, sharing your success stories, and serving as an example.</p> <p>More information here: https://www.weather.gov/wrn/amb-tou</p>	<ul style="list-style-type: none"> • Educational materials, brochures, and videos are available for free from the website. • There is no cost for government, businesses, nonprofit and non-governmental organizations, and academia to become WRN Ambassadors.
<p>NWS StormReady A voluntary program to provide guidance and incentive to communities interested in improving their hazardous weather operations. Once communities are recognized as StormReady, they can provide their StormReady recognition letter to their regional FEMA National Flood Insurance Program to determine if their activities will be acceptable for Community Rating System credits. Although there are no fees for StormReady recognition, a community may need to upgrade its emergency preparedness infrastructure to qualify for StormReady status.</p> <p>For more information: https://www.weather.gov/stormready/</p>	<p>There is no application fee for StormReady recognition.</p>

Other Resources and Tools

<p>NWS Year-Round Weather Safety Campaigns The aim of National Seasonal Safety Campaigns is to build a Weather-Ready Nation, one that is prepared for extreme weather, water and climate events. Each campaign includes seasonal resources which provide information vital for staying safe. Materials include websites, articles, social media, infographics, videos and other content about weather hazards most common during the current season. All subject content can be freely shared. Materials for each campaign can be found by clicking buttons at top of Safety Campaign webpage: https://www.weather.gov/safetycampaign.</p> <p>Flood Safety Awareness webpage is located at https://www.weather.gov/safety/flood. Designed to inform users on how to stay safe in a flood event. If one knows what to do before, during and after a flood, an informed individual can increase chances of survival. This website provides access to an interactive flood map, information describing different types of flooding, educational material, and NWS resources about potentially dangerous flooding situations. Additional flood topics of interest include Turn Around Don't Drown, Historical State Flood Information, Flood Hazards, and NWS Flood Related Products. Information on technologies NWS uses to communicate weather and water hazards to the public, such as Wireless Emergency Alerts (WEA), NOAA Weather Radio (NWR) All Hazards, and Mobile Weather, are available under the Information Tab.</p>
<p>NOAA NWS AWARE Free NWS monthly publication geared to emergency management community, partners and NWS staff at https://www.weather.gov/publications/aware</p>
<p>NWS Weather Warnings and Forecasts NWS warnings for tornados, flash floods, winter storms, fire weather, tropical cyclone/hurricane and airport and coastal/lakeshore marine forecasts. Forecasts are for general public as well as decision makers. NWS' early warning systems are integral to emergency preparedness on local, state and regional levels.</p> <p>Information can be found at: https://www.weather.gov/forecastmaps</p>

Other Resources and Tools

Precipitation Frequency Estimates

The Office of Water Prediction (OWP) is in charge of updating precipitation frequency (PF) estimates for various areas of the U.S. as Volumes of the NOAA Atlas 14. Estimates in a variety of formats, supplementary information, and documentation are available from the Precipitation Frequency Data Server (PFDS).

The PFDS has a map interface for users to point-and-click on a state to access NOAA Atlas 14 precipitation frequency estimates and associated information. Estimates and their confidence intervals are displayed directly as tables or graphs. Supplementary information, such as ASCII grids of estimates, associated temporal distributions of heavy rainfall, time series data at observation sites, cartographic maps, etc., are also available at <https://hdsc.nws.noaa.gov/hdsc/pfds/index.html>. Publications for states not covered by Atlas 14 can be found at <https://www.nws.noaa.gov/oh/hdsc/currentpf.htm>.

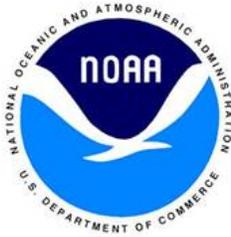
Snow Information

The OWP provides comprehensive snow observations, analyses, data sets, and map products for the nation and maintains the National Snow Observation Database, Airborne Snow Surveys, Satellite Snow Cover Mapping, Snow Modeling and Data Assimilation, Interactive Analytical Mapping Visualization Tools, Integrated Snow Datasets for Geospatial Applications, Applied Snow Research, and Interactive Snow Maps. Using the Interactive Snow Information interface, users can browse through a suite of snow information, including snow cover, snow depth, snowfall total for last 24 hours, and other timeframes to gain better insight into the snow water equivalent and cover and gage seasonal flood risks.

Information can be found at: <https://www.nohrsc.noaa.gov/interactive/html/map.html>

Other Websites

- NOAA NWS Main Webpage: <https://www.weather.gov/>
- NOAA NWS Office of Water Prediction: <https://water.noaa.gov/>
- NCEP Weather Prediction Center: <https://www.wpc.ncep.noaa.gov/>
- National Severe Storms Laboratory: <https://www.nssl.noaa.gov/>
- National Hurricane Center: <https://www.nhc.noaa.gov/>
- National Operational Hydrologic Remote Sensing Center: <https://www.nohrsc.noaa.gov/>
- National Centers for Environmental Information: <https://www.ncei.noaa.gov/>
- River Forecast Centers: <https://water.weather.gov/ahps/rfc/rfc.php>
- Weather Forecast Offices: <https://www.weather.gov/jetstream/wfos>
- NOAA NWS Flood Related Products: <https://www.weather.gov/safety/flood-products>
- Historical State Flood Information: <https://www.weather.gov/safety/flood-map>
- U.S. Natural Hazard Statistics: <https://www.weather.gov/hazstat/>
- NOAA NWS Guide to Hydrologic Information on the Web: [https://www.weather.gov/media/water/brochures/Guide to Hydrologic Information Brochure.pdf](https://www.weather.gov/media/water/brochures/Guide_to_Hydrologic_Information_Brochure.pdf)
- FIM User Guide: https://water.weather.gov/ahps2/inundation/inundation_mapping_user_guide.pdf
- Flood Map Libraries and Development Guidelines: <https://water.weather.gov/ahps/inundation.php>



Agency Mission

The National Oceanic and Atmospheric Administration’s (NOAA’s) National Ocean Service (NOS) is the nation’s most comprehensive ocean and coastal agency. NOS’s mission is to provide science-based solutions through collaborative partnerships to address evolving economic, environmental, and social pressures on our oceans and coasts. Within NOS, NOAA’s Office for Coastal Management (OCM) provides the technology, information, and management strategies used by local, state, and national organizations to address complex coastal issues.

