



# The BUZZ

## Special Edition

August 2014

### IN SUPPORT OF AN INTERAGENCY APPROACH

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

- Agency mission statement
- Example of an interagency flood risk management project
- Programs, services and other resources summary tables
- Key agency websites
- Agency contact information

This Special Edition is also intended to support interagency project discussions at the August 2014 Interagency Flood Risk Management Project Workshop in Southbridge, MA and follow-up meetings. Discussions during the workshop will center on how to enhance interagency collaboration, leverage agency resources, and improve project success.

We hope that this consolidated information will be useful and serve as a catalyst to increase coordination and collaboration among state and federal agencies. Increased coordination can help direct limited resources to where they are most beneficial, while improving the combined efficiency and effectiveness of agencies.

#### At a Glance Summary Table

Agency	When Can Agency Provide Assistance?			
	<i>Preparation</i>	<i>Response</i>	<i>Mitigation</i>	<i>Recovery</i>
DOT	✓	✓	✓	✓
EPA	✓		✓	✓
FEMA	✓	✓	✓	✓
HUD	✓		✓	✓
NOAA CSC/OCRM	✓		✓	✓
NOAA NWS	✓	✓	✓	✓
NRCS			✓	✓
USACE	✓	✓	✓	✓
USGS	✓	✓	✓	✓

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**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.*

<i>When Can We Help?</i>	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
<i>Who Can We Help?</i>	State Agencies, Tribes, Local Governments, Communities			

**Agency Benefits from Participation on Silver Jackets Teams**

Participation on Silver Jackets teams has contributed to building interagency understanding and communication between those agencies whose mission is to protect the floodplain and the DOT. The increased understanding is then disseminated to DOT partners who must work with the floodplain agencies when building transportation systems in or near floodplains.

**Interagency Project Example**

**Georgia Flood Inundation Studies** - The Georgia Silver Jackets team has developed flood inundation studies as a tool for emergency planners to identify when and where their communities would be inundated by flooding. The DOT connected the team with the Georgia DOT, who had hydraulic models already prepared for some of the communities studied. The DOT resolved questions about construction activities and their impact on the inundation studies, and provided review and comments to the inundation studies and the associated website.

**Programs and Services**

Program or Service	Funding
<p><b>MAP-21, THE MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT</b>            (P.L. 112-141) - Provides authority to the DOT to provide funds to state, local and tribal governments for the development of transportation systems.</p>	<ul style="list-style-type: none"> <li>• 80-100 percent federally funded.</li> <li>• Cost sharing depends on transportation mode, state versus local, and regular program versus emergency.</li> </ul>
<p><b>EMERGENCY RELIEF PROGRAM</b>            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"> <li>• State match generally varies from 10 to 20 percent, depending on class of federal-aid highway.</li> <li>• No state match required for emergency repairs accomplished within 180 days of disaster to restore essential travel</li> <li>• No state match required for repair of roads on federal lands.</li> </ul>

## *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,.

### **FHWA Hydraulic Documents:** [http://www.fhwa.dot.gov/engineering/hydraulics/library\\_listing.cfm](http://www.fhwa.dot.gov/engineering/hydraulics/library_listing.cfm)

- 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 dissipators.
- 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 (Under development – Estimated Release: Fall 2015): Provides technical guidance and methodologies on how to consider/incorporate floodplain management, risk, extreme events (i.e., climate change and extreme weather), 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 (Estimated Release: Summer/Fall 2014): Provides methods for assessing the vulnerability of coastal transportation facilities to extreme events and climate change.

## *Key Websites*

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

## *Contact Information*

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**Agency Mission**

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

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

**Agency Benefits from Participation on Silver Jackets Teams**

Participation on Silver Jackets teams benefits EPA by facilitating communication and coordination with USACE and interagency partners in several EPA regions, as well as with EPA Headquarters. There are many potential benefits to EPA’s mission that can be achieved with participation in Silver Jackets efforts, including enhanced local emergency planning (for water/wastewater facilities and oil/chemical facilities); encouraging flood protection projects that enhance overall watershed planning goals (protecting healthy watersheds, improving impaired waters, drinking water source protection); facilitating floodplain and wetland protection as flood mitigation options; providing ways to reach communities with technical assistance for sustainability planning; and leveraging funding and resources to ensure flood damage mitigation projects contribute to human health and the environment where feasible. EPA has significant responsibilities in additional program areas, including Air, Pesticides, Chemicals and Toxics, Water, Waste, Land and Cleanup, Health and Safety, Emergencies, Sustainable Communities, and Climate Change.

**Interagency Project Example**

**Dubuque, Iowa – Flood Risk Mitigation with Environmental Enhancements.** The Bee Branch Creek Restoration project is an example of an interagency project that leveraged the EPA’s State Revolving Loan Fund. The project was initiated to mitigate many years of significant flood losses in an urban area. Funds and/or technical assistance were provided by EPA, HUD, DOT, USACE, FEMA, and the Iowa Economic Development Agency. The project was watershed based, and included green alley implementation in the upper watershed to reduce runoff and stream daylighting (converting from an underground system) with floodplain restoration. The phased project consists of a 4,500-foot long open waterway along the Mississippi River to reduce storm water flood damage risk to 1,155 properties in one of Dubuque’s oldest and most-challenged neighborhoods. The final design includes a “linear park” along the open waterway with an amphitheater, bike/hike trails, benches, bridges, lighting and landscaping. In addition to serving as a storm water management component, the restoration project will create a community attraction for residents and visitors, improve quality of life for neighborhood residents, improve water quality in Bee Branch, serve as a catalyst for economic development, and positively impact property values. The project’s linear park and amenities will create a mile-long corridor connecting the Mississippi River and the many riverfront attractions to Dubuque’s North End neighborhood and Heritage Trail. Visit: <http://www.cityofdubuque.org/804/Bee-Branch-Creek-Restoration-Project> for more information.

## Programs and Services

Program or Service	Funding
<p><b>SAFE DRINKING WATER AND CLEAN WATER STATE REVOLVING LOAN FUNDS</b></p> <p>Provides loans for wide range of water quality projects, including stormwater management, infrastructure improvements at publicly owned wastewater treatment facilities, water conservation reuse, and agricultural best management practices. Loans may be used to increase a utility's resiliency to disasters.</p> <ul style="list-style-type: none"> <li>• Drinking Water State Revolving Fund (SRF) – <a href="http://water.epa.gov/grants_funding/dwsrf/index.cfm">http://water.epa.gov/grants_funding/dwsrf/index.cfm</a></li> <li>• Clean Water State Revolving Fund (SRF) - <a href="http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm">http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm</a></li> </ul>	<ul style="list-style-type: none"> <li>• Low interest loans.</li> <li>• No match required but recipients must have dedicated source of repayment</li> </ul>
<p><b>CLEAN WATER ACT – SECTION 319</b></p> <p>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. <a href="http://water.epa.gov/polwaste/nps/cwact.cfm#background">http://water.epa.gov/polwaste/nps/cwact.cfm#background</a></p>	<ul style="list-style-type: none"> <li>• Federal share may not exceed 60 percent implementation cost.</li> <li>• Non-federal share must be from nonfederal sources and must be at least 40 percent for entire grant (CWA section 319(h)(3); 40 CFR 35.265).</li> </ul>

