

FRM BUZZ

NEWSLETTER

Reducing Flood Risk: Many Partners, One Team



Collaborating to Educate Utah Residents About Flood Risks

Tribal Partnerships and Collaborations

Silver Jackets program helps break down knowledge barriers by developing partnerships through which information and resources can be shared.

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After the Fire: New Website Provides Info, Tips and Resources

Improving access and utilization of critical planning and recovery information before the fire starts.

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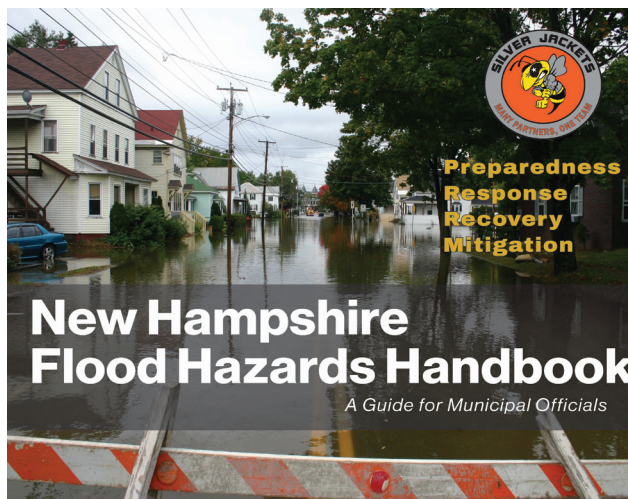
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The Relationship Between Flood Risk Management and Silver Jackets

By Mark Roupas, Deputy Chief, Office of Homeland Security



Greetings and thank you for reviewing this latest edition of our Newsletter. I expect many of you are familiar with both the Flood Risk Management Newsletter and the Silver Jackets "The Buzz" newsletter that we have published quarterly for many years. We've been reconsidering the need for two separate newsletters for some time now, given the large degree of overlap in audience, topics, and contributing authors. We decided to try a new direction with this edition – welcome to the first of what I hope will be many joint Flood Risk Management and Silver Jackets newsletters. This edition contains a mix of what you would have found in the FRM Newsletter and in The Buzz, with articles broadly focused on the array of topics of interest to flood risk managers and articles focused more specifically on state-partner efforts through the Silver Jackets program, with authors from both USACE and partners.

Considering the joining of newsletters, I thought it would be appropriate to discuss the relationship between the National Flood Risk Management Program (NFRMP) and the Silver Jackets

Program. You may have heard us refer to the NFRMP as an "umbrella" program in the past, or heard us say that Silver Jackets is the means by which we "operationalize" the NFRMP at the state level – but what do either of those statements mean?

The National Flood Risk Management Program exists to bring together multiple partners, including multiple functional areas within USACE, who have authorities, programs, and/or resources relevant to flood risk management challenges and opportunities. To further this mission at all levels of the USACE organization, each District and Division has identified a team member to fulfill the role of District Flood Risk Manager or Division Flood Risk Management Program Manager. The role of these individuals, who almost always have other roles and responsibilities within their offices as well, is to bring together the internal USACE team to help coordinate and align resources, programs, and opportunities so our agency can offer more holistic and comprehensive solutions to flood risk management. The Flood Risk Managers

"This edition contains a mix of what you would have found in the FRM Newsletter and in The Buzz, with articles broadly focused on the array of topics of interest to flood risk managers and articles focused more specifically on state-partner efforts through the Silver Jackets program, with authors from both USACE and partners."

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also have responsibility for coordinating among interagency partners, including other federal agencies and other regional partners, to identify and address regional flood risk management challenges. In this way, the NFRMP can be viewed as an “umbrella” that extends over all of the relevant programs, resources, and authorities and brings them together.

Meanwhile, the Silver Jackets Program is intended to support state-led Silver Jackets teams, which are interagency teams focused on addressing state-prioritized flood risk management challenges and opportunities. Each District has identified one or more USACE Silver Jackets Coordinators to support state Silver Jackets teams within their area of responsibility and each Division has identified a Silver Jackets Program Manager. Silver Jackets Coordinators are tasked with bringing together all of the appropriate and relevant USACE authorities, programs, and resources available to support state flood risk management challenges, as well as working with the state to assemble all partners, including other federal agencies, state agencies, and other partners as needed, to identify and implement the best possible solution to the state-prioritized flood risk management challenges. The NFRMP and Silver Jackets programs both provide resources that allow USACE participation to coordinate flood risk management activities; however, other authorities and/or resources, either from USACE or from other partners, must be found to undertake specific projects or activities. The Silver Jackets program has in many cases been able to leverage other authorities and resources, such as interagency nonstructural efforts funded by the Floodplain Management Services program, leading to the statement that the Silver Jackets Program “operationalizes” the NFRMP.