When Can We Help?	Preparation ✓	Response	Recovery ✓	Mitigation ✓
Who Can We Help?	Serves and partners with the coastal management community, including state, local, Tribal, and territorial governments; other Federal agencies; and conservation and other partner organizations.			

Programs and Services

Program or Service	Funding
<p>COASTAL ZONE MANAGEMENT PROGRAM Authorized by Coastal Zone Management Act (CZMA) of 1972. Comprehensively addresses nation’s coastal issues through a voluntary partnership between Federal government and coastal and Great Lakes states and territories. OCM awards four types of funding to nation’s 34 state and territory coastal zone management programs to protect, restore and responsibly develop coastal communities and resources. Funding categories include:</p> <ul style="list-style-type: none"> • Administrative Grants - Funds to administer state/territorial coastal zone management programs under Section 306 of CZMA. • Coastal Resource Improvement Program - Under Section 306A of CZMA, state coastal zone management programs may spend up to half of their Section 306 funds on small-scale construction or land acquisition projects that enhance public access to the coast, facilitate redevelopment of urban waterfronts, or preserve and restore coastal resources. • Coastal Zone Enhancement Grants - Under Section 309 of CZMA, OCM provides zero-match Coastal Zone Enhancement Program funds to state coastal zone management programs to enhance programs in one or more areas of national significance. • Coastal Nonpoint Pollution Control Program (Technical Assistance) - Funds help state coastal zone management programs implement Coastal Nonpoint Pollution Control Programs under Section 310 (Technical Assistance) of CZMA. <p>For more information: https://coast.noaa.gov/czm/</p>	<ul style="list-style-type: none"> • Administrative Grants: 1:1 ratio Federal-to-state matching funds. • Coastal Resource Improvement Program: 1:1 ratio Federal-to-state matching funds (subset of 306 funding). • Coastal Zone Enhancement Grants: 100 percent federally funded. • Coastal Nonpoint Pollution Control Program: 1:1 ratio Federal-to-state matching funds.

Program or Service	Funding
<p>DIGITAL COAST Partnership-driven website that provides user-focused data, tools, trainings, and case studies designed for coastal managers and practitioners, including, but not limited to, floodplain managers, emergency managers, planners, and natural resource managers. Digital Coast Partners include: American Planning Association, Association of State Floodplain Managers, Coastal States Organization, National Association of Counties, National Estuarine Research Reserve Association, National States Geographic Information Council, NOAA OCM, The Nature Conservancy, and Urban Land Institute. Digital Coast Partners are eligible for project funds.</p> <p>For more information: https://coast.noaa.gov/digitalcoast/.</p> <p>For information about a wide array of training opportunities available from NOAA and partner organizations, go to https://coast.noaa.gov/digitalcoast/training/home.html.</p> <p>For access to dozens of tools that help turn data into helpful information, go to https://coast.noaa.gov/digitalcoast/tools/.</p>	<ul style="list-style-type: none"> • Program availability is dependent on annual appropriations. • Typical award amounts are highly variable and dependent on project objectives and scope. • Cost-sharing expected through cash or in-kind contributions.
<p>NATIONAL ESTUARINE RESEARCH RESERVES NOAA provides funds to 29 state National Estuarine Research Reserves under Section 315 of the CZMA to operate and manage reserves. Funds support research, education, stewardship, system-wide monitoring, and graduate research fellowships at reserves. Funding is also used to acquire land for reserves and construct reserve facilities as needed.</p> <p>For more information: https://coast.noaa.gov/nerrs/</p>	<ul style="list-style-type: none"> • 1:1 ratio Federal-to-state matching funds for land acquisition projects. • 7:3 Federal-to-state ratio funds for other operation, management, and construction activities.
<p>COASTAL RESILIENCE GRANTS NOAA's National Ocean Service (through OCM) and NOAA Fisheries jointly manage a competitive grant program that funds projects that build resilience, including activities that protect life and property, safeguard people and infrastructure, strengthen the economy, or conserve and restore coastal and marine resources. Eligible applicants include nonprofit organizations; institutions of higher education; regional organizations; private entities; and local, state, and Tribal governments. Program support for two categories of activities through the same funding opportunity:</p> <ol style="list-style-type: none"> 1) Strengthening Coastal Communities: Activities that improve capacity of multiple coastal jurisdictions (states, counties, municipalities, territories and Tribes) to prepare and plan for, absorb impacts of, recover from, and/or adapt to extreme weather events and climate related hazards. 2) Habitat Restoration: Activities that restore habitat to strengthen coastal ecosystems' resilience and decrease vulnerability of coastal communities to extreme weather events and climate-related hazards. <p>For more information: https://coast.noaa.gov/resilience-grant/</p>	<ul style="list-style-type: none"> • Program availability is dependent on annual appropriations. • One year or multi-year awards up to three years. • Feasibility and design-only projects: \$75,000 - \$300,000; implementation or design and implementation projects: \$250,000 - \$1,000,000. • 2:1 Federal-to-non-Federal contributions; cost-sharing expected through cash or in-kind contributions. • For 2018, NOAA will select proposals from high-scoring projects submitted but not funded in 2017.

Other Resources and Tools

Coastal Inundation Modeling, Forecasting and Prediction

Provides communities with analysis of flood and storm surge hazards with more refined and accurate data (modeling systems and GIS tools) for use in disaster planning. Includes a Sea Lake and Overland Surges from Hurricanes (SLOSH) Model Viewer, which aids in evacuation planning. Contributes to prediction of storm surge heights, waves and wind, and a measure of probability of where storm surge will happen.

