



The BUZZ

February 2017

Special Edition
Update

IN SUPPORT OF AN INTERAGENCY APPROACH

Welcome to the second Special Edition of the Silver Jackets Newsletter. This edition has been updated to provide a reference of federal agency programs, resources and training opportunities that interagency Silver Jackets teams can use to achieve their flood risk management goals. The contributing agencies have provided the following information:

- Agency mission statement
- Summary tables with programs, services, funding, and other resources and tools
- Key agency websites

This Special Edition is intended to complement discussions and information delivered at the 2017 Interagency Flood Risk Management Workshop in St. Louis, Missouri on February 28 through March 3, 2017.

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. Our ultimate goal is to enhance our 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	✓		✓	✓
NOAA NWS	✓	✓	✓	✓
NOAA OCM	✓		✓	✓
NRCS			✓	✓
USACE	✓	✓	✓	✓
USGS	✓	✓	✓	✓

Inside this Special Edition:	
DOT U.S. Department of Transportation	2
EPA Environmental Protection Agency	4
FEMA Federal Emergency Management Agency	8
HUD U.S. Department of Housing and Urban Development	13
NOAA NWS National Weather Service	15
NOAA OCM Office for Coastal Management	17
NRCS USDA Natural Resources Conservation Service	20
USACE U.S. Army Corps of Engineers	22
USGS U.S. Geological Survey	28



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>MAP-21, THE MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT (P.L. 112-141) Provides authority to provide funds to state, local, and tribal governments for the development of transportation systems.</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 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

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>.

FHWA-FEMA Flood Risk Management Workshop

A one-day course providing training to state and local transportation agencies on FHWA regulations and policy; FEMA regulations and policy, including Letters of Map Revisions; and the steps to comply with these regulations.

Other Websites

- DOT Headquarters: <http://www.dot.gov>
- FHWA Hydraulics Website: <http://www.fhwa.dot.gov/engineering/hydraulics>



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 Federal/state partnership where states provide loans for wide range of water quality and public health projects, including storm water management, infrastructure improvements at publicly owned wastewater and drinking water treatment facilities, water conservation reuse, emergency back-up power, and planning and design. Loans may be used to increase a utility’s resiliency to disasters.</p> <ul style="list-style-type: none"> • <i>Drinking Water State Revolving Fund (SRF)</i> – http://water.epa.gov/grants_funding/dwsrf/index.cfm • <i>Clean Water State Revolving Fund (SRF)</i> - http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm 	<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.
<p>WATER INFRASTRUCTURE AND FINANCE AND INNOVATION ACT LOAN FUNDS (WIFIA) 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 INFRASTRUCTURE RESILIENCY AND FINANCE CENTER Provides financial planning assistance for communities. Serves as a “think-and-do” tank to spur innovative financing approaches and support capacity building efforts through collaborative technical assistance. Provides direct financial expertise to communities exploring water project financing options, including watershed and stormwater infrastructure. For more information: https://www.epa.gov/waterfinancecenter.</p>	<p>Technical assistance</p>
<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 (non-point 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).

Program or Service	Funding
<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>

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> (WSIO) 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: http://water.epa.gov/infrastructure/watersecurity/.</p>
<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. Examples and training can be found online at http://water.epa.gov/infrastructure/watersecurity/funding/fedfunds/index.cfm.</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>

Other Resources and Tools

Tabletop Exercise Tool For Water Systems: Emergency Preparedness, Response And 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:

<http://water.epa.gov/infrastructure/watersecurity/techtools/ttx.cfm>

Report – Disaster Recovery And Long-Term Resilience Planning In Vermont

Report and planning checklist to help communities prepare, respond, and recover from floods. The 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: www.epa.gov/smartgrowth/sgia_communities.htm#rec1.

Emergency Response On-Scene Coordinator Training Resources

EPA and external training on hazardous materials and disaster emergency response and related topics. For more information: <http://epaossc.org/main/training.aspx>.

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, The Watershed Academy 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:

<http://water.epa.gov/learn/training/wacademy/index.cfm>.