There is significant overlap between the roles and responsibilities of the Flood Risk Managers and the Silver Jackets Coordinators; however, the distinction

Lisa Kiefel, Flood Risk Program and Business Line Manager, HQUSACE



lies in whether they are focused on flood risk management issues that have been identified as a state priority. If so, they are operating as part of the Silver Jackets program. If not, they are operating as part of the broader NFRMP. In some cases, a single person within a District or Division fulfills both the Flood Risk Manager and Silver Jackets Coordinator/Program Manager roles. In these cases, distinctions between the Flood Risk Management versus Silver Jackets roles tend to be minimized. In other cases, two separate and distinct individuals fulfill those roles. In these cases, close coordination between the Flood Risk Manager and Silver Jackets Coordinator/Program Manager is necessary to ensure efficiencies and avoid duplication of efforts. In other cases, multiple people have been identified as Silver Jackets Coordinators within a single District, usually in cases where a single District supports multiple state Silver Jackets teams, such that the workload would be overwhelming for a single Silver Jackets Coordinator. Again, in these cases, close coordination is necessary.

At the national level, the leadership and staff that support these programs work very closely together.

As I close this article, I want to take a moment to extend a warm welcome to the newest member of that team – our new Flood Risk Program and Business Line Manager, Ms. Lisa Kiefel. Lisa previously served as the Senior Planning Program Policy Advisor and Planning Portfolio Manager in the Planning and Policy Division at HQUSACE. In this role she managed and was responsible for preparing new and modified policy guidance and oversaw the Planning Portfolio and the Investigations account. She has extensive knowledge of administrative laws, policies, regulations, and precedents, as well as experience managing a broad portfolio of studies cutting across all of the Civil Works Directorate’s business lines. Prior to joining HQUSACE, Lisa worked as a Program Manager at the Northwestern Division and as both a budget analyst and a project manager at the District level. She has a Bachelor’s Degree in Psychology and a Master’s Degree in Business Administration. I’m very glad to have her join the Office of Homeland Security, National Flood Risk Management Program, and Flood Risk Management Business Line team. Welcome Lisa! 🎉

Working Together to Reduce Flood Risk: Tribal Partnerships and Collaborations

By Melissa Weymiller, USACE Sacramento District



Skull Valley Reservation, Utah.

Although federal and state governments' treatment of Native American tribes has a long, checkered history, today state-led Silver Jackets teams, supported by an array of U.S. Army Corps of Engineers (USACE) authorities, are working successfully through interagency partnerships to help tribal communities reduce flood risks and become more resilient. This article presents some tips for forming and sustaining successful partnerships and collaborations.

The Utah Silver Jackets team and the Skull Valley Band of Goshute exemplify one such partnership. Fewer than 40 people live on the Skull Valley Reservation, and the tribe is working to create economic opportunities to bring other tribal members back. However, they have had difficulties protecting residents from flooding. The tribe lives at the base of an alluvial fan, and in 2012 a large wildfire in the upper watershed, on Forest Service and tribal lands, burned 13,000 acres of forest. After this fire, there were several floods and debris flow events, which wiped out two roads, a diversion structure, and critical water supply infrastructure.

The Utah Silver Jackets team crafted a Floodplain Management Services (FPMS) Interagency Proposal to develop a Floodplain Management Plan in 2017. This plan focused on the future of the floodplain and ways to reduce flood risk by specifying goals and actions that the Skull Valley Goshute could actively implement themselves.

The community continued to work with the team to identify next steps to reduce their flood risk, and the team submitted another Silver Jackets proposal in 2018 to conduct floodplain mapping of the alluvial fan. The map helps tribal members to better understand their flood risk and to identify areas with substantially lower risk that could be developed in the future.

The interagency team also helped the tribe develop a Tribal Mitigation Plan, which helps plan for all the hazards facing the community, not just flooding. It also makes the tribe eligible to apply for mitigation funding through FEMA. Furthermore, the team developed a proposal for the Natural Resources Conservation Service (NRCS) Watershed

and Flood Protection Operations Program. The proposal was accepted and will become a multi-million dollar project to provide flood risk mitigation infrastructure to the tribe. Many communities, tribal or otherwise, may not be fully aware of the full range of state and federal resources at their disposal; likewise, many agencies may not know the capabilities of their counterparts to support communities. As the Goshute example illustrates, the Silver Jackets program helps break down these knowledge barriers by developing partnerships through which information and resources can be shared.

Indeed, such partnerships provide a critical opportunity for communication to occur in both directions between agencies and tribes. Silver Jackets teams cannot be effective if the members are not aware of a tribe's water resources problems or concerns. The agencies must work actively with tribal liaisons to identify potential needs.

Sometimes just getting to the communication stage can be a challenge.