More information at: <https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html>

Other Websites

- NOAA Office for Coastal Management Homepage: <https://www.coast.noaa.gov/>
- NOAA National Ocean Service: <https://oceanservice.noaa.gov/>



**United States
Department of
Agriculture**

Natural Resources Conservation Service

Agency Mission

The USDA Natural Resources Conservation Service (NRCS) improves the health of our nation’s natural resources while sustaining and enhancing the productivity of American agriculture. NRCS achieves this by providing voluntary assistance through strong partnerships with private landowners, managers, and communities to protect, restore, and enhance the lands and waters upon which people and the environment depend.

When Can We Help?	Preparation	Response	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, and Communities			

Programs and Services

Program or Service	Funding
<p>WATERSHED AND FLOOD PREVENTION OPERATIONS PROGRAM (WFPO) (Watershed Protection And Flood Prevention Act, Public Law 83-566 as amended) – Provides technical and financial assistance to states, local governments, and Tribes to plan and implement authorized watershed project plans for the purpose of:</p> <ul style="list-style-type: none"> • Watershed protection • Flood reduction • Water quality improvements • Soil erosion reduction • Rural, municipal, and industrial water supply • Irrigation water management • Sediment control • Fish and wildlife enhancement • Hydropower <p>For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/landscape/wfpo/?cid=nrcs143_008271</p>	<ul style="list-style-type: none"> • NRCS provides up to 100 percent of technical assistance costs. • Financial assistance cost share varies according to project purpose(s). • Construction costs for flood prevention purposes are 100 percent federally funded.
<p>EMERGENCY WATERSHED PROTECTION PROGRAM (EWP) (Section 216 of Public Law 81-516 and 33 U.S.C. Section 701b and Section 403 of title IV of Public Law 95-334, the Agricultural Credit Act of 1978) – Provides assistance to help state and local governments carry out much needed recovery projects to address damage caused by floods, hurricanes, wildfires, and other natural disasters. Designed for installation of recovery measures, such as removing debris from stream channels, road culverts, and bridges or repairing levees. NRCS may purchase EWP easements on floodplain lands that have been impaired within the last 12 months or that have a history of repeated flooding to restore, protect, maintain, and enhance floodplain functions and values. With the exception of the purchase of floodplain easements, all projects must have a sponsor, such as city/county government, flood/water control districts, or soil/water conservation districts. It is not necessary for a national emergency to be declared to be eligible for assistance.</p> <p>For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/</p>	<ul style="list-style-type: none"> • Up to 75 percent of construction costs of emergency measures are federally funded (up to 90 percent within limited-resource areas). • Remaining costs must come from local sources and can be cash or in-kind services.

Program or Service	Funding
<p>WATERSHED REHABILITATION PROGRAM (Watershed Protection and Flood Prevention Act Public Law 83-566, Watershed Rehabilitation Amendments of 2000) - Authorizes NRCS to provide technical and financial assistance to watershed project sponsors to:</p> <ul style="list-style-type: none"> • Rehabilitate aging dams that protect lives, property and infrastructure, such as drinking water in downstream rural communities. • Decommission dams to no longer pose threat to life and property. • Provide alternate methods (nonstructural) for flood reduction. <p>For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/landscape/wr/?cid=nrcs143_008448</p>	<ul style="list-style-type: none"> • NRCS provides up to 100 percent of technical assistance costs. • NRCS provides 65 percent of total eligible project cost, up to 100 percent of construction costs.
<p>AGRICULTURAL CONSERVATION EASEMENT PROGRAM (ACEP) (Farm Bill of 1985, as amended) - Provides financial and technical assistance to help conserve agricultural lands, wetlands and their related benefits. Wetland Reserve Easement component is a voluntary program offering landowners opportunity to protect, restore and enhance wetlands on their property and offers an opportunity to establish long-term conservation and wildlife practices and protection. Goal is to achieve greatest wetland functions and values, along with optimum wildlife habitat, on every enrolled acre. In many cases, restoration and protection of wetlands reduces flood damages.</p> <p>For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/</p>	<p>For permanent wetland easements, NRCS pays 100 percent of easement value and up to 100 percent of restoration costs.</p>
<p>SNOW SURVEY AND WATER SUPPLY FORECASTING PROGRAM - Provides 12 western states and Alaska with information on future water supplies. NRCS field staff and cooperating partners collect and analyze data on depth and water equivalent of snowpack at more than 1,000 manual measurement sites and 885 automated stations (SNOTEL) to estimate annual water availability, spring runoff and summer streamflows. NRCS issues water supply forecasts for hundreds of points in the western United States near the first of the month between January and June each year and at other times as requested.</p> <p>For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/water/snowsurvey/?cid=stelprdb1246463</p>	<p>Information can be downloaded free of charge from website.</p>

Other Resources and Tools

GeoObserver for Dams

Developed by NRCS National Geospatial Center of Excellence, the web-based geospatial application allows the NRCS to add new dams, create reports, and export data within the National Inventory of Dams (NRCSID).

DamWatch

Web-based dam monitoring tool helps NRCS project sponsors protect communities by providing real-time monitoring of 11,900 watershed program dams throughout the U.S. Alerts essential personnel when rainfall, snowmelt, and earthquakes threaten dams. Provides a one-stop source for critical documents, such as drawings, photographs and emergency action plans.