## Other Resources and Tools

<p><b>Flood Resilience: A Basic Guide For Water And Wastewater Utilities</b></p> <p>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. Visit <a href="http://water.epa.gov/infrastructure/watersecurity/">http://water.epa.gov/infrastructure/watersecurity/</a>.</p>
<p><b>Federal Funding For Water/Wastewater Utilities In National Disasters - Water/Wastewater</b></p> <p>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 online at <a href="http://water.epa.gov/infrastructure/watersecurity/funding/fedfunds/index.cfm">http://water.epa.gov/infrastructure/watersecurity/funding/fedfunds/index.cfm</a>.</p>
<p><b>Tabletop Exercise Tool For Water Systems: Emergency Preparedness, Response And Climate Resiliency</b></p> <p>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, visit <a href="http://water.epa.gov/infrastructure/watersecurity/techttools/ttx.cfm">http://water.epa.gov/infrastructure/watersecurity/techttools/ttx.cfm</a></p>
<p><b>Report – Disaster Recovery And Long-Term Resilience Planning In Vermont</b></p> <p>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, visit <a href="http://www.epa.gov/smartgrowth/sqia_communities.htm#rec1">www.epa.gov/smartgrowth/sqia_communities.htm#rec1</a>.</p>
<p><b>Emergency Response On-Scene Coordinator Training Resources</b></p> <p>EPA and external training on hazardous materials and disaster emergency response and related topics. Visit <a href="http://epaossc.org/main/training.aspx">http://epaossc.org/main/training.aspx</a> for more information.</p>

**Climate Ready 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. Visit [www.epa.gov/climatereadyutilities](http://www.epa.gov/climatereadyutilities) for more information.

**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 to address these risks.

**Area Contingency Planning Handbook**

A reference guide prepared to assist with development of Area Contingency Plans for environmental emergencies. Download at [http://www.epa.gov/osweroe1/docs/oil/frp/EPA\\_ACP\\_Handbook.pdf](http://www.epa.gov/osweroe1/docs/oil/frp/EPA_ACP_Handbook.pdf)

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

**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 visit [www.epa.gov/mywaterway](http://www.epa.gov/mywaterway).

**Key Websites**

- EPA: <http://epa.gov>
- On-Scene Coordinators Emergency Response: <http://epaossc.org/>
- EPA Grants and Funding: [http://water.epa.gov/grants\\_funding/](http://water.epa.gov/grants_funding/)
- Federal Funding Sources for Watershed Protection: <https://ofmpub.epa.gov/apex/watershedfunding/f?p=fedfund:1>

**Contact Information**

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**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.*

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

**Agency Benefits from Participation on Silver Jackets Teams**

The FEMA mission is furthered through Silver Jackets teams, whereby the team becomes a forum through which the state’s flood risk and other hazard priorities can be addressed. Continuous collaboration among agencies and other entities is critical to successfully reducing flood risk. No single agency has all the answers, but multiple programs can often be leveraged to provide a cohesive solution. Some of the shared goals of FEMA and the Silver Jackets are to:

- Create or supplement a mechanism to collaboratively identify, prioritize and address flood risk management issues and implement solutions.
- Leverage information and resources so that states and their communities can benefit from national programs, such as Risk MAP (Mapping, Assessment and Planning) and the National Flood Insurance Program (NFIP) Community Rating System (CRS).
- Strengthen partnerships and relationships to support efficient pre- and post-disaster response.
- Provide focused, coordinated hazard mitigation assistance to carry out high-priority actions, such as those identified in state mitigation plans.
- Identify gaps among agency programs and/or barriers to implementation, such as conflicting policies or authorities, and suggest ways to resolve them.

Through Silver Jackets teams, the federal family of agencies, states and others becomes a forum for addressing flood risk management priorities in a collaborative way.

**Interagency Project Example**

**Post High Water Mark Signs, Sacramento and Roseville, California** - The "Know Your Line: Be Flood Aware" High Water Mark initiative, created by FEMA and seven other federal agencies, helps communities remind residents of major local floods and encourage them to prepare for the next one. Participating communities post high water mark signs in prominent places and conduct ongoing education to build local awareness of flood risk and motivate people to take action. USACE Sacramento District, elected officials from the cities of Roseville and Sacramento, and representatives from state and federal agencies celebrated the end of the second annual California Flood Preparedness Week by unveiling a high water mark sign in Garcia Bend Park in November 2013. Congresswoman Doris Matsui, Councilmember Darrell Fong, and representatives from the California Department of Water Resources, the Central Valley Flood Protection Board, FEMA, and USACE spoke on the importance of flood risk awareness and preparedness. The sign at Garcia Bend Park, a neighborhood adjacent to the Sacramento River in one of the city’s most flood-risk prone areas, marks the height of water on the Sacramento River side of the levee during the 1986 flood. It is one of seven areas in the City of Sacramento that received the high water mark signs.

*Programs and Services*

Program or Service	Funding
<p><b>FLOOD MITIGATION ASSISTANCE (FMA)</b>            Created as part of the National Flood Insurance Reform Act (NFIRA) 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"> <li>(1) Planning Grants to prepare Flood Mitigation Plans. Only NFIP-participating communities with approved Flood Mitigation Plans can apply for FMA Projects Grants.</li> <li>(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.</li> <li>(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 Grants.</li> </ol>	<ul style="list-style-type: none"> <li>• Maximum federal share for FMA sub-applications per 42 U.S.C. 4104c is as follows:               <ul style="list-style-type: none"> <li>○ \$50,000 for state plans</li> <li>○ \$25,000 for local plans</li> </ul> </li> <li>• Maximum 10 percent of awarded grant funds can be used by state emergency management agencies (EMA) for management costs.</li> <li>• Maximum 5 percent of awarded grant funds can be used by local EMA for management costs. (See FY 2014 Funding Opportunity Announcement).</li> <li>• Period of performance for FMA program begins with opening of application period and ends no later than 36 months from the selection date.</li> </ul>
<p><b>HAZARD MITIGATION GRANT PROGRAM (HMGP)</b>            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 Applicants and/or Sub-applicants include state and local governments, Indian tribes or other tribal organizations, and private non-profit organizations.</p>	<ul style="list-style-type: none"> <li>• Available funding under a particular disaster declaration is limited.</li> <li>• Up to 15 percent of total disaster grants awarded by FEMA may be through this program.</li> <li>• States meeting higher mitigation planning criteria may qualify for higher percentage under the Disaster Mitigation Act of 2000.</li> <li>• FEMA can fund up to 75 percent of eligible costs for each project.</li> <li>• State or grantee must provide 25 percent cost share match. Can be combination of cash and in-kind sources.</li> <li>• 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.</li> </ul>
<p><b>NATIONAL HURRICANE PROGRAM (NHP)</b>            Protects communities and residents from hurricane hazards through various projects and activities. Established in 1985, the NHP also conducts assessments and provides tools and technical assistance to state and local agencies in developing hurricane evacuation plans. The program is a multi-agency partnership involving numerous federal agencies, including FEMA, NOAA, NWS, DOT, and USACE. Visit <a href="http://www.fema.gov/region-iii-mitigation-division/national-hurricane-program">http://www.fema.gov/region-iii-mitigation-division/national-hurricane-program</a> for more information.</p>	<ul style="list-style-type: none"> <li>• Receives annual funding for FEMA program activities and for the Emergency Management Performance Grant program.</li> <li>• Funds are directed into general state funds for hurricane preparedness and mitigation activities.</li> </ul>