Other Resources and Tools

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-s-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 Websites

- EPA: <http://epa.gov>
- On-Scene Coordinators Emergency Response: <http://epaosc.org/>
- Federal Funding Sources for Watershed Protection: <https://ofmpub.epa.gov/apex/watershedfunding/f?p=fedfund:1>



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>COMMUNITY RATING SYSTEM (CRS) The NFIP Community Rating System allows communities to earn flood insurance premium discounts for measures implemented at the local level that reduce flood risk. These measures include 18 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. The CRS gives credit to communities that identify unique and significant flood hazards faced by the community and for plans to manage these risks that include public outreach information accordingly. For more information: http://www.fema.gov/national-flood-insurance-program-community-rating-system</p>	<p>FEMA provides flood insurance premium discounts for measures that reduce flood risk and go beyond the federal minimum requirements of the NFIP.</p>
<p>FLOOD MITIGATION ASSISTANCE (FMA) Created as part of the National Flood Insurance Reform Act of 1994 (42 U.S.C. 4101) with the 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. Three types of FMA grants are available:</p> <ol style="list-style-type: none"> 1) Planning grants to prepare Flood Mitigation Plans. Only NFIP-participating communities with approved Flood Mitigation Plans can apply for FMA projects grants. 2) Project grants to implement measures to reduce flood losses, such as elevation, acquisition, or relocation of NFIP-insured structures. States are encouraged to prioritize FMA funds for applications that include repetitive loss properties; these include structures with two or more losses each with a claim of at least \$1,000 within any ten-year period since 1978. 3) Management cost grants for states to help administer FMA program. Up to 10 percent of project grants may be awarded to states for management cost. <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. (See FY 2014 Funding Opportunity Announcement). • Period of performance for FMA program begins with opening of application period and ends no later than 36 months from the selection date.

Program or Service	Funding
<p>HAZARD MITIGATION GRANT PROGRAM (HMGP) Provides grants to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP 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. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Eligible recipients and/or sub-recipients include state and local governments, Indian tribes or other tribal organizations, and private non-profit organizations. 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 with Standard 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 with Enhanced 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 grantee 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> <ol style="list-style-type: none"> 1) Planning grants to prepare Hazard Mitigation Assistance plans. 2) 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. 3) 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>	<ul style="list-style-type: none"> • Maximum 10 percent of awarded grant funds can be used by state emergency management agencies (EMAs) for management costs. • Maximum 5 percent of awarded grant funds can be used by local EMA 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>NATIONAL FLOOD INSURANCE PROGRAM (NFIP) Provides a means for property owners to financially protect themselves. Three components of this program are flood insurance, floodplain management, and flood hazard mapping. NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the program. Flood insurance protects building and contents.</p> <p>This is a federal program and rates are set. Mortgage lenders for all federal and federally-backed loans require flood insurance if property is in a Special Flood Hazard Area (SFHA). SFHA is land within the floodplain of a community subject to a 1 percent or greater chance of flooding in any given year, otherwise known as the 100-year flood. Rates depend on many factors, including age and type of home construction and building's level of risk. In order to qualify for flood insurance, a community must join the NFIP and agree to enforce sound floodplain management standards.</p> <p>For more information: http://www.fema.gov/national-flood-insurance-program.</p>	<p>Claims and expenses of the NFIP are funded by insurance premiums, not tax dollars.</p>
<p>COMMUNITY ASSISTANCE PROGRAM - STATE SUPPORT SERVICES ELEMENT (CAP-SSSE) This program funds states 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>RISK MAP (MAPPING, ASSESSMENT, PLANNING) Delivers quality data that increases public awareness and leads to action that reduces risk to life and property. Risk MAP builds on flood hazard data and maps produced during the Flood Map Modernization (Map Mod) program. For more information: http://www.fema.gov/risk-mapping-assessment-planning.</p>	<p>Federal appropriation funding.</p>