Other Websites

NRCS Headquarters Homepage: <https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>



Agency Mission

The USACE provides vital public engineering services in peace and war to strengthen our nation's security, energize the economy, and reduce risks from disasters.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	State Agencies, Tribes, Local Governments, and Communities			

Programs and Services

Program or Service	Funding
<p>NATIONAL FLOOD RISK MANAGEMENT PROGRAM (NFRMP) Program team works to increase capabilities across all aspects of USACE to improve decisions made internally and externally that affect the nation's flood risk, including risk to life, the economy and natural environment. Convenes and facilitates dialogue at all levels of government and with other key interests, e.g., national organizations and private sector, to develop a national vision for flood risk management. For more information: https://www.iwr.usace.army.mil/Missions/Flood-Risk-Management/Flood-Risk-Management-Program/</p> <p>Silver Jackets Program - Facilitates connections and networking for State Teams and USACE as well as provides assistance to State Teams in navigating to services provided through other agencies. Develops information resources and supports sharing and networking among teams and agency partners to implement flood risk management efforts that improve flood risk awareness and result in actions to reduce risk. Provides direction to States on how to deliver / access technical services. For more information: https://silverjackets.nfrmp.us</p>	<ul style="list-style-type: none"> • Funds USACE staff to participate and support state Silver Jackets teams. • Information resources, including newsletters, webinars and brochures, are available for free from program websites.
<p>FLOODPLAIN MANAGEMENT SERVICE (FPMS) (Section 206, Flood Control Act of 1960, P.L. 86-645, as amended) - Provides technical assistance and planning guidance to Federal agencies, states, local governments, other non-Federal entities, eligible Tribes and private sector to support effective floodplain management. May include obtaining, interpreting or developing data about flood sources and types, flood depths and water surface elevations, floodwater velocity, flooding extent and duration, flood frequency, and obstruction of flood flows. May also include larger scale 'special studies' on all aspects of floodplain management planning, including floodplain mapping, dam break analyses, regulatory floodways studies, flood warning and emergency preparedness, and flood damage reduction studies. Allows for technical assistance only. Cannot conduct site-specific design or fund construction.</p> <p>For more information: https://planning.ercd.dren.mil/toolbox/library/FactSheets/fpmsfactsheet_June2017.pdf</p>	<ul style="list-style-type: none"> • Services to states, local governments, and eligible Tribes are 100 percent federally funded. • Non-Federal sponsor may voluntarily contribute funds to expand scope of services per Section 202 of the Water Resources Development Act (WRDA) of 1999. • Services to Federal agencies and the private sector are provided on a 100 percent cost recovery basis.

Program or Service	Funding
<p>PLANNING ASSISTANCE TO STATES (PAS) (Section 22, WRDA 1974, as amended) - Assists states, local governments, Tribes, and other non-Federal entities with preparation of comprehensive plans for development, utilization, and conservation of water and related resources of drainage basins, watersheds, or ecosystems. Provides technical assistance in support of state (or groups of states) water resources management and related land resources as identified in state water plans or hazard mitigation plans; preparedness, response and recovery plans; or plans associated with changing hydrologic conditions, climate change, long-term sustainability, and resilience. Studies are for project planning and may not include preparation of site-specific designs or fund construction.</p> <p>For more information: https://planning.ercd.dren.mil/toolbox/library/FactSheets/PAS_FS_Aug2019.pdf</p>	<ul style="list-style-type: none"> • Comprehensive Planning: Cost shared at 50 percent Federal, 50 percent non-Federal. Non-Federal sponsor's cost share may include cash and work-in-kind. • Technical Assistance: Cost shared at 50 percent Federal, 50 percent non-Federal. Non-federal must be cash • Limited to \$5 million Federal funds per state in a fiscal year. • Limited to \$2 million Federal funds per state per fiscal year for cooperative agreements with nonprofit organizations to assist rural and small communities. • Non-Federal sponsor may voluntarily contribute fees in excess of 50 percent cost share.
<p>CONTINUING AUTHORITIES PROGRAM Authorizes feasibility study and construction for relatively small projects; usually requires no further congressional authorization to proceed to construction.</p> <ul style="list-style-type: none"> • Emergency Stream Bank and Shoreline Protection (Section 14, Flood Control Act of 1946, as amended) - Allows emergency stream bank and shoreline protection to prevent damage to public facilities, such as roads, bridges, hospitals, schools, and water/sewage treatment plants. Maximum Federal expenditures limited to \$5 million. • Small Beach Erosion Control (Section 103, River and Harbor Act of 1962, as amended) – Provides protection or restoration of public shorelines by construction of revetments, groins, and jetties. Maximum Federal expenditures limited to \$10 million. • Flood Damage Reduction (Section 205, Flood Control Act of 1948, as amended) - Provides for construction/improvement of flood risk reduction works (levees, channels, and dams) for local flood protection. Non-structural alternatives may include measures such as installation of flood warning systems, raising and/or floodproofing structures, and relocation of flood-prone facilities. Maximum Federal expenditures limited to \$10 million. 	<ul style="list-style-type: none"> • Feasibility Study: First \$100,000 is federally funded. Remaining costs are shared at 50 percent Federal, 50 percent non-Federal. • Design & Construction: Cost shared at 65 percent Federal, 35 percent non-Federal. • Non-Federal sponsor's cost share may include cash and work-in-kind.
<p>SPECIFICALLY AUTHORIZED STUDIES (INVESTIGATIONS) Requires specific authorization from Congress to study and design water resource solutions. For large scale projects that cost more than \$10 million.</p> <p>For more information: https://planning.ercd.dren.mil/toolbox/library/FactSheets/ProjectDevtFS_Nov2017.pdf</p>	<ul style="list-style-type: none"> • Feasibility Study: Cost shared 50 percent Federal, 50 percent non-Federal. • Design & Construction: Typically cost shared 65 percent Federal, 35 percent non-Federal for flood risk management and ecosystem restoration projects. • Non-Federal sponsor's cost share may include cash and work-in-kind.