Program or Service	Funding
<p><b>NATIONAL FLOOD INSURANCE PROGRAM (NFIP)</b>  Provides a means for property owners to financially protect themselves. Three components of this program are 1) flood insurance, 2) floodplain management and 3) 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>	<ul style="list-style-type: none"> <li>• Claims and expenses of the NFIP are funded by insurance premiums, not tax dollars.</li> </ul>
<p><b>COMMUNITY ASSISTANCE PROGRAM - STATE SUPPORT SERVICES ELEMENT (CAP-SSSE)</b>  (National Flood Insurance Act of 1968, as amended; the Flood Disaster Protection Act of 1973; and 44 CFR Parts 59 and 60) - The 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"> <li>• Ensure that NFIP flood loss reduction goals are met.</li> <li>• Build state and community floodplain management expertise and capability.</li> <li>• Leverage state knowledge and expertise in working with their communities.</li> </ul> <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>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Non-federal cost share is 25 percent.</li> </ul>
<p><b>NATIONAL DAM SAFETY PROGRAM (NDSP)</b>  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"> <li>• Dam safety training for state personnel.</li> <li>• Increasing number of dam inspections.</li> <li>• Supporting and testing of Emergency Action Plans.</li> <li>• Timely review and issuance of permits.</li> <li>• Improving coordination with state emergency preparedness officials.</li> <li>• Identifying dams to be repaired or removed.</li> <li>• Conducting dam safety awareness workshops, and creating dam safety videos and other outreach materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Federal appropriation funding.</li> </ul>

Program or Service	Funding
<p><b>RISK MAP (MAPPING, ASSESSMENT, PLANNING)</b> 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.</p>	<ul style="list-style-type: none"> <li>• Federal appropriation funding.</li> </ul>
<p><b>PUBLIC ASSISTANCE (PA)</b> 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>	<ul style="list-style-type: none"> <li>• Federal share is not less than 75 percent of eligible cost for emergency measures and permanent restoration.</li> <li>• Grantee (usually the state) determines how the non-federal share (up to 25 percent) is split with sub-grantees.</li> </ul>
<p><b>INDIVIDUAL ASSISTANCE (IA)</b> 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.</p>	<ul style="list-style-type: none"> <li>• Funds are allocated from the President's Disaster Relief Fund for use in a designated emergency or major disaster.</li> <li>• Households receive assistance directly from FEMA or through disaster aid programs of other participating federal or state agencies.</li> </ul>

***Other Resources and Tools***

Visit [www.fema.gov](http://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.

**Emergency Management Institute (EMI)**  
Serves as the national focal point for development and delivery of emergency management training to enhance capabilities of federal, state, local and tribal government officials, volunteer organizations, and public and private sectors, to minimize the impact of disasters. Visit <http://training.fema.gov/EMI/> for more information.

**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.

**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.

### ***Key Websites***

- CRS: <http://www.fema.gov/national-flood-insurance-program-community-rating-system>
- Flood Mitigation Assistance: <http://www.fema.gov/flood-mitigation-assistance-program>
- Hazard Mitigation Grant Program: <http://www.fema.gov/hazard-mitigation-grant-program>
- Disaster Assistance: <http://www.fema.gov/what-disaster-assistance>
- NFIP: <http://www.fema.gov/national-flood-insurance-program>
- Risk MAP: <http://www.fema.gov/risk-mapping-assessment-planning>
- Public Assistance: <http://www.fema.gov/public-assistance-eligibility>
- Individual Assistance: <http://www.fema.gov/individual-assistance-program-tools>
- National Hurricane Program : <http://www.fema.gov/region-iii-mitigation-division/national-hurricane-program>

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### **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, Communities			

### **Agency Benefits from Participation on Silver Jackets Teams**

HUD administers multiple programs and grants that Silver Jackets teams can use to help fund flood mitigation projects, including HUD Regional Planning and Community Challenge; Strong Cities, Strong Communities; Choice Neighborhood Planning and Implementation grants; and Community Development Block Grants (CDBG). These grants are often leveraged by states and cities as federal matching dollars for USACE and USGS projects. An example of this type of funding match is described below. Additionally, HUD and FEMA have partnered to present information on the Partnership for Sustainable Communities (PSC) and Livability Principles at multiple national Silver Jackets webinars and conferences. HUD Field Office Directors and Economic Resilience Officers are active advisors to teams throughout the country.

### **Interagency Project Example**

**Missouri Statewide Levee Repair** - The Missouri River Flood Task Force (MRFTF) was created following the 2011 Missouri River flood to provide a temporary forum for coordination, collaboration and cooperation among federal, state, local and tribal officials within the eight impacted states (Montana, Wyoming, North Dakota, South Dakota, Nebraska, Iowa, Kansas and Missouri). The Task Force was co-chaired by FEMA Region VII, USACE Northwestern Division, and the Natural Resource Conservation Service Central Region. Several working groups, including a Levee Repair Working Group, were established to support the objectives of the Task Force. Leveraging resources was necessary to repair the extensive damage to the levee systems throughout the basin. USACE, NRCS or FEMA did not have authority to fully fund repair for many of the levees. The Task Force and the Working Group coordinated closely with the Missouri Department of Economic Development and Regional Planning Commissions (RPGs) to secure HUD CDBG funds as the local cost share for levee repairs, or to fund the entire cost if a levee district was not part of the USACE system. The application packages were coordinated by the state and RPCs, resulting in \$5.5 million in CDBG funds made available to thirteen levee districts to assist with levee repair. The forum and networking provided by the Task Force and Working Group were central to project success, along with relationship building that occurred at the state level through Silver Jackets teams and similar state groups.

*Programs and Services*

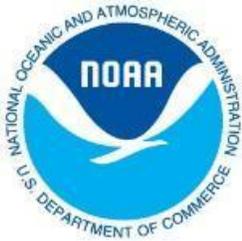
Program or Service	Funding
<p><b>COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)</b>            A flexible program that provides communities with resources to address a wide range of unique community development needs. One of the longest continuously run programs at HUD, CDBG provides annual grants on a formula basis to 1209 general units of local government and states. Two program areas include:</p> <ul style="list-style-type: none"> <li>• <b>Entitlement Communities</b> - 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.</li> <li>• <b>State Administered CDBG</b> - 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.</li> </ul>	<ul style="list-style-type: none"> <li>• 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).</li> <li>• States distribute funds to non-entitlement localities not qualified as entitlement communities.</li> <li>• HUD determines grant amount using a community need formula that includes extent of poverty, population, housing overcrowding, housing age, and population growth lag in relationship to other metropolitan areas.</li> </ul>
<p><b>CDBG DISASTER RECOVERY ASSISTANCE</b>            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>	<ul style="list-style-type: none"> <li>• HUD generally awards noncompetitive, nonrecurring Disaster Recovery grants by a formula that considers disaster recovery needs unmet by other federal disaster assistance programs.</li> </ul>