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Debris flow and flooding

Tribal leaders who feel that the federal government has let them down in the past are understandably less inclined to work with federal agencies again. Thus, agencies must work hard to rebuild trusting relationships and to set realistic expectations of how their programs can support the tribes.

Staff turnover within both federal agencies and tribal governments is one of many pitfalls to building and sustaining such relationships. Trusted individuals may rotate out of key roles, or priorities may change from one administration to the next. Persistence is key: agencies may have to reach out multiple times to a tribe, to establish effective links and to demonstrate commitment.

The USACE Tribal Nations Center of Expertise provides these additional tips for working with tribal communities: be empathetic when listening to tribal concerns; do not overextend your authority or make promises that you cannot keep; solicit input from tribes on how to solve complicated resource challenges; do not mistake kindness, silence, or politeness for consent or agreement; meet in a neutral location to make the balance of power as equitable as possible; and pay attention not only to what is said, but what is left unspoken as well.

USACE provides technical support to both federally and non-federally recognized tribes. Often this can be provided with 100% federal funds. Congress has granted USACE with

specific authorities that benefit federally recognized tribes, including partial cost-share waivers for planning and construction. Under the Tribal Partnership Program, other federal funds can be used to provide matching funds for projects that are cost-shared.

Ultimately, reducing flood risk is a shared responsibility. One agency, community, or tribe cannot substantially reduce flood risk on its own. To achieve resilience to natural disasters, including floods, effective partnerships are vital.

For more information, please visit <https://www.usace.army.mil/Missions/Civil-Works/Tribal-Nations/> or contact the Director of the USACE Tribal Nations Center for Expertise, Ron Kneebone, at Ronald.R.Kneebone@usace.army.mil.

Silver Jackets Tribal Workshops Foster Communication Between Tribal, State, and Federal Agencies

By J. Paul Bruton, USACE Sacramento District



Dr. Seth Cohen, right, from USACE's Collaboration and Public Participation Center of Expertise (CPCX), and Patricia Fontanet Rodriguez, USACE Sacramento District Water Resources Planner, answer questions during the Flood Preparedness and Emergency Management Resources Workshop for Tribes held Aug. 13 in Blue Lake, California.

At the front of a conference room in the Resiliency Training and Innovation Center of the Blue Lake Rancheria, an Indian reservation in Humboldt County, four seated officials faced the audience. After they took turns discussing how flooding and emergency communications affect tribal communities, panelist Denise Shemenski of the California Office of Emergency Services summarized: "An emergency is not the time to be passing out business cards."

Her pithy remark underscored the need to work together and build relationships between tribes and state and federal agencies before a crisis occurs.

The Blue Lake workshop on August 13 was the fifth iteration of the Flood Preparedness and Emergency Management Resources Workshop for Tribes, hosted this time by the Flood Risk Management Program of the U.S. Army Corps of Engineers (USACE) Sacramento District.

The workshops provide an opportunity to strengthen partnerships between tribal nations and state and federal agencies through knowledge exchange and inter-agency collaboration. Goals of the workshop include identifying flood-related challenges facing tribal nations, pairing those challenges with available government resources, and improving communication. To these ends, informational panels and presentations are held throughout the event, and

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feature a mix of tribal representatives and government agencies discussing ways to enhance everything from risk communications and preparedness to hazard mitigation and disaster recovery.

“The workshop offers an opportunity to meet in an informal and comfortable environment to discuss regional water-related issues, as opposed to waiting until there’s an emergency and everyone is in a very stressful situation. It’s a chance to network and try to get out in front of problems,” said organizer Fontanet Rodriguez.

“Getting out in front of problems is key,” reiterated Dr. Theresa Gregor of the Inter-Tribal Long-Term Recovery Foundation. “Not only is it a matter of personal safety, it’s a matter of property and money. Every dollar spent on hazard mitigation provides the nation approximately six dollars in future benefits,” she said.

Dean Baker of the Yurok Tribe and Anita Huff of the Blue Lake Tribe focused the conversation on interpersonal communication and understanding tribal culture, providing insights on how government agencies could better understand and interact with members of tribes.

“It’s very important to try to understand each other and to learn how tribal culture affects our interaction,” said Baker. “We’ve come a long way, but there’s still a lot of mistrust between Native Americans and federal agencies. But it’s good to see so many federal agencies reaching out like this to exchange and enhance knowledge.”

Mark Gilfillan, Sacramento District’s Tribal Liaison, agreed with Baker, saying that the tribal water resources workshops are facilitating a new era of mutual collaboration.

“These workshops are unique in that we get to cross-train with other agencies and the tribes,” said Gilfillan. “There is no cookie-cutter approach to finding



Denise Shemenski, California Office of Emergency Services, speaks on the topic of flood hazards and emergency communications. “An emergency is not the time to be passing out business cards,” she said.