Program or Service	Funding
<p>WATERSHED STUDIES (Section 729 of Water Resources Development Act of 1986, as amended) - Allows USACE to study water resources needs of river basins and regions in the United States, in consultation with Federal, state, Tribal, interstate and local government entities to develop a watershed plan. Does not encompass feasibility-level planning for specific USACE projects, but addresses identified water resources needs from any source, regardless of agency responsibilities, and provides a shared vision of a desired end state that may include recommendations for potential involvement by USACE and other Federal and non-Federal interests. For more information: https://planning.ercd.dren.mil/toolbox/library/PB/PB2019-01.pdf</p>	<p>Cost shared at 75 percent Federal, 25 percent non-Federal.</p>
<p>NATIONAL NONSTRUCTURAL COMMITTEE Promotes use of nonstructural methods for reducing life loss and minimizing property damage. Provides technical consultation on a full array of flood risk management measures from initial assessments and plan formulation through technical review. Offers tools and resources including publications, assessment tools, structure attribute table, nonstructural matrix, and National Flood Barrier Testing and Certification Program. Common types of assistance include:</p> <ul style="list-style-type: none"> • Consultation on scope of work development • Assist with nonstructural assessments and plan formulation • Workshops, webinars, and public meeting presentations • Quality assurance • Technical Review • Flood risk management behind levees and below dams <p>For more information: https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/nnc/.</p>	<ul style="list-style-type: none"> • Services provided to USACE Districts at no to full cost, depending on scale of request. • Services also provided at cost to state agencies, local governments, Indian Tribes, and other Federal or non-Federal public agencies.
<p>EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY (P.L. 84-99, as amended) - Provides preparedness, response and recovery assistance, including:</p> <ul style="list-style-type: none"> • Emergency response training and exercises, inspection of non-Federal flood risk management projects, and technical assistance with development of response and hazard mitigation plans. • Immediate response and recovery assistance from flooding, including technical assistance, issuance of sandbags and/or pumps, construction of emergency measures, and initial repair and restoration of flood risk management projects. Opportunities for nonstructural project implementation may be considered in lieu of levee repair. <p>All PL 84-99 efforts are supplemental to local, state, and Tribal efforts. Reimbursement or grants are not authorized.</p>	<ul style="list-style-type: none"> • Emergency readiness and response is 100 percent federally funded with some exceptions. • Post-flood repair activities are 100 percent federally funded for engineering and design. • If eligible, rehabilitation of Federal flood and coastal storm risk management projects are 100 percent federally funded. • If eligible, rehabilitation of non-Federal flood risk management projects are cost shared at 80 percent Federal - 20 percent non-Federal.

Program or Service	Funding
<p>LEVEE SAFETY PROGRAM</p> <p>The mission of the USACE Levee Safety Program is to ensure levees provide benefit to the Nation by working with levee sponsors and stakeholders to assess, communicate, and manage levee related flood risk to people, property, and the environment. Maintains a national inventory of levee systems and makes the information available in the National Levee Database. Inspects, assesses, and communicates levee risk-related issues and concerns, holding life-safety paramount. Supports USACE and local decisions aimed at reducing flood risk. The Levee Safety Program works with levee sponsors on a variety of key activities such as:</p> <ul style="list-style-type: none"> • Conduct inspections and risk assessments that identify and describe levee-related flood risk; • Increase flood risk awareness among elected officials and risk managers to promote effective risk reduction and management; and • Build understanding among residents and businesses behind levees that levees do not eliminate flood risk and levee-related risk can change over time. <p>The Levee Safety Program uses risk-informed decision making to establish priorities and improve decision making by understanding the levee risk in related to the USACE Tolerable Risk Guidelines. Risk-informed decision making is applied on a portfolio level and on an individual levee system level.</p> <p>For more information: http://www.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program/</p> <p>National Levee Safety Act of 2007 (as Amended)</p> <p>Led by USACE in cooperation with FEMA. Includes a suite of activities to promote levee safety with goal to reduce potential for loss of life and economic damages, while increasing community resiliency. USACE has established a National Levee Database (https://levees.sec.usace.army.mil/). Database is a searchable inventory of information for levee systems in the nation and a key national resource supporting decisions and actions related to levee safety. USACE shares and includes levee information in database that is provided by FEMA and voluntarily by states, Tribes, and other Federal agencies. USACE is also leading an effort to conduct a one-time review (inspection and risk assessment) of levees not within USACE’s levee portfolio in collaboration with states, Tribes and levee owners/operators. Participation in this effort is voluntary and does not create a Federal responsibility to operate, maintain, repair or replace levees assessed by USACE. USACE coordinates with volunteer states, Tribes and levee owner/operators to share best practices in levee safety, including levee inspection and assessment methods and tools.</p>	<ul style="list-style-type: none"> • USACE operated and maintained levees – activities are funded within USACE project operation and maintenance account • Federal authorized and locally operated and maintained levees – activities are funded within the USACE Inspection of Completed Works account. • Non-Federal levees eligible for the Rehabilitation Program under P.L. 84-99i – activities are funded within USACE Flood Control and Coastal Emergencies account. • Non-Federal levees not participating in the Rehabilitation Program in P.L. 84-99 - USACE can conduct a one-time levee review (e.g. inspection and risk assessment) with voluntary states, Tribes, and levee owner/operators subject to availability of funding. • Providing levee information for inclusion into the National Levee Database is voluntary and no cost to states, Tribes, other Federal and non-Federal entities.