*Key Websites*

<ul style="list-style-type: none"> <li>• HUD: <a href="http://www.hud.gov">http://www.hud.gov</a></li> <li>• Floodplain Management: <a href="https://www.onecpd.info/environmental-review/floodplain-management">https://www.onecpd.info/environmental-review/floodplain-management</a></li> <li>• CDBG-Disaster Recovery: <a href="https://www.onecpd.info/cdbg-dr/">https://www.onecpd.info/cdbg-dr/</a></li> <li>• Environmental training: <a href="https://www.onecpd.info/training-events/?searchTopicType=2&amp;searchTopic=3&amp;searchCourseType=0">https://www.onecpd.info/training-events/?searchTopicType=2&amp;searchTopic=3&amp;searchCourseType=0</a></li> </ul>
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*Contact Information*

<p>Mark A. Carr, Chief Disaster and National Security Officer, <a href="mailto:Mark.A.Carr@hud.gov">Mark.A.Carr@hud.gov</a></p> <p>Agency Contact Information for floodplain management and environmental requirements: <a href="https://www.onecpd.info/environmental-review/hud-environmental-staff-contacts/">https://www.onecpd.info/environmental-review/hud-environmental-staff-contacts/</a></p>
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**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 Coastal Services Center and Office of Ocean and Coastal Resource Management (CSC/OCRM) provides the technology, information and management strategies used by local, state and national organizations to address complex coastal issues.*

<b>When Can We Help?</b>	Preparation ✓	Response	Recovery ✓	Mitigation ✓
<b>Who Can We Help?</b>	CSC/OCRM serves the coastal management community, including state, local, tribal, and territorial governments; other federal agencies; and conservation and other partner organizations.			

**Agency Benefits from Participation on Silver Jackets Teams**

Participation on Silver Jackets teams provides CSC/OCRM (and more broadly, NOAA) an important user-focused venue through which state and local managers can access and use a wide range of data, tools and programs that support coastal flood risk communication and management. Because of sustained engagement of flood risk management partners like the Association of State Floodplain Managers (ASFPM) and NOAA’s ongoing collaborations with USACE, many of the office’s existing products and services can directly support the efforts of Silver Jackets team members in states bordering the Atlantic, Gulf, Pacific and Great Lakes coastlines.

Many governmental organizations, particularly on the local and state levels, are not fully equipped to address the challenges associated with flooding, hurricanes, sea level rise and other coastal hazards. CSC/OCRM brings NOAA data, tools, training and technical assistance to these entities, and also works with these and other partners to develop new products and services. The office’s core areas of expertise include geospatial technologies, training and social science. CSC/OCRM also oversees a number of programs that assist states in managing, preserving and developing their marine and coastal resources. These activities include working with states and territories to conserve and protect coral reefs, operate a system of National Estuarine Research Reserves, and implement the National Coastal Zone Management Program, as well as to develop a system of marine protected areas.

NOAA’s Digital Coast is the delivery mechanism for many of CSC/OCRM’s web-based products and has quickly become one of the most widely used resources in the coastal management community. The Digital Coast is a web-based, ever-expanding collection of data, tools, trainings and case studies designed for coastal managers and technicians across the U.S. While the Digital Coast was developed and is currently maintained by CSC/OCRM, hundreds of organizations and federal, state and local agencies have contributed content. What makes the Digital Coast work is its collaborative nature since data and information from NOAA and a variety of other sources can be found and downloaded in this one, easy-to-use resource. Another important aspect is the focus on user needs and relevance, and a commitment to not only building a useful resource, but also finding new solutions to coastal management issues by providing a means by which new partners can work together.

The Digital Coast Partnership, a group of eight national organizations, represents many of the website's diverse user groups. The partnership currently includes the American Planning Association, ASFPM, Coastal States Organization, National Association of Counties, National Estuarine Research Reserves Association, National States Geographic Information Council, The Nature Conservancy, Urban Land Institute, and NOAA. Beyond ensuring that critical informational resources are available via the Digital Coast website, this partnership also works to unify groups that might not otherwise work together. The partnership supports events such as conferences, webinars, workshops and meetings to give coastal professionals a forum to collaborate on key coastal issues.

### *Interagency Project Example*

**Mapping Coastal Erosion Hazards Along Sheltered Coastlines, South Carolina** – Through the South Carolina Silver Jackets team, NOAA partnered with USACE – Charleston District, the South Carolina Department of Health and Environmental Control’s Office of Ocean and Coastal Resource Management, and Georgia Southern University’s Applied Coastal Research Lab on a pilot project concerning estuarine shoreline erosion in Jasper, Beaufort and Colleton counties. Georgia Southern University’s researchers assessed estuarine shoreline positions, erosion rates and hotspots, and potential drivers. These data were developed to support risk assessments and economic studies that will enable coastal communities to develop and prioritize responses to shoreline change projections.

### *Programs and Services*

Program or Service	Funding
<p><b>COASTAL ZONE MANAGEMENT PROGRAM</b> CSC/OCRM 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"> <li>• <b>Administrative Grants</b> - Funds administer state/territorial coastal zone management programs under Section 306 of the Coastal Zone Management Act (CZMA).</li> <li>• <b>Coastal Resource Improvement Program</b> - Under Section 306A of the CZMA, state coastal zone management programs may choose to 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.</li> <li>• <b>Coastal Zone Enhancement Grants</b> - Under Section 309 of the CZMA, CSC/OCRM 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.</li> <li>• <b>Coastal Nonpoint Pollution Control Program (Technical Assistance)</b> Funds to help state coastal zone management programs implement Coastal Nonpoint Pollution Control Programs under Section 310 (Technical Assistance) of the CZMA.</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative Grants: 1:1 ratio federal-to-state matching funds.</li> <li>• Coastal Resource Improvement Program: 1:1 ratio federal-to-state matching funds (subset of 306 funding).</li> <li>• Coastal Zone Enhancement Grants: 100 percent federally funded.</li> <li>• Coastal Nonpoint Pollution Control Program: 1:1 ratio federal-to-state matching funds.</li> </ul>

<p><b>DIGITAL COAST</b> Partnership-driven website 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.</p>	<ul style="list-style-type: none"> <li>• NOAA activities funded through annual appropriations; may include funding provided to Digital Coast partners for specific projects/products.</li> <li>• No regular grants/funding to external entities.</li> </ul>
<p><b>NATIONAL ESTUARINE RESEARCH RESERVES</b> 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>	<ul style="list-style-type: none"> <li>• 1:1 ratio federal-to-state matching funds for land acquisition projects.</li> <li>• 7:3 federal-to-state ratio funds for other operation, management and construction activities</li> </ul>
<p><b>COASTAL AND ESTUARINE LAND CONSERVATION PROGRAM (CELCP)</b> Provides matching funds to state and local governments to purchase threatened coastal and estuarine lands that are important for their ecological, conservation, recreational, historical or aesthetic values. Coastal states develop CELCP plans to identify the most important areas for acquisition. States nominate their best projects to a national, competitive selection process.</p>	<ul style="list-style-type: none"> <li>• 1:1 ratio federal-to-state matching funds to eligible coastal states and local governments.</li> </ul>