A panel addresses attendees regarding flood hazards and communication issues facing tribes and government agencies. From left: Anita Huff (Blue Lake Tribe), Dean Baker (Yurok Tribe), Denise Shemenski (California Office of Emergency Services), and Kathleen Zontos (National Weather Service).

solutions – we have to be flexible in our approach – but it’s refreshing for tribes to acknowledge a new horizon of working together with federal agencies.”

Collaborating to Educate Utah Residents About Flood Risks

By Rachael Orellana, USACE Sacramento District

Utah's topography and its susceptibility to many different types of flooding mean that education has to be a critical component of any strategy to manage the state's flood risks. The rugged landscape, from desert in the west to snowcapped mountains in the east, makes many areas susceptible to floods fueled by snowmelt and cloudburst storms. Types of floods include closed-basin flooding, alluvial flooding, flash floods, sheet flooding, and mudflows exacerbated by wildfire burn scars. To educate the citizens of Utah about these flood risks, agencies of all sizes and affiliations are working both independently and collaboratively through an array of creative outreach channels and activities.

For example, the U.S. Army Corps of Engineers (USACE) recently led webinars in conjunction with the University of Utah Rocky Mountain Center for Occupational & Environmental Health to provide an overview of Emergency Action Plan (EAP) assistance for communities. For communities that do not yet have an EAP, USACE can provide a one-day workshop to guide the community through EAP development. For communities that have an EAP and would like to exercise it, USACE can provide multimedia and facilitation support to conduct a tabletop exercise. Tabletop exercises are like simulations or stress tests that help to assess an organization's ability to respond to an emergency, utilizing current plans, policies, and resources. They help to identify improvements for keeping people safe and to evaluate the continuity of operations after a prospective disaster.

USACE also held meetings and webinars to educate local agencies on individual capabilities, goals, and ways to approach public engagement. Methods of community outreach include social and digital media, print flyers and booklets,



Post-fire mudflows are a significant risk in Utah.


press outreach and in-person training. For example, the website floodfacts.utah.gov, produced by the Utah Department of Public Safety (DPS) in conjunction with the Federal Emergency Management Agency (FEMA), provides facts about the startling costs and probabilities of even minor flood damage. The site also directs Utahans to the National Flood Insurance Program website, where flood insurance can be purchased. Furthermore, DPS has created the YouTube video series Be Ready Utah PrepCast, which dedicates an entire episode to flood risk.

Meanwhile, the National Weather Service (NWS) conducted aerial reconnaissance to identify wildfire burn scars that may become mudflow hazards. NWS members were interviewed on morning news channels regarding these dangers, to provide flood risk information directly to home audiences. In addition, workshops exhorting "Turn Around, Don't Drown" have been held at fire stations to encourage neighborhood engagement.

The American Red Cross performed a full shelter exercise for 250 persons in a gym to replicate an actual disaster shelter. The Southern Baptist Disaster Relief team aided in this exercise by cooking food and bringing an emergency-response childcare unit. The event also included classes covering sanitation,

hands-only CPR, and volunteering in disasters. There were information booths on disaster health and mental health, 72-hour survival kits, FEMA youth and family information, and Voluntary Organizations Active in Disaster.

There has also been a concerted effort to raise awareness about alluvial fan flood risk. USACE worked with the Utah Silver Jackets team, the state Hazard Mitigation Team, the Department of Natural Resources, and the Utah Geologic Survey to map alluvial fans and create an informational brochure. This effort utilized publicly available data sets to delineate 561 alluvial fans in 31 watersheds. From this, a brochure was created with the purpose of informing developmental decision of local agencies, as well as providing information to the public concerning risks associated with alluvial fan flooding.

As Utah's example shows, flood risk education is an ongoing, multi-pronged effort. It takes cooperation from multiple agencies and often requires creative and persistent methods to engage all members in the community. Although not easy to accomplish, when these ingredients are brought together the results can successfully inform flood risk-related decisions made by individuals, organizations and communities. 

After the Fire: New Website Provides Info, Tips and Resources

By Travis Ball, USACE Seattle District and WA Silver Jackets Coordinator



Flood damage after a wildfire in Washington state

At the 2019 Northwest Regional Floodplain Management Association's (NORFMA) Annual Conference, the theme, "Fires, Floods, Mud, and More: Integrated Processes," presented an opportunity to shine light on a type of flood risk that is rather different from the wet winter or high snowpack flood cycles that are typically thought to afflict the region. Several presenters at the conference discussed how short duration, high-intensity thunderstorms over recently burned areas can cause flooding with very little warning time and high concentrations of sediment and debris in drainage basins that rarely see flowing water.