Program or Service	Funding
<p>NATIONAL DAM SAFETY PROGRAM (NDSP) For 30 years, the federal government has used the NDSP to protect Americans from dam failure. The NDSP is a partnership of states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. The primary purpose is to provide financial assistance to states for strengthening their dam safety programs. 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>
<p>PUBLIC ASSISTANCE (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 Non-Profit (PNP) 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. • Grantee (usually the state) determines how the non-federal share (up to 25 percent) is split with sub-grantees.
<p>INDIVIDUAL ASSISTANCE (IA) Provides financial help or direct services to those who have necessary expenses and serious needs if unable to meet the needs through other means. Up to the IA maximum is available in financial help (adjusted each year), although some forms of IA assistance have limits. Flood insurance may be required. Forms of help include Housing Assistance (including Temporary Housing, Repair, Replacement, and Semi-Permanent or Permanent Housing Construction), and Other Needs Assistance (including personal property and other items). Generally, more than one type of IA assistance may be provided to the household. 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) Since 1985, the NHP has truly been an interagency partnership program. FEMA supports NHP with significant contributions from its two federal agency partners: USACE and the NOAA/National Hurricane Center (NHC). The main NHP goals designed to meet requirements of the legislative mandate 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>The NHP consists of eight (8) 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 Integration • Post-Storm Assessments of NHP Products and Services <p>For more information: http://www.fema.gov/region-iii-mitigation-division/national-hurricane-program</p>	<ul style="list-style-type: none"> • FEMA receives specific NHP budget to conduct these mandated activities and has a national program manager at headquarters, as well as program managers at each region with hurricane risk. • USACE and NHC receive funding from FEMA to conduct NHP technical activities to execute program components and deliverables. USACE and NHC also contribute funding, staff time, and in-kind services from their agency budgets allowing the NHP to expand its scope. • 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 broader authorities and budgets that have competing interests.

Other Resources and Tools

<p>Emergency Management Institute (EMI) Serves as the national focal point for development and delivery of emergency management training to minimize the impact of disasters by enhancing capabilities of federal, state, local and tribal government officials; volunteer organizations; and public and private sectors. Visit http://training.fema.gov/EMI/ for more information.</p>
<p>NFIP Lender Training Opportunities Training for lenders is available in several modes, including instructor-led webinars, recorded webinars that can be viewed at your convenience, and live seminars scheduled as part of the programming at national lender conferences.</p>
<p>The Center for Domestic Preparedness (CDP) Identifies, develops, tests, and delivers training to states, local agencies, and tribal emergency response providers. They provide on-site and mobile training at the performance, management, and planning levels and facilitate training by the U.S. Department of Homeland Security. Visit https://cdp.dhs.gov/ for more information.</p>

Other Websites

<p>Visit www.fema.gov 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.</p>



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.

<i>When Can We Help?</i>	Preparation ✓	Response	Recovery ✓	Mitigation ✓
<i>Who Can We Help?</i>	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 1209 general units of local government and states. Two 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 - Also known as the Small Cities CDBG program, 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. <p>For more information: https://www.hudexchange.info/programs/cdbg/ .</p>	<ul style="list-style-type: none"> • Annual appropriation is allocated between states and local jurisdictions called "non-entitlement" and "entitlement" communities. Entitlement communities are central cities of Metropolitan Statistical Areas, metropolitan cities with populations of at least 50,000 and qualified urban counties with population of 200,000 or more (excluding populations of entitlement cities). • States distribute funds to non-entitlement localities not qualified as entitlement communities. • Grant amount 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.
<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 and the HOME Investment Partnerships Program as Disaster Recovery grants 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, the Small Business Administration, and USACE. HOME Disaster Recovery grants can provide an important resource for providing affordable housing to disaster victims.</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>

Other Websites

- HUD: <http://www.hud.gov>
- Floodplain management: <https://www.onecpd.info/environmental-review/floodplain-management>
- Environmental training: <https://www.onecpd.info/training-events/?searchTopicType=2&searchTopic=3&searchCourseType=0>
- Agency contact information for floodplain management and environmental requirements: <https://www.onecpd.info/environmental-review/hud-environmental-staff-contacts/>



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 the Coastal Zone Management Act (CZMA) of 1972, the Program comprehensively addresses the nation’s coastal issues through a voluntary partnership between the federal government and coastal and Great Lakes states and territories. OCM awards four types of funding to the 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 the CZMA. • Coastal Resource Improvement Program - Under Section 306A of the 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 the 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 to help state coastal zone management programs implement Coastal Nonpoint Pollution Control Programs under Section 310 (Technical Assistance) of the 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.