***Other Resources and Tools***

<p><b>Digital Coast</b> Training section of Digital Coast website describes the wide array of classroom-based and online training opportunities available from NOAA and partner organizations. For more information, visit <a href="http://www.csc.noaa.gov/digitalcoast/training/list">http://www.csc.noaa.gov/digitalcoast/training/list</a>.</p>
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***Key Websites***

<ul style="list-style-type: none"> <li>• NOAA Digital Coast: <a href="http://www.csc.noaa.gov/digitalcoast/">http://www.csc.noaa.gov/digitalcoast/</a></li> <li>• National Coastal Zone Management Program: <a href="http://coastalmanagement.noaa.gov/programs/czm.html">http://coastalmanagement.noaa.gov/programs/czm.html</a></li> <li>• NOAA Coastal Storms Program: <a href="http://www.csc.noaa.gov/csp/">http://www.csc.noaa.gov/csp/</a></li> <li>• NOAA National Ocean Service: <a href="http://oceanservice.noaa.gov/">http://oceanservice.noaa.gov/</a></li> </ul>
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***Contact Information***

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### **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.*

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

### **Agency Benefits from Participation on Silver Jackets Teams**

The NWS estimates that on average, over the past 30 years in the United States, inland flooding has claimed over 90 lives and caused direct damages in excess of \$8 billion annually. Fatalities resulting from flooding are greater than any other severe weather phenomenon. The Silver Jackets partners have complementary missions to mitigate the impacts of flooding to communities throughout the United States.

Participation on Silver Jackets teams has been a key component in fostering community partnerships to define the needs and prioritize the requirements for action-based products that help the community plan, mitigate, respond to, and recover from flooding. After these requirements are identified and prioritized, teams work toward an integrated team approach to address the community, regional and national needs, and have been very successful in sharing multiple agency resources to implement sound flood risk management. As a result, NOAA NWS has been asked to integrate the river forecasts and warnings into action-based Flood Inundation Maps (FIM), which are accessible to the community and supported by 122 Weather Forecast Offices and 13 River Forecast Centers 24 hours a day, seven days a week. By integrating the maps developed in conjunction with Silver Jackets teams with NWS Advanced Hydrologic Prediction Service (AHPS), Silver Jackets teams have expanded this capability, which is currently at more than 115 sites across the nation. This service is an important part of the NWS Strategic Plan for a Weather Ready Nation, Impact-Based Decision Support Services, and All Hazards Approach, as NOAA works with the nation to build the National Response Framework.

Collaboration with Silver Jackets nationally, regionally, and at the community level has led to the development of important tools for bringing increased awareness of the community’s vulnerabilities from more frequent flooding to extreme storms, as well as drought. Through these impact-based maps, which are tied to NWS forecast and warnings, more information is provided to help the community with knowing when, where and to what extent to allocate resources before, during and after the event. Recently, NWS AHPS FIM services added a capability to include map overlays of historical floods and residual risk areas, such as the risk of flooding behind a levee. These types of overlays, and the NWS AHPS flood maps, allow communities to more comprehensively understand past, present, future and potential risks.

***Interagency Project Example***

**Mississippi River Flood Inundation Maps, St Paul, Minnesota** - In May 2014, the team completed a pilot project to provide river flood forecast inundation maps for the downtown area of St. Paul. The hydraulic model used to produce these maps included new LiDAR based Digital Elevation Models to determine the inundation areas and depths. The project tackled unique challenges with respect to the series of levees and flood walls in the City of St. Paul. The NWS AHPS FIM services were enhanced to depict the levees/floodwalls and the areas protected by the levee/floodwall systems. The St. Paul Levee Protection Projects (LPP), a system of both permanent structures and temporary barriers, were included in the model in order to properly map the reach. To address the many river crossings, the maps were carefully developed to show bridges as inundated once the water hits the lowest point of the bridge deck. The intent of these maps was to show flooding as a result of rises on the Mississippi River. The maps were integrated into NWS Flood Forecasts at the USGS St. Paul river gage and are available on the NWS AHPS webpage ([http://water.weather.gov/ahps2/inundation/inundation\\_google.php?gage=stpm5](http://water.weather.gov/ahps2/inundation/inundation_google.php?gage=stpm5)) for the Mississippi River at St. Paul, Minnesota.

***Programs and Services***

Program or Service	Funding
<p><b>ADVANCED HYDROLOGIC PREDICTION SERVICES (AHPS)</b>            Provides enhanced hydrologic information, products and services through the infusion of new science and technology. River, flood and drought forecasts are prepared by hydrologists and hydro-meteorologists at NWS's 13 River Forecast Centers and 122 Weather Forecast Offices. AHPS has modernized hydrologic services through an infusion of new science and technology including:</p> <ul style="list-style-type: none"> <li>• Flash flood to seasonal forecasts</li> <li>• Quantification of forecast certainty</li> <li>• More accurate and timely forecasts</li> <li>• Partnered flood forecast inundation mapping</li> <li>• Visually-oriented products</li> </ul> <p>Provides consistent access to standardized graphics via web interface at <a href="http://water.weather.gov">water.weather.gov</a>. River forecast information, including how high the river will rise, when the river will reach its peak, and how long flooding will continue, is shown through hydrographs. Other information includes:</p> <ul style="list-style-type: none"> <li>• Chance or probability of river exceeding minor, moderate or major flooding.</li> <li>• Chance of river exceeding certain level, volume and flow of water at specific points on the river during 90-day periods.</li> <li>• Map of areas surrounding forecast point provides information about major roads, railways, landmarks, etc., likely to be flooded, the levels of past floods, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> <li>• Sponsors asked to contribute \$4,000 to help defray NWS FIM costs to host AHPS.</li> </ul>

Program or Service	Funding
<p><b>WEATHER READY NATION (WRN)</b>  NOAA wants everyone, from communities across the country, businesses, and the public at large to be ready, responsive, and resilient to extreme weather, water and climate events. To build a WRN requires innovative collaborations with the media, emergency management community, the Weather Enterprise, and other organizations such as businesses and all levels of government. WRN Ambassadors are formally recognized by NOAA as organizations committed to collaborating with NOAA, sharing preparedness messaging in public outreach, and serving as examples themselves by implementing resilience best practices. For more information about Weather-Ready Nation Ambassador™ Initiative, please visit the <a href="http://www.nws.noaa.gov/com/weatherreadynation/ambassadors.html">http://www.nws.noaa.gov/com/weatherreadynation/ambassadors.html</a>.</p>	<ul style="list-style-type: none"> <li>• No cost to join.</li> <li>• Any organization across all levels of government, businesses, non-profit and non-governmental organizations, and academia can become WRN Ambassadors.</li> </ul>

***Other Resources and Tools***

<p><b>The CONFLUENCE</b>  Quarterly newsletter of the NWS Hydrology Program, at <a href="http://www.nws.noaa.gov/oh/confluence/">http://www.nws.noaa.gov/oh/confluence/</a>.</p>
<p><b>AWARE</b>  Free NWS publication geared to emergency management community, partners and NWS staff. Available online at <a href="http://www.nws.noaa.gov/os/Aware">http://www.nws.noaa.gov/os/Aware</a> or users can subscribe via <a href="http://www.nws.noaa.gov/os/awarelist.shtml">http://www.nws.noaa.gov/os/awarelist.shtml</a>.</p>
<p><b>NOAA NWS Flood Safety Awareness</b>  Flooding is a coast to coast threat to the United States and its territories nearly every day of the year. The website is designed to teach users 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. The website provides an interactive flood map, information describing different types of flooding, educational material, and NWS resources to be aware of potentially dangerous flooding situations. Visit <a href="http://www.floodsafety.noaa.gov/">http://www.floodsafety.noaa.gov/</a> for more information.</p>