It was the threat of these types of flood events after the 2014-2015 wildfires in central Washington that led to the formation of the Washington Post-Wildfire Flood Committee (PWFC). The PWFC was formed under the umbrella of the Washington Silver Jackets Team. Like the Silver Jackets team, the PWFC is not centrally funded, nor does it carry any specific decision-making authority, but its members work together to coordinate collection and sharing of technical data, best practices, status of flood risk projects after fires, and outreach and distribution of flood-after-fire materials.

"Fires, Floods, Mud, and More: Integrated Processes, presented an opportunity to shine light on a type of flood risk that is rather different from the wet winter or high snowpack flood cycles that are typically thought to afflict the region."

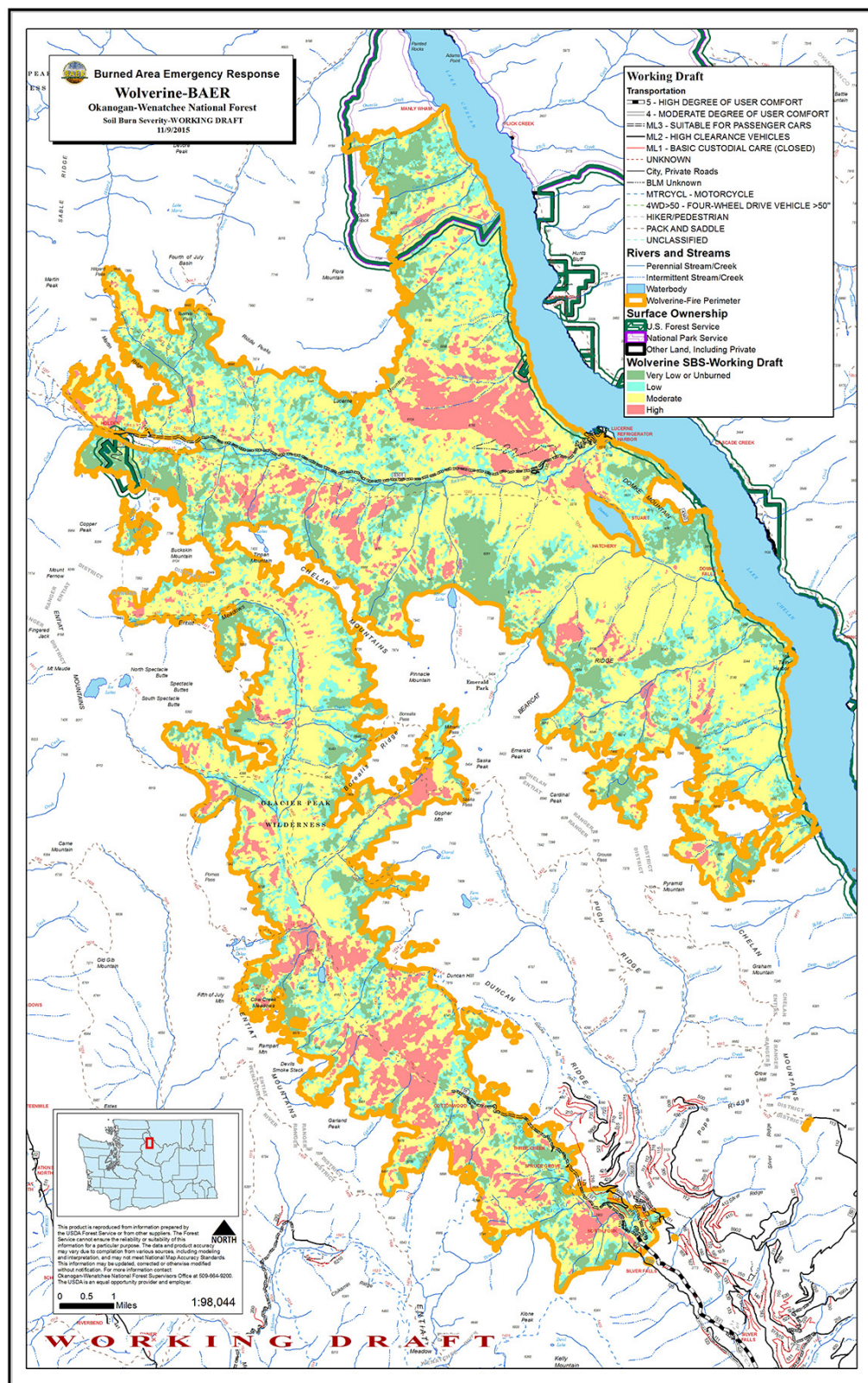
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“Through the After the Fire website, the PWFC is attempting to improve access and utilization of critical planning and recovery information before the fire starts.”

USACE provided funding to the Silver Jackets team and the PWFC in 2018 to expand the outreach piece of their mission, including the development of a website to help manage post-fire flood risks. The site is now available at www.afterthefirewa.org.