<p>DIGITAL COAST A 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.</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: \$250,000 to \$1 million for projects lasting up to three years. • Cost-sharing expected through cash or in-kind contributions.
<p>NATIONAL ESTUARINE RESEARCH RESERVES NOAA provides funds to 28 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 the 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. In 2017, the program will support 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 the resilience of coastal ecosystems and decrease the vulnerability of coastal communities to extreme weather events and climate-related hazards. <p>Eligible applicants include nonprofit organizations; institutions of higher education; regional organizations; private entities; and local, state, and tribal governments.</p> <p>For more information: https://coast.noaa.gov/resilience-grant/.</p>	<ul style="list-style-type: none"> • Program availability is dependent on annual appropriations. • Typical award amounts: \$250,000 to \$1 million for projects lasting up to three years. • Cost-sharing expected through cash or in-kind contributions.

Other Websites

NOAA 2017 Coastal Resilience Grants: NOAA National Ocean Service: http://oceanservice.noaa.gov/ .



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: http://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 National Water Model (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. Download a program brochure here: http://water.noaa.gov/documents/wrn-national-water-model.pdf. Read more about this new cornerstone of the NOAA Water Initiative: http://water.noaa.gov/about/nwm. Learn how to access the information to help gage your watersheds: http://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.</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. More information here: http://www.nws.noaa.gov/com/weatherreadynation/ambassadors.html.</p> <p>Additional WRN resources are available at: http://www.nws.noaa.gov/com/weatherreadynation/.</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, non-profit 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. For more information: http://www.stormready.noaa.gov/index.html.</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 the buttons at the top of the Safety Campaign webpage: http://www.weather.gov/safetycampaign.</p> <p>The Flood Safety Awareness webpage, located at http://www.floodsafety.noaa.gov, was 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 his/her 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 publication geared to emergency management community, partners, and NWS staff. Available at http://www.nws.noaa.gov/os/Aware. Users can subscribe at http://www.nws.noaa.gov/os/awarelist.shtml.</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 <http://hdsc.nws.noaa.gov/hdsc/pfds/index.html>. Publications for states not covered by Atlas 14 can be found at <http://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 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: <http://www.weather.gov/>
- NOAA NWS Office of Water Prediction: <http://water.noaa.gov/>
- NCEP Weather Prediction Center: <http://www.hpc.ncep.noaa.gov/>
- National Severe Storms Laboratory: <https://www.nssl.noaa.gov/>
- National Hurricane Center: <http://www.nhc.noaa.gov/>
- National Operational Hydrologic Remote Sensing Center: <https://www.nohrsc.noaa.gov/>
- National Centers for Environmental Information: <https://www.ncdc.noaa.gov/>
- River Forecast Centers: <https://water.weather.gov/ahps/rfc/rfc.php>
- Weather Forecast Offices: <https://water.weather.gov/ahps/rfc/rfc.php>
- NOAA NWS Flood Related Products: <http://www.floodsafety.noaa.gov/products.shtml>
- Historical State Flood Information: <http://www.floodsafety.noaa.gov/map.shtml>
- U.S. Natural Hazard Statistics: <http://www.nws.noaa.gov/om/hazstats.shtml>
- NOAA NWS Guide to Hydrologic Information on the Web: [http://www.nws.noaa.gov/os/water/resources/Guide to Hydrologic Information Brochure.pdf](http://www.nws.noaa.gov/os/water/resources/Guide%20to%20Hydrologic%20Information%20Brochure.pdf)
- FIM User Guide: http://water.weather.gov/ahps2/inundation/inundation_mapping_user_guide.pdf
- Flood Map Libraries and Development Guidelines: <http://water.weather.gov/ahps/inundation.php>



**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: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/</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. EWP is 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: http://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, like drinking water in downstream rural communities. • Decommission dams to no longer pose threat to life and property. • Provide alternate methods (non-structural) for flood reduction. <p>For more information: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wr/</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. The Wetland Reserve Easement component is a voluntary program offering landowners an 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 the 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: http://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), using this information 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. For more information: http://www.wcc.nrcs.usda.gov/.</p>	<p>Information can be downloaded free of charge from website.</p>

Other Resources and Tools

<p>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).</p>
<p>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.</p>

Other Websites

<p>NRCS headquarters: http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/</p>