Program or Service	Funding
<p>ENGINEER RESEARCH AND DEVELOPMENT CENTER (ERDC) Helps solve our nation’s most challenging problems in civil and military engineering, geospatial sciences, water resources, and environmental science. Research and development capabilities include research in flood risk management and coastal systems, emergency management, water resources infrastructure, environmental restoration and regulation, and system-wide water resources, among others. Work is conducted in one of seven laboratories. Some research programs related to flood risk management include:</p> <ul style="list-style-type: none"> • Flood and Coastal Storm Damage Reduction Program • Coastal and Ocean Data System (CODS) https://chl.erdcdren.mil/cods-national-coastal-wave-climate/ • Ecosystem Management and Restoration Research Program • Regional Sediment Management Program • Engineering with Nature https://ewn.el.erdcdren.mil/ <p>ERDC Laboratories conducting research related to flood risk management include:</p> <ul style="list-style-type: none"> • Coastal & Hydraulics Laboratory https://www.erdcdren.usace.army.mil/Locations/CHL/ • Cold Region Research and Engineering Laboratory https://www.erdcdren.usace.army.mil/Locations/CRREL/ • Environmental Laboratory https://www.erdcdren.usace.army.mil/Locations/EL/ • Geotechnical & Structures Laboratory https://www.erdcdren.usace.army.mil/Locations/GSL.aspx • Information Technology Laboratory https://www.erdcdren.usace.army.mil/Locations/ITL/ <p>For more information: https://www.erdcdren.usace.army.mil/</p>	<p>Multiple partnering or funding mechanisms available. Can be federally funded, cost shared, or reimbursable, depending on research or development topic.</p>
<p>COLLABORATION AND PUBLIC PARTICIPATION CENTER OF EXPERTISE Provides training and technical assistance to Districts, Divisions and USACE Headquarters on risk communication, public involvement process design, stakeholder analysis and engagement, policy analysis and formulation, engaging socially vulnerable populations, team-building, facilitation, and mediation. Tracks and disseminates innovative examples of Environmental Collaboration and Conflict Resolution. Develops new applications of technology for collaboration, risk communication and stakeholder engagement. Supports District-level Public Involvement Specialists across USACE and leads USACE’s cross-disciplinary Collaboration and Public Participation Community of Practice.</p> <p>For more information: https://www.iwr.usace.army.mil/About/Technical-Centers/CPCX-Collaboration-Public-Participation/</p>	<p>Beyond an initial consultation, services provided at cost. Limited additional assistance may be competitively awarded through the annual USACE Grand Collaboration Challenge.</p>

Program or Service	Funding
<p>COASTAL STORM RISK MANAGEMENT - NATIONAL PLANNING CENTER OF EXPERTISE</p> <p>Develops, maintains, and applies expertise in science and engineering technology in order to plan for coastal storm risk management of coastal resources. Provides advisory and consulting services on many coastal planning topics, including plan formulation, and coastal storm risk management for environmental restoration. Collaborates on critical issues facing our coastlines including climate change, resiliency and risk. Partners with other government agencies, non-profits and foreign governments. As leader of the USACE National Hurricane Program, coordinates with FEMA and NOAA to provide assistance and guidance on hurricane evacuation plans. Conducts hurricane mapping and analysis on vulnerability areas, transportation systems, and shelter spaces.</p> <p>For more information: https://www.nad.usace.army.mil/About/National-Centers-of-Expertise/Coastal-Storm-Risk-Management-Planning/</p>	<p>Can be federally funded, cost shared, or reimbursable, depending on services provide.</p>
<p>HYDROLOGIC ENGINEERING CENTER (HEC)</p> <p>Supports USACE by providing technical methods and guidance, water resources software and associated utilities, training, and workshops. Accomplishes research and development and performs technical assistance and special projects.</p> <p>Designated USACE Technical Center of Expertise for surface and groundwater hydrology, river hydraulics and sediment transport, hydrologic statistics and risk analysis, reservoir system analysis, planning analysis, real-time water management, and other closely associated technical subjects.</p> <p>For more information: https://www.hec.usace.army.mil/</p>	<ul style="list-style-type: none"> • Multiple partnering or funding mechanisms available. • Products developed are available to the public and may be freely downloaded from the HEC website. • Services provided at cost to USACE Districts, state agencies, local governments, and other Federal or non-Federal public agencies.
<p>INTERAGENCY AND INTERNATIONAL SUPPORT (IIS)</p> <p>Provides technical assistance to non-Department of Defense Federal agencies, state and local governments, Tribal nations, private U.S. firms, international organizations, & foreign governments, Provides engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural resources, relief and recovery work, and other management and technical services.</p> <p>For more information: https://www.usace.army.mil/Missions/Military-Missions/Interagency-International-Support/</p>	<p>Most work is funded on a 100 percent reimbursable basis.</p>

Other Resources and Tools

<p>Interagency Flood Risk Management Workshops and Training Seminars</p> <p>Organized to share information among Federal and state flood risk management partners, including Silver Jackets teams and identifying successes and challenges, learn about flood risk management programs and activities of state and Federal agencies, and further develop knowledge and skills to collaborate and manage flood risk effectively. Previous workshops and training seminars information presentations are posted at https://silverjackets.nfrmp.us/Resources/Workshops_</p>
<p>The BUZZ</p> <p>Quarterly newsletter that serves as a forum to document and share Silver Jackets teams’ successes, lessons learned, opportunities, and resources located at https://silverjackets.nfrmp.us/Resources/Newsletter</p>

Other Resources and Tools

Silver Jackets Webinars

Monthly informational and organizational webinars offered to partners and team members, internal and external to USACE. Recordings of past webinars are posted at <http://silverjackets.nfrmp.us/Resources/Webinars>

Federal Flood Risk Management Programs Database

Contains Federal programs related to flood risk management with functions to filter by type of user, program purpose, type of assistance and Federal agency. Located at: <https://ffrmp.nfrmp.us/>

USACE Open Data and Civil Works Business Intelligence (CWBI) Geospatial Platform Map

Provides shared and trusted USACE geospatial data, services, and applications for use by the public. Located at: <https://geospatial-usace.opendata.arcgis.com/>

The CWBI Geospatial Portal Map provides an interactive public map interface of Civil Works projects, recreation sites and USACE administrative boundaries and can be accessed at

<https://ags01.sec.usace.army.mil/portal/apps/View/index.html?appid=5c4d25ba7f654290a0037d9769844151>