The original intent of the website was to offer flood risk resources to the residents, communities, and agencies impacted by fires. But through several workshops and conversations with those close to the recovery efforts from the Okanogan and Carlton fires, it was realized that the web page needed to offer more than just flood risk information in order to be fully utilized and valued by the public. Thus, in addition to flood risk information, the site now offers tips for impacted homeowners, tools for community organizations, an annotated library of technical resources, and more.

The After the Fire website is still in its “beta” version. Both the content and design will continue to grow and improve over the next several months. The PWFC is seeking feedback to improve the site’s accessibility and usefulness. They ask: for those with previous experience in post-fire response and recovery, what online resources did you and your stakeholders or neighbors need most? Can you find that critical information on the website? What is missing or confusing? To send comments, please reach out to



travis.d.ball@usace.army.mil.

It was said at NORMFA again and again: don’t just plan for the wildfire; plan for the recovery, too. Through the After the Fire website, the PWFC is attempting to improve access and utilization of critical

planning and recovery information before the fire starts.

A version of this article was originally published in the Strategic Alliance for Risk Reduction (STARR) News from Region 10 newsletter.

Creating Excitement for Nonstructural Solutions

By Eric Majusiak, USACE Philadelphia District

The Flood Plain Management Services (FPMS) Branch in USACE's Philadelphia District (NAP) has long been involved in non-physical nonstructural flood proofing measures. Projects have included Flood Insurance Study updates, Flood Inundation Map Libraries, and Hurricane Evacuation Studies. Planning Studies in the past did not result in positive recommendations for the implementation of physical non-structural measures. The FPMS and Silver Jackets programs provided an opportunity to interact with state and local partners and other federal agencies, like FEMA and the EPA.

Through this interaction, FPMS observed that physical nonstructural flood risk management projects were being implemented through other programs (mostly State and FEMA programs) even when they were not being recommended in NAP Planning Studies. The Silver Jackets Program further provided the opportunity and awareness to engage partners in potential project ideas and to provide access to experts like the National Nonstructural Committee (NNC). Through FPMS-funded interagency nonstructural efforts, we were able to receive on-the-job training from the NNC.

To educate the planning community in physical and nonphysical nonstructural measures we held brown bag lunches and gave presentations on any new training or projects. The team was able to leverage Silver Jackets funding to complete nonstructural assessments on areas outside of an existing planning study and also utilizing existing hydraulic information from available data such as FEMA Special Flood Hazard Area information because our with project condition does not change the flood risk.

Through the nonstructural assessments, a need for determining



An example of elevation, a nonstructural technique, as part of Hurricane Sandy recovery in New York state.

the implementation process for nonstructural measures within planning studies was located. We were only able to recommend viable solutions and not implement or help the communities implement. The local governments struggled with understanding the difference between using FEMA funding to elevate homes and going through a USACE study to help secure funding to elevate homes, each at different rates.

There are now a number of projects showing a recommendation for nonstructural measures. FPMS branch is currently working on further developing our implementation plans for these projects. The branch is also procuring engineering drawings of measures such as elevation and landscape architect renderings to show the effect on the

community. A new role organically developed within the PDT to help collaborate with the engineering design managers, planners, economists, and the rest of a project delivery team.

We continue to learn how best to use our expertise within a planning study. As a PDT member, we have helped integrate nonstructural parameters into the economic modeling used in planning studies. We are also collaborating on the impacts of nonstructural projects on the community, environment, and cultural resources. We have worked in partnership with engineering to help develop costing parameters for nonstructural measures. It is now common for a Nonstructural PDT member to be included on Philadelphia District planning projects. WHD

Flood and Coastal Systems R&D: Recent Study by IWR and District Researchers Links Lower Missouri River Erosion to Mining and Floods

By Julie Rosati, USACE Engineer Research & Development Center, Coastal & Hydraulics Laboratory

A detailed analysis of the relative components (e.g. channel mining, flood impacts, floodplain deposition) of the Missouri River erosion between 1994 and 2014 was recently published in the *Journal of Geomorphology*, one of the top journals for river erosion science. Findings include:

- Sediment sand and gravel mining operations actually extract more sediment than the total bed erosion between floods.
- Large floods such as the 2011 flood scoured more than the previous 13-years of low-to-moderate flows combined, and that the Missouri River follows classic disturbance-rebound trends, re-depositing over half of the sediment scoured during the 2011 flood in the three following years.