**US Army Corps
of Engineers**

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 across the agency to focus USACE policies, programs, and expertise toward reducing overall flood risk, including reducing the risk of loss of life and long-term economic damages to the public and private sector and improving the 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: http://www.iwr.usace.army.mil/Missions/Flood-Risk-Management/Flood-Risk-Management-Program/.</p> <p>Silver Jackets Program - Program under NFRMP to support agency collaboration and coordination with interagency, state-led flood risk and multiple hazard management teams. Provides resources and develops tools to support information sharing and networking, and promotes implementation of flood risk management efforts that improve flood risk awareness and result in actions to reduce risk. For more information: http://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>	<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>	<ul style="list-style-type: none"> • Cost shared at 50 percent federal, 50 percent non-federal. Non-federal sponsor's cost share may include cash and work-in-kind. • 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 non-profit organizations to assist rural and small communities. • Non-federal sponsor may voluntarily contribute fees in excess of 50 percent cost share.
<p>SPECIFICALLY AUTHORIZED PROJECTS (INVESTIGATIONS) Requires specific authorization from Congress to study, design, and construct major flood risk management projects or other water-related studies/projects for ecosystem restoration, navigation and improvements, and watershed assessment. Generally for large scale projects that cost more than \$10 million.</p>	<ul style="list-style-type: none"> • Feasibility Study: Cost shared at 50 percent federal, 50 percent non-federal. • Design & Construction: Typically cost shared at 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.
<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.

Program or Service	Funding
<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 flood risk reduction works and advisement of maintenance requirements, 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 permitted.</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 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.
<p>LEVEE SAFETY PROGRAM</p> <p>Program strives to ensure levees provide benefit to the Nation by working with sponsors and stakeholders to assess, communicate, and manage risk to people, property, and the environment from inundation associated with levees. 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. For more information: http://www.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program/</p>	<p>Generally, program services are funded under Inspection of Completed Works (ICW) and also Flood Control and Coastal Emergency (FCCE).</p>
<p>NATIONAL NONSTRUCTURAL FLOOD PROOFING COMMITTEE</p> <p>Promotes the use of nonstructural flood proofing 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"> • For more information visit Consultation on scope of work development • Conduct of 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: http://www.usace.army.mil/Missions/Civil-Works/Project-Planning/nfpc/.</p>	<p>Services provided at a cost to USACE Districts, state agencies, local governments, Indian tribes, and other federal or non-federal public agencies.</p>
<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, and foreign governments, including engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural</p>	<p>Most work is provided on 100 percent reimbursable basis.</p>

Program or Service	Funding
<p>resources, relief and recovery work, and other management and technical services.</p> <p>For more information: http://www.usace.army.mil/Missions/Military-Missions/Interagency-International-Support/.</p>	
<p>ENGINEER RESEARCH AND DEVELOPMENT CENTER (ERDC)</p> <p>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 programs related to flood risk management include:</p> <ul style="list-style-type: none"> • Flood and Coastal Storm Damage Reduction Program https://wiki.erdcdren.mil/Flood_and_Coastal_Storm_Damage_Reduction_Research_Program • Ecosystem Management and Restoration Research Program https://wiki.erdcdren.mil/Category%3AEcosystem_Management_and_Restoration_Research_Program_(EMRRP) • Regional Sediment Management Program https://rsm.usace.army.mil <p>ERDC Laboratories conducting research related to flood risk management include:</p> <ul style="list-style-type: none"> • Coastal & Hydraulics Laboratory http://www.erdcdren.mil/Locations/CHL/ • Cold Region Research and Engineering Laboratory http://www.erdcdren.mil/Locations/CRREL/ • Environmental Laboratory http://www.erdcdren.mil/Locations/EL/ • Geotechnical & Structures Laboratory http://www.erdcdren.mil/Locations/GSL/ <p>For more information: http://www.erdcdren.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</p> <p>Promotes and implements collaborative approaches for effectively solving water resources challenges. Provides technical assistance on collaborative processes, builds USACE collaborative capacity, publishes reports on environmental conflict resolution and collaborative processes, and manages the USACE Public Participation and Risk Communication Community of Practice. Provides training in the use of collaborative tools and processes for use internally and with stakeholders. Provides consultation services and direct support for conflict diagnosis, public involvement process design, and facilitation and mediation. Develops innovative applications using technology for collaboration, pilots, and cutting-edge tools and approaches.</p> <p>For more information: http://www.iwr.usace.army.mil/About/Technical-Centers/CPCX-Conflict-Resolution-Public-Participation/</p>	<p>Services beyond one day of labor provided at cost.</p>

Program or Service	Funding
<p>COASTAL STORM DAMAGE REDUCTION - NATIONAL PLANNING CENTER OF EXPERTISE 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. For more information: http://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) 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. Designated USACE Technical Center of Expertise in the areas of 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. For more information: http://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.