National Levee Database

Searchable inventory of information about levees displayed in easy-to-use map interface. Includes locations and conditions information, reports, inspection summaries, and other records about levees in the USACE Levee Safety Program and a growing body of information on levees outside of the USACE program. Access the database at: <https://levees.sec.usace.army.mil/#/>

USACE Publications

Repository for official USACE Engineering Regulations (ERs), Engineering Circulars (ECs), Engineering Manuals (EMs) and other official public documents. Documents can be downloaded at

<https://www.publications.usace.army.mil/>

Other Websites

- USACE National Headquarters Homepage: <https://www.usace.army.mil/>
- To find a USACE office near you: <https://www.usace.army.mil/Locations/>



Agency Mission

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

When Can We Help?	Preparation ✓	Response	Recovery ✓	Mitigation ✓
Who Can We Help?	State, Tribal, and Local Governments, Other Federal Agencies, Nongovernmental Organizations, Universities, and Private Landowners			

Programs and Services

Program or Service	Funding
<p>THE COASTAL PROGRAM Provides technical and financial assistance to partners to support fish and wildlife habitat restoration and improvement projects in priority coastal areas. Projects are developed collaboratively with partners and support landscape-scale conservation on public and private lands. Projects are selected based on national and regional strategic priorities. Hazard mitigation and disaster recovery frequently are co-benefits of Coastal Program projects. For more information: https://www.fws.gov/coastal/</p>	<ul style="list-style-type: none"> • Typically provides approximately \$7 million to partners through cooperative agreements to support priority projects • Technical and financial assistance is provided through cooperative agreements. • No minimum required match; however, strives to achieve a 1:1 cost-share, which can include in-kind contributions.
<p>COASTAL BARRIER RESOURCES ACT (CBRA) PROGRAM Maintains maps of the Coastal Barrier Resource System (CBRS) established by Congress. CBRA encourages conservation of hurricane prone, biologically rich coastal barriers by restricting Federal expenditures that incentivize development, such as Federal flood insurance. Areas within the CBRS can be developed provided that private developers or other non-Federal parties bear full cost. For more information: https://www.fws.gov/CBRA/</p>	
<p>NATIONAL WETLANDS INVENTORY (NWI) NWI conducts wetland mapping and classification and publishes <i>the Status and Trends of Wetlands in the Conterminous United States</i> every five years. Available here : https://www.fws.gov/wetlands/</p>	<p>Provides nominal financial support for mapping and geospatial data collection through contracts and Cooperative Ecosystem Studies Units.</p>
<p>NORTH AMERICAN WETLANDS CONSERVATION ACT (NAWCA) Provides matching grants to partners to implement wetlands conservation projects in the United States, Canada, and Mexico. Supports projects aiming to protect, restore, or enhance wetland and associated upland migratory bird habitats, benefiting priority species, including waterfowl, shorebirds, water birds, and land birds. For more information: https://www.fws.gov/birds/grants/north-american-wetland-conservation-act.php</p>	<ul style="list-style-type: none"> • Standard Grant Program (\$100,001 or more) and a Small Grants Program (\$100,000 or less) • Match requirement: 1:1 • Two funding cycles per year • Projects are selected by the North American Wetlands Council and the Migratory Bird Conservation Commission

Program or Service	Funding
<p>FISH PASSAGE PROGRAM Provides technical and financial assistance for flood risk mitigation planning, dam removal, culvert upgrades, and installation of fish ladders to enhance fish passage and hydrologic connectivity. For more information: https://www.fws.gov/fisheries/fish-passage.html</p>	<ul style="list-style-type: none"> • Provides approximately \$11 million in direct Federal assistance to support priority projects. • No minimum required match; however, strives to achieve a 1:1 cost-share, which can include in-kind contributions.

Other Resources and Tools

<p>Wetlands Mapper Designed to deliver easy-to-use, map-like views of America’s Wetland resources. Integrates digital map data along with other resource information to produce current information on status, extent, characteristics, and functions of wetlands, riparian, and deep water habitats. Available at https://www.fws.gov/wetlands/data/Mapper.html</p>
<p>Wetlands Status and Trends Project Comprises the monitoring component of the National Wetlands Inventory (NWI) program. Provides critical information on recent and historical changes in wetland and deep water habitat type and acreage. Information can be accessed here: https://www.fws.gov/wetlands/status-and-trends/index.html</p>
<p>CBRS Data Desktop /Mobile Viewer Use this mapper to view existing CBRS boundaries. Can be used to help property owners, local, state, and Federal stakeholders, and others determine whether or not properties or project sites may be affected by CBRA. Data last modified Oct. 1, 2017 and available at https://www.fws.gov/CBRA/Maps/Mapper.html</p>

Other Websites

<p>U.S. Fish and Wildlife Service Homepage: https://www.fws.gov/</p>



Agency Mission

The U.S. Geological Survey (USGS) serves the nation by providing reliable scientific information to describe and understand the earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

When Can We Help?	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
Who Can We Help?	Federal, State, and Local Agencies and Tribes			

Programs and Services

Program or Service	Funding
<p>USGS WATER MISSION AREA The USGS works with partners to monitor, assess, conduct targeted research, and deliver information on a wide range of water resources and conditions including streamflow, groundwater, water quality, and water use and availability: For more information: https://www.usgs.gov/mission-areas/water-resources/about</p>	Varies
<p>GROUNDWATER AND STREAMFLOW INFORMATION PROGRAM (GWSIP) Supports USGS Federal priority stream gages needed for flood-forecasting and flood response activities, including limited deployment of temporary rapid deployment stream gages (RDGs) needed to monitor water levels at crucial locations, flood-documentation studies, and flood inundation mapping. For more information: https://www.usgs.gov/water-resources/groundwater-and-streamflow-information</p>	Provides core funding for streamflow and flood-data collection efforts at Federal priority stream gages and Federal matching funds of up to 50 percent for other locations, subject to availability.
<p>WATER AVAILABILITY AND USE SCIENCE PROGRAM (WAUSP) Provides information and tools to support water resource management decisions. Seeks to provide historical data and to predict future scenarios on a daily time-step of water availability and use nationally at the 12-digit hydrologic unit code (HUC-12) scale, which average in size at 37 square miles. For more information: https://www.usgs.gov/water-resources/water-availability-and-use-science-program</p>	<ul style="list-style-type: none"> • Provides core funding for water availability assessments and delivery of flood data, flood-statistics, flood-inundation maps, and related scientific development and support. • Some grants are available for water assessments and water use data collection.
<p>NATURAL HAZARDS MISSION AREA Responsible for coordinating USGS response following disasters and overseeing the bureau's emergency management activities. Coordinates long-term planning to incorporate hazard science into many other program across the bureau, including floods, hurricanes, severe storms, and wildfires. For more information: https://www.usgs.gov/mission-areas/natural-hazards</p>	100 percent federally funded