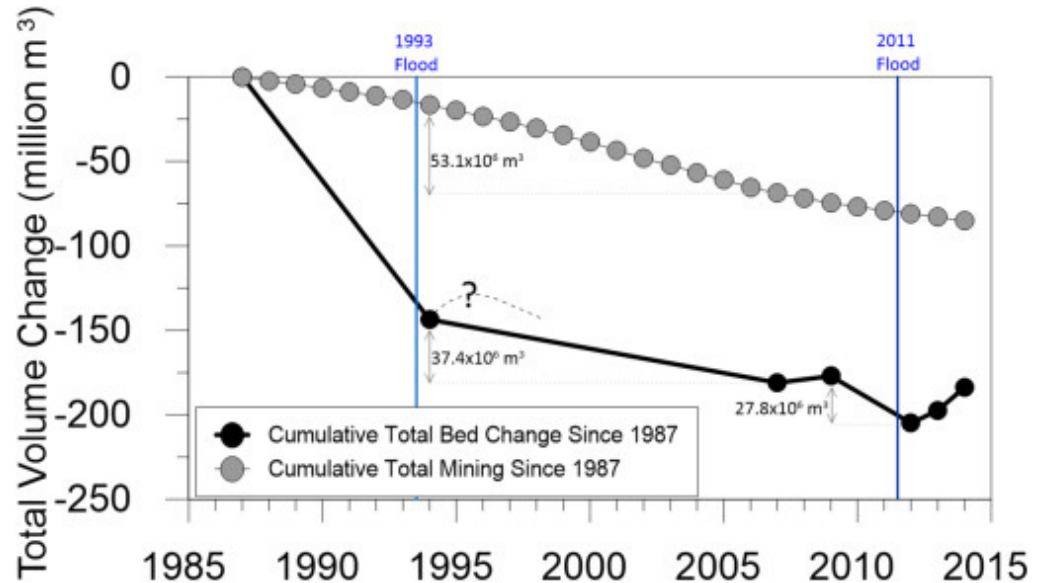


Figure 1.

This work was funded by the Regional Sediment Management Program (O&M R&D) and Flood and Coastal Systems R&D Program (GI R&D). The full study is available at: <https://doi.org/10.1016/j.geomorph.2019.106973>. Figures below reproduced under the [Creative Commons Attribution-NonCommercial-No Derivatives License \(CC BY NC ND\)](#).

Figure 1. Cumulative bed change volume and channel mining over the lower 800 km of the Missouri River. Dotted lines reflect speculation about how narrative accounts of river rebound after 1993 might plot on this curve.

Figure 2. Longitudinal cumulative volume curves (accumulated volume change downstream) depicting bed change and channel mining volumes mined from the channel between the 1994 and 2007 surveys, an interflood period between the 1993 and 2011 floods.

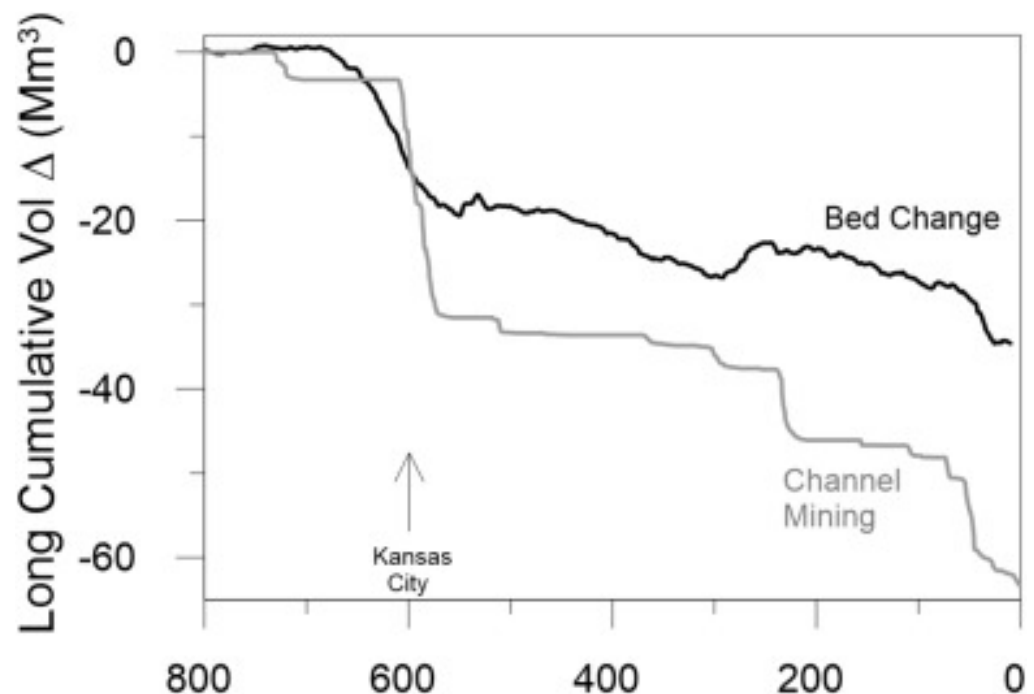


Figure 2.