***Key Websites***

<ul style="list-style-type: none"> <li>• NWS: <a href="http://www.weather.gov/">http://www.weather.gov/</a></li> <li>• AHPS: <a href="http://water.weather.gov">http://water.weather.gov</a></li> <li>• River Forecast FIM User Guide: <a href="http://water.weather.gov/ahps2/inundation/inundation_mapping_user_guide.pdf">http://water.weather.gov/ahps2/inundation/inundation_mapping_user_guide.pdf</a></li> <li>• Flood Map Libraries and Development Guidelines: <a href="http://water.weather.gov/ahps/inundation.php">http://water.weather.gov/ahps/inundation.php</a></li> <li>• Weather Prediction Center: <a href="http://www.hpc.ncep.noaa.gov/">http://www.hpc.ncep.noaa.gov/</a></li> <li>• National Hurricane Center: <a href="http://www.nhc.noaa.gov/">http://www.nhc.noaa.gov/</a></li> </ul>
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***Contact Information***

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**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.*

<i>When Can We Help?</i>	Preparation	Response	Recovery ✓	Mitigation ✓
<i>Who Can We Help?</i>	State Agencies, Tribes, Local Governments, Communities			

**Agency Benefits from Participation on Silver Jackets Teams**

Participation on Silver Jackets teams helps NRCS maintain effective working relationships with state and other federal agencies involved in flood prevention, management and recovery. This provides opportunities to work collaboratively on watershed-scale issues and to respond more quickly and effectively during flood recovery activities.

**Interagency Project Example**

**Iowa River Basin Floodplain Restoration** - The Louisa County Levee District #11 (Louisa LD11) project in Iowa was completed after extensive flooding in the Iowa River Basin. Prior to the floods, several landowners enrolled a large percentage of land in Louisa LD11 into the Wetlands Reserve Program (WRP). When Louisa LD11 levees broke, USACE was preparing to repair them under the USACE 84-99 Program. Communications between members of the Iowa Silver Jackets team alerted Iowa NRCS to USACE’s plans. NRCS in turn alerted USACE to the presence of the WRP easements. Given the amount of land in WRP easements, the levee repairs were no longer economically or environmentally defensible. The net result of the communication facilitated by the Silver Jackets framework was that taxpayer dollars were saved, USACE program requirements were upheld, and a river was reconnected to floodplain wetlands. These wetlands also provided increased benefits to several state listed snake and turtle species. The project was completed in a manner that resulted in continued flood risk reduction to an important local highway. Owners of Louisa LD11 lands still in row crops were given an opportunity to participate in USDA conservation easement programs. The project in its final form was supported by the Louisa LD11 governing board.

**Programs and Services**

Program or Service	Funding
<p><b>WATERSHED AND FLOOD PREVENTION OPERATIONS PROGRAM (WFPO)</b> (Watershed Protection And Flood Prevention Act- Public Law 83-566 as amended) – NRCS cooperates with states and local agencies, providing technical and financial assistance to states, local governments and tribes to plan and implement authorized watershed project plans for the purpose of 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; and hydropower.</p>	<ul style="list-style-type: none"> <li>• NRCS provides up to 100 percent of technical assistance costs.</li> <li>• Financial assistance cost share varies according to project purpose(s).</li> <li>• Construction costs for flood prevention purposes are 100 percent federally funded.</li> </ul>

Program or Service	Funding
<p><b>EMERGENCY WATERSHED PROTECTION PROGRAM (EWP)</b>            (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) – Designed to respond to emergencies created by natural disasters. The program helps people conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, wind-storms and other natural occurrences. Provides for installation of recovery measures and purchase of floodplain easements for restoring, protecting, maintaining and enhancing floodplain functions and values. Activities include providing financial and technical assistance to remove debris from stream channels, road culverts, and bridges; reshape and protect eroded banks; correct damaged drainage facilities; establish cover on critically eroding lands; repair levees and structures; and repair conservation practices. NRCS may also purchase easements on floodplain lands that have been impaired within last 12 months or have a history of repeated flooding. With exception of the purchase of floodplain easements, all projects must have a sponsor. City/county governments, flood/water control districts, and soil/water conservation districts are the most common sponsors. It is not necessary for a national emergency to be declared to be eligible for assistance.</p>	<ul style="list-style-type: none"> <li>• Up to 75 percent of construction costs of emergency measures are federally funded (up to 90 percent within limited-resource areas).</li> <li>• Remaining costs must come from local sources and can be cash or in-kind services.</li> </ul>
<p><b>WATERSHED REHABILITATION PROGRAM</b>            (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 in rehabilitating aging dams to extend service life of dams and bring them into compliance with applicable safety and performance standards, or to decommission dams so they no longer pose a threat to life and property, and provide alternate methods (non-structural) for flood reduction.</p>	<ul style="list-style-type: none"> <li>• NRCS provides up to 100 percent of technical assistance costs.</li> <li>• NRCS provides 65 percent of total eligible project cost, up to 100 percent of construction costs.</li> </ul>
<p><b>AGRICULTURAL CONSERVATION EASEMENT PROGRAM (ACEP)</b>            (Farm Bill of 1985, as amended) - Provides financial/technical assistance to help conserve agricultural lands and wetlands and related benefits. The Wetland Reserve Easement component is a voluntary program offering landowners the 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 acre enrolled in the program. In many cases, restoration and protection of wetlands results in reduction of flood damages.</p>	<ul style="list-style-type: none"> <li>• For permanent wetland easements, NRCS pays 100 percent of easement value and up to 100 percent of restoration costs.</li> </ul>

**Key Websites**

<ul style="list-style-type: none"> <li>• NRCS headquarters: <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/">http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/</a></li> <li>• EWP: <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/</a></li> <li>• WFPO: <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/</a>  <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wr/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wr/</a></li> <li>• Agricultural Conservation Easement Program (includes Wetland Reserve Easements): <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/</a></li> </ul>
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**Contact Information**

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**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.*

<b><i>When Can We Help?</i></b>	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
<b><i>Who Can We Help?</i></b>	State Agencies, Tribes, Local Governments, Communities			

***Agency Benefits from Participation on Silver Jackets Teams***

Participation on Silver Jackets teams has been a key component to accomplishing the USACE Flood Risk Management Program mission, which emphasizes integration and synchronization of flood risk programs, projects and authorities, internally and in partnership with all flood risk management stakeholders. Responsibility for flood risk management in the United States is a shared responsibility among multiple federal, state and local government agencies, each with a complex set of programs and authorities. These agencies have many programs to assist states and communities in reducing flood damages and promoting sound flood risk management. Silver Jackets teams have demonstrated the effectiveness of a shared responsibility partnership for managing the flood risk life cycle and leveraging available resources at the state level. USACE has realized several benefits from its partnership with these teams:

- Improved internal cross-organizational communication and coordination related to a flood risk life cycle focus.
- Improved understanding of regional and state priorities.
- Improved understanding of the range and fit of various agency programs to address flood risk management priorities.
- Increased effectiveness in utilizing agency resources to address priorities.
- Increased reach for implementation of projects and strategies achieved through coordination and leveraging of agency resources.
- Improved flood risk outreach to local communities through coordinated and consistent interagency messaging.
- Strengthened partnerships and relationships to support a more efficient pre- and post-disaster response.
- Reduced duplicative agency efforts and improved analyses through cross-agency data sharing.
- Improved understanding of the factors contributing to success, laying the groundwork for future achievements.
- Reduced flood risk through an interagency approach.