Program or Service	Funding
<p>LANDSLIDE HAZARDS (WITHIN NATURAL HAZARDS) Focus is to reduce long-term losses from landslide hazards by improving our understanding of the causes of ground failure and suggesting mitigation strategies. Programs include monitoring of risks, predictions, and tracking landslides, including a “Did you see it” reporting application. For more information: https://www.usgs.gov/natural-hazards/landslide-hazards</p>	100 percent federally funded
<p>COASTAL AND MARINE GEOLOGY PROGRAM (CMGP) Works with many and varied partners to ensure that our Nation has the information it needs to understand, restore, and protect healthy coastal and ocean resources and the communities who depend on them. For more information: https://marine.usgs.gov/</p>	100 percent federally funded

Other Resources and Tools

<p>USGS Flood Information The USGS collects flood data and conducts targeted flood science to help Federal, State, and local agencies, decision makers, and the public before, during, and after a flood. Our efforts provide situational awareness, drive predictive models, inform infrastructure design and operation, undergird floodplain mapping, assist flood constituent/load quantification, and facilitate flood impact assessments.</p>
<p>USGS National Water-Information Systems (NWIS) Provides instantaneous and daily value data, monthly and annual statistics, and annual peak flows. For more information: https://waterdata.usgs.gov/nwis</p>
<p>USGS WaterWatch Maps and graphics that summarize current streamflow conditions and permits comparisons with past flood and drought flows and flow statistics. Available at https://waterwatch.usgs.gov</p>
<p>USGS WaterAlert Provides customized water texts and email notices whenever water conditions (streamflow, stage, and groundwater levels and water-quality conditions) meet user-defined thresholds. For more information: https://maps.waterdata.usgs.gov/mapper/wateralert/</p>
<p>USGS WaterNow Responds to text message containing USGS station number with current site conditions for user selected site. For more information: https://water.usgs.gov/waternow/</p>
<p>USGS StreamStats Drainage-area delineations, basin characteristics, and streamflow statistics for gaged/ungaged locations, as well as other tools, available at https://water.usgs.gov/osw/streamstats/.</p>
<p>USGS PeakFQ and National Flood-Peak Flow Data Software (https://water.usgs.gov/software/PeakFQ/) that implements Federal Guidelines for Flood-Frequency Analysis (https://pubs.er.usgs.gov/publication/tm4B5) on USGS records of peak flood flows (https://nwis.waterdata.usgs.gov/usa/nwis/peak).</p>
<p>National Map Viewer and Download Platform (Elevation and Hydrography) Allows visualization and download of topographic base maps and includes a Natural Hazards viewing tool to show hazards-related information for earthquakes, floods, wildfires and weather. Provides visualization of hazard areas and the National Elevation Dataset (NED) provides raw GIS data for use in mapping and modeling of natural hazards. For more information: http://nationalmap.gov/viewer.html</p>

Other Resources and Tools

USGS Flood-Inundation Map Viewer

A portal for 150 flood-inundation map libraries developed by the USGS or furnished to the USGS from cooperating agencies (<https://fim.wim.usgs.gov/fim/>). The associated FIM Toolbox contains comprehensive information on the Flood Inundation Mapping program, including how to develop a flood inundation map library and submit it to the USGS for posting.

For more information: https://www.usgs.gov/mission-areas/water-resources/science/fim-toolbox-prepare-your-fim-report?qt-science_center_objects=0#qt-science_center_objects

Rapidly Deployable Networks

In addition to long-term stream gages, the USGS hosts a cache of various sensors that can be deployed during a high-water event. These include temporary gages (transmitting), water level sensors (non-transmitting), wave sensors, meteorological stations, and others. For more information, contact your local USGS office or visit <https://water.usgs.gov/floods/resources/> and <https://water.usgs.gov/floods/FEV/> for flood-event network data (includes HWMs).

USGS Coastal Change Hazards Portal

Interactive on-line tool that provides information about historical or future potential storm impacts for a specific coastal area. Includes a feature to show potential susceptibility to sea level rise. Aids decision makers, organizations, or the general public to make decisions that involve emergency preparedness, ecosystem restoration, and where and how to develop coastal areas.

Access the portal at <https://marine.usgs.gov/coastalchangehazardsportal/>

National Assessment of Shoreline Change Project

An analysis of historical shoreline changes along open-ocean, sandy shores of the coterminous United States and parts of Alaska and Hawaii. The primary goal is to develop standard methods for mapping and analyzing shoreline movement so that internally consistent updates can be periodically made to record shoreline erosion and accretion. A web mapping application provides a national map view of short- and long-term shoreline change evaluations and historical and modern shorelines.

For more information: <https://coastalmap.marine.usgs.gov/national/shorelc/>

Other Websites

- USGS Water Mission Area: <https://www.usgs.gov/water/>
- USGS Flood Information: https://www.usgs.gov/mission-areas/water-resources/science/usgs-flood-information?qt-science_center_objects=0#qt-science_center_objects
- USGS Office Locations: <https://www.usgs.gov/connect/locations>