Flood and Coastal Systems R&D: New features in HEC-WAT Allow Planners to Accomplish More, Sooner With Cloud Computing

By Julie Rosati, USACE Engineer Research & Development Center, Coastal & Hydraulics Laboratory

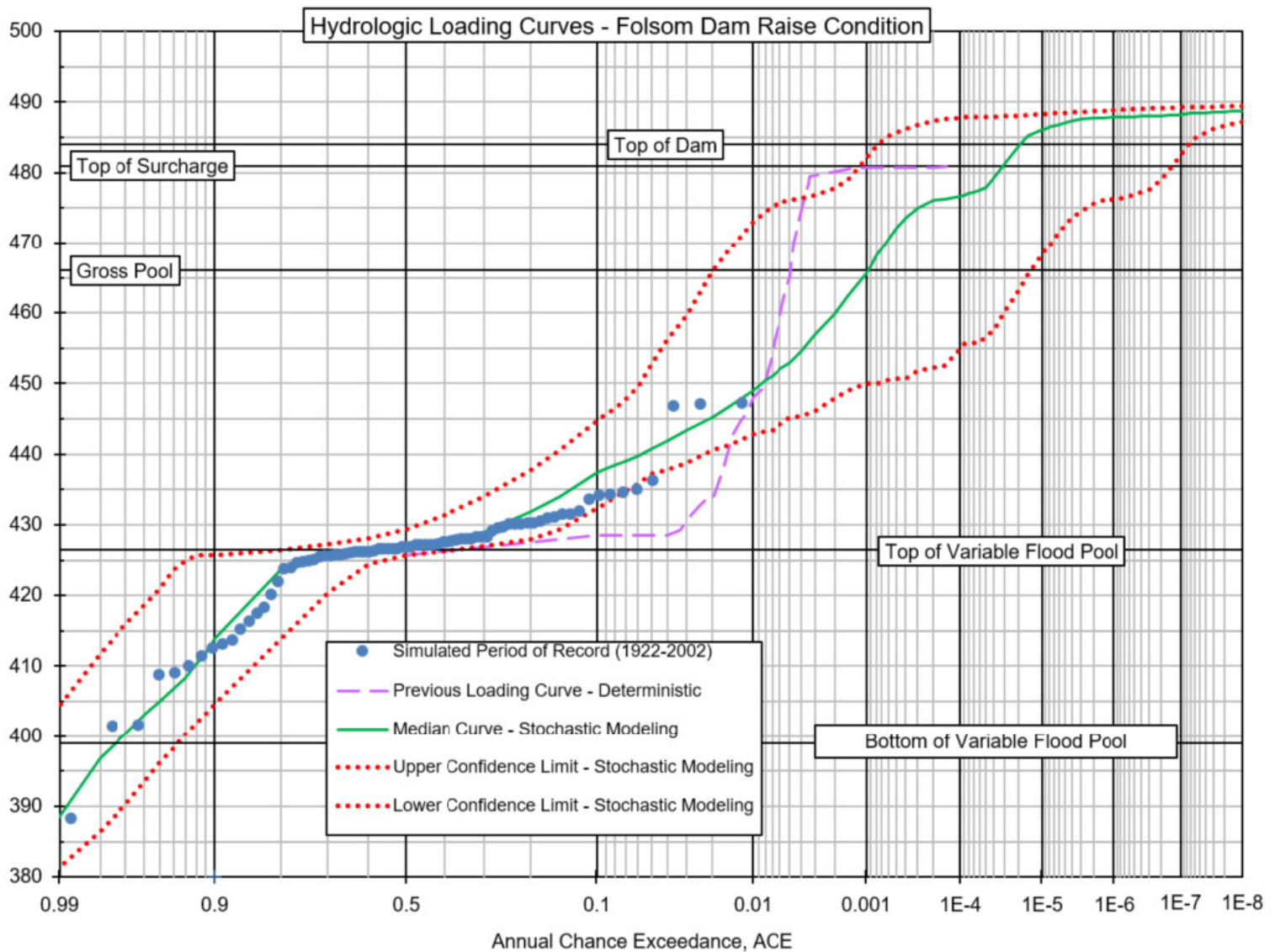



Figure 1. HEC-WAT output for the Folsom Dam Raise Risk Assessment.

Using Flood and Coastal R&D funds under the work unit Watershed Analysis Tools, HEC developed HEC-WAT with the Flood Risk Analysis compute option (<https://www.hec.usace.army.mil/software/hec-wat/>). In order to scale the capability to project delivery teams, HEC-WAT utilizes a distributed compute option. This allows the

computational burden to be shared across computational resources on a network or Amazon Web