Resources to support a team’s work come from the individual programs of each agency participating on the team within the constraints of available budgets. The USACE supports team collaboration through the National Flood Risk Management Program, while technical studies are delivered through an array of programs and services, including those described in the following table.

***Interagency Project Example***

**Post-wildfire Flood Risk Mitigation Coordination, Blaine and Elmore Counties, Idaho** – The Idaho Silver Jackets team worked with seven federal, six state and several local agencies to assess and mitigate the increased flood risk associated with severe wildfires. Hydrologic peak flood flows in burned watersheds increased significantly above pre-burn conditions, and unstable burned soils substantially increased debris flow risks. USACE, U.S. Forest Service, Bureau of Land Management, USGS, NRCS and NWS shared data obtained through modeled analyses and site investigations to assess flood risk and debris flow hazards and to make mitigation recommendations. State agencies and FEMA assisted with compiling key information and conducting outreach with the local communities. Outcomes included installation of an early warning precipitation network, reseeding efforts in high risk tributaries, and updated emergency action plans to respond to and prepare for the increased flood risk. USACE contributed to the coordinated effort using resources associated with its Emergency Preparedness, Response and Recovery Program.

***Programs and Services***

Program or Service	Funding
<p><b>FLOOD RISK MANAGEMENT PROGRAM</b> Works across the agency to focus on policies, programs and expertise of USACE to reduce overall flood risk. Accomplishes program vision and mission in partnership with all flood risk management stakeholders. Program areas include dam safety and levee safety programs, emergency operations, Silver Jackets, and nonstructural flood proofing measures. Visit <a href="http://www.iwr.usace.army.mil/Missions/FloodRiskManagement/FloodRiskManagementProgram.aspx">http://www.iwr.usace.army.mil/Missions/FloodRiskManagement/FloodRiskManagementProgram.aspx</a> for more information.</p>	<ul style="list-style-type: none"> <li>• Varies</li> </ul>
<p><b>FLOODPLAIN MANAGEMENT SERVICE (FPMS)</b> (Section 206, Flood Control Act of 1960, P.L. 86-645) - Provides technical assistance and planning guidance to support effective floodplain management. Includes compilation and dissemination of flood and flood damages information, such as identification of areas susceptible to inundation during floods. Allows for technical assistance only; cannot conduct feasibility-level studies leading to implementation or construction.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> <li>• Non-federal sponsor may voluntarily contribute funds to expand scope of services per Section 202 of the Water Resources Development Act (WRDA) of 1999.</li> </ul>
<p><b>PLANNING ASSISTANCE TO STATES (PAS)</b> (Section 22, WRDA 1974, as amended) - Provides assistance to states, local governments, tribes and other non-federal entities for preparation of comprehensive plans for development and conservation of water and related land resources. Studies are planning level of detail; they do not include detailed design for project construction.</p>	<ul style="list-style-type: none"> <li>• Cost shared at 50 percent federal, 50 percent non-federal. Non-federal sponsor's cost share may include cash and work-in-kind.</li> <li>• Limited to \$2 million per state or tribe annually.</li> <li>• Individual studies generally range from \$25,000 to \$100,000.</li> </ul>
<p><b>SPECIFICALLY AUTHORIZED PROJECTS (GENERAL INVESTIGATION)</b> 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"> <li>• Feasibility Study: First \$100,000 is federally funded. Remaining costs shared 50 percent federal, 50 percent non-federal.</li> <li>• Design &amp; Construction: Typically cost shared at 75 percent federal, 25 percent non-federal.</li> <li>• Non-federal sponsor's cost share may include cash and work-in-kind.</li> </ul>

Program or Service	Funding
<p><b>CONTINUING AUTHORITIES PROGRAM</b></p> <p>Several authorities for relatively small projects; usually requires no further congressional authorization to proceed to construction.</p> <ul style="list-style-type: none"> <li>• <b>Emergency Stream Bank and Shoreline Protection</b> (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 \$1.5 million.</li> <li>• <b>Small Beach Erosion Control</b> (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 \$3 million.</li> <li>• <b>Flood Damage Reduction</b> (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 \$7 million.</li> <li>• <b>Snagging and Clearing to Reduce Flood Risk</b> (Section 208, Flood Control Act of 1954, as amended) - Provides for local protection from flooding through channel clearing/excavation of accumulated snags and other debris, with limited embankment construction using materials from the clearing operation only. Maximum federal expenditures limited to \$0.5 million.</li> </ul>	<ul style="list-style-type: none"> <li>• Feasibility Study: First \$100,000 is federally funded. Remaining costs are shared at 50 percent federal, 50 percent non-federal.</li> <li>• Design &amp; Construction: Cost shared at 65 percent federal, 35 percent non-federal.</li> <li>• Non-federal sponsor's cost share may include cash and work-in-kind.</li> </ul>
<p><b>EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY</b> (P.L. 84-99, as amended, P. L. 93-288 as administered by FEMA) - Provides preparedness, response and recovery assistance, including:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Immediate response and recovery assistance during emergencies and disasters, including flood fighting, repair and restoration of flood damage reduction works damaged or destroyed by a flood, emergency water supplies, and technical assistance and equipment, including sandbags, pumps, or other material for an imminent or actual emergency.</li> <li>• Intended to be supplemental to and not a replacement for community self-help. Direct assistance not permitted.</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency readiness and response is 100 percent federally funded, with some exceptions.</li> <li>• Post-flood activities are 100 percent federally funded for engineering and design.</li> <li>• Rehabilitation and repairs of federal levees are 100 percent federally funded.</li> <li>• Rehabilitation and repairs of non-federal levees are cost shared at 80 percent federal - 20 percent non-federal.</li> </ul>

Program or Service	Funding
<p><b>ENGINEER RESEARCH AND DEVELOPMENT CENTER (ERDC)</b>  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"> <li>• Coastal &amp; Hydraulics Laboratory <a href="http://chl.erd.c.usace.army.mil/">http://chl.erd.c.usace.army.mil/</a> <ul style="list-style-type: none"> <li>○ Regional Sediment Management Program <a href="http://rsm.usace.army.mil/">http://rsm.usace.army.mil/</a></li> <li>○ Flood and Coastal Storm Damage Reduction Program <a href="http://chl.erd.c.usace.army.mil/fcsdr">http://chl.erd.c.usace.army.mil/fcsdr</a></li> </ul> </li> <li>• Cold Region Research and Engineering Laboratory <a href="http://www.crrel.usace.army.mil/">http://www.crrel.usace.army.mil/</a></li> </ul>	<ul style="list-style-type: none"> <li>• Multiple partnering or funding mechanisms available.</li> <li>• Can be federally funded, cost shared, or reimbursable, depending on research or development topic.</li> </ul>

***Other Resources and Tools***

**The BUZZ**

Quarterly newsletter that serves as a forum to document and share Silver Jackets teams’ successes, lessons learned, opportunities and resources.