Other Resources and Tools

<p>The BUZZ Quarterly newsletter that serves as a forum to document and share Silver Jackets teams’ successes, lessons learned, opportunities, and resources. Newsletter can be downloaded at http://silverjackets.nfrmp.us/Get-Involved/More-Information/Silver-Jackets-Newsletter.</p>
<p>Silver Jackets Webinars Informational and organizational webinars periodically offered to team members, internal and external to USACE. Recordings and PowerPoint presentations of past webinars are posted at http://silverjackets.nfrmp.us/Get-Involved/More-Information/Webinars-Presentations.</p>
<p>USACE Flood Risk Management – Silver Jackets Workshops Workshops organized to communicate policy, share team successes, identify challenges, and promote interagency collaboration and networking. Past workshop information is posted on the Silver Jackets website at http://silverjackets.nfrmp.us/Get-Involved/More-Information#workshops.</p>
<p>Geospatial Platform Provides shared and trusted USACE geospatial data, services and applications for use by partner agencies and public. CorpsMap supports visualization and analysis of USACE infrastructure and real-time display of atmospheric, coastal, critical infrastructure, and watershed data. For more information: http://geoplatform.usace.army.mil/home/.</p>

Other Resources and Tools

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: <http://nld.usace.army.mil/egis/f?p=471:1>.

USACE PUBLICATIONS

Repository for official USACE Engineering Regulations (ERs), Engineering Circulars (ECs), Engineering Manuals (EMs) and other official public documents. Documents can be downloaded here: <http://www.publications.usace.army.mil/>

Other Websites

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



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>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/science/mission-areas/water/groundwater-and-streamflow-information .</p>	<ul style="list-style-type: none"> • 100 percent federally funded. • Other network gages are cooperatively funded.
<p>NATIONAL WATER QUALITY PROGRAM (NWQP) Provides an understanding of water-quality conditions, whether conditions are getting better or worse over time, and how natural features and human activities affect those conditions. For more information: https://www.usgs.gov/science/mission-areas/water/national-water-quality-program .</p>	100 percent federally funded.
<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/science/mission-areas/water/water-availability-and-use-science-program .</p>	100 percent federally funded.
<p>COOPERATIVE MATCHING FUNDS Provides federal funds to match offerings from some 1,600 local, state, and tribal agencies for select USGS streamgages and interpretive projects. Funds are allocated through the GWSIP, NWQP and WAUSP, and program priorities are informed through discussion with state and local partners.</p>	As much as 50 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.

Program or Service	Funding
<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/science/mission-areas/natural-hazards.</p>	100 percent federally funded.
<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/science/mission-areas/natural-hazards/landslide-hazards.</p>	100 percent federally funded.

Other Resources and Tools

<p>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>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://water.usgs.gov/wateralert/parameters.html.</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 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/.</p>
<p>Rapidly Deployable Networks In addition to long-term streamgages, 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. Contact your local USGS office and visit https://water.usgs.gov/floods/resources/ for more information and https://water.usgs.gov/floods/FEV/ for flood-event network data (includes HWMs).</p>
<p>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 Flood-Inundation Mapping Science Focuses efforts at state and local levels to help communities understand flood risks and make cost-effective mitigation decisions. The USGS partners with local communities to assist in the development and validation of flood inundation map libraries. Communities use these maps to help protect lives and property. For more information: https://water.usgs.gov/osw/flood_inundation/.</p>
<p>USGS Flood-Frequency Analysis Workshops Workshops organized to communicate evolving methodology in flood-frequency analysis. Workshops commonly hosted at meetings of the Association of State Floodplain Managers, the National Hydrologic Warning Council, and other professional societies and conferences. Contact your local USGS office to host or attend a workshop.</p>

Other Resources and Tools

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 Office of Surface Water: <https://water.usgs.gov/osw/>
- USGS Office Locations: <https://www.usgs.gov/connect/locations>