**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 [www.nfrmp.us/state](http://www.nfrmp.us/state).

**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.

***Key Websites***

- USACE National Headquarters: <http://www.usace.army.mil/>
- USACE Flood Risk Management Program: <http://www.iwr.usace.army.mil/Missions/FloodRiskManagement/FloodRiskManagementProgram.aspx>
- Silver Jackets: <http://www.nfrmp.us/state/>
- Coastal Storm Damage Reduction: <http://www.nad.usace.army.mil/About/NationalCentersofExpertise/CoastalStormDamageReduction%28Planning%29.aspx>

***Contact Information***

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**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.*

<i>When Can We Help?</i>	Preparation ✓	Response ✓	Recovery ✓	Mitigation ✓
<i>Who Can We Help?</i>	Federal/State Agencies, Tribes, Local Agencies			

**Agency Benefits from Participation on Silver Jackets Teams**

Participation on Silver Jackets teams affords the USGS and its various state water science centers (WSCs) opportunities to collaborate with leading federal, state, tribal and local agencies to meet the need for water science and data, particularly flood-inundation maps, flood-frequency analysis products, and streamflow and water-quality information. Through these teams, the USGS joins others to discuss, prioritize and act on urgent community needs that require input and contributions from a broad spectrum of partners, especially in the current era of tight budgets and fiscal constraints.

Silver Jackets highlights the need to address flood problems with a “flood-risk, life-cycle focus” so that progress proceeds from end to end and maximizes the benefits from all partner agencies. This process brings into view the unique contributions of various agency programs and resources. The process also facilitates community feedback needed to improve agency program effectiveness and increase understanding of regional and state priorities. The USGS has worked hard to incorporate this new understanding in its programs and has utilized Silver Jackets partnerships to pioneer innovative ideas for developing and delivering water data and science.

**Interagency Project Example**

**Real-Time Inundation Mapping, Indiana** – The Indiana Silver Jackets Team recognized the need for a flood inundation mapping program to help Indiana communities prepare for, respond to and mitigate flooding. Following a successful pilot project to develop near real-time and forecast flood inundation mapping products for an 11-mile reach of the White River in Indianapolis, the Silver Jackets team expanded the program to approximately 40 communities in the last four years. The Silver Jackets coordinated not only the process of finding funding sources but also the efforts of the various task force agencies.

The USGS, NWS and USACE led the program operations in cooperation with the Polis Center of Indiana University, Purdue University-Indianapolis, Indiana University, the City of Fort Wayne, the City of Indianapolis, Indianapolis Museum of Art, Indiana Department of Homeland Security, Indiana DOT, Indiana Office of Community and Rural Affairs, and the Indiana Department of Natural Resources Division of Water. Flood inundation data are needed by federal, state and local agencies to make informed decisions in meeting mission requirements related to flood hazard mitigation, planning and response. By continuing to work together following the pilot, the Indiana Silver Jackets Team has helped prepare the state for future flooding.

## Programs and Services

Program or Service	Funding
<p><b>NATIONAL STREAMFLOW INFORMATION PROGRAM (NSIP)</b> Provides streamflow information and the understanding required to meet local, state, regional and national needs. NSIP is designed with five goals, the first of which is to provide a "backbone" or core Federal stream gage network.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> </ul>
<p><b>COOPERATIVE WATER PROGRAM</b> Monitors and assesses water in every state, protectorate and territory of the U.S., in partnership with nearly 1,600 local, state and tribal agencies.</p>	<ul style="list-style-type: none"> <li>• As much as 50 percent federally funded.</li> </ul>
<p><b>NATIONAL WATER-QUALITY ASSESSMENT PROGRAM (NAWQA)</b> 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.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> </ul>
<p><b>HYDROLOGIC RESEARCH AND DEVELOPMENT (HRD) PROGRAM</b> Supports investigations that are generally long-term and multi-disciplinary and that integrate hydrological, geological, chemical, climatic and biological information related to water resources issues.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> </ul>
<p><b>COASTAL AND MARINE GEOLOGY PROGRAM (CMGP)</b> 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. Scientists and technical staff study coastal and ocean resources from shorelines and estuaries to the continental shelf and deep sea, providing expertise, tools, products and data that address and inform a broad array of resource challenges facing our Nation. For more information, visit <a href="http://marine.usgs.gov/">http://marine.usgs.gov/</a>.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> </ul>
<p><b>NATURAL HAZARDS MISSION AREA</b> Responsible for coordinating USGS response following disasters and overseeing the bureau's emergency management activities. Coordinates long-term planning across the full USGS hazards science portfolio, including activities funded through many other programs across the bureau, including floods, hurricanes, severe storms, and wildfires. Visit <a href="http://www.usgs.gov/natural_hazards/">http://www.usgs.gov/natural_hazards/</a>.</p>	<ul style="list-style-type: none"> <li>• 100 percent federally funded.</li> </ul>

## Other Resources and Tools

<p><b>WaterWatch</b> Maps and graphics that summarize current streamflow conditions and permits comparisons with past flood and drought flows and flow statistics. Available at <a href="http://waterwatch.usgs.gov">http://waterwatch.usgs.gov</a>.</p>
<p><b>WaterAlert</b> Provides customized water texts and email notices whenever water conditions (streamflow, stage, and groundwater levels and water-quality conditions) meet subscriber thresholds. For more information, visit <a href="http://water.usgs.gov/wateralert/parameters.html">http://water.usgs.gov/wateralert/parameters.html</a>.</p> <p>USGS WaterNow - Responds to text message containing station number with text message and links with current flow conditions for user selected site. Visit <a href="http://water.usgs.gov/waternow/">http://water.usgs.gov/waternow/</a> for more information.</p>
<p><b>USGS National Water-Information Systems (NWIS)</b> Provides unit and daily value data, monthly and annual statistics, and annual peak flows. For more information, visit <a href="http://waterdata.usgs.gov/nwis">http://waterdata.usgs.gov/nwis</a>.</p>
<p><b>StreamStats</b> Streamflow statistics for gaged/ungaged locations available at <a href="http://water.usgs.gov/osw/streamstats/">http://water.usgs.gov/osw/streamstats/</a>.</p>

**USGS Flood-Inundation Mapping Science**

The USGS Flood Inundation Mapping Program focuses its 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, visit [http://water.usgs.gov/osw/flood\\_inundation/](http://water.usgs.gov/osw/flood_inundation/).

**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.

**USGS Coastal Change Hazards Portal**

An 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 <http://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, visit <http://coastalmap.marine.usgs.gov/national/shorelc/>

***Key Websites***

- USGS Water Mission Area: <http://www.usgs.gov/water/>
- USGS Office of Surface Water: <http://water.usgs.gov/osw/>
- USGS Flood-Inundation Mapping: [http://water.usgs.gov/osw/flood\\_inundation/](http://water.usgs.gov/osw/flood_inundation/)

***Contact Information***

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USGS Water Science Center Directors (See state by state list at <http://www.usgs.gov/water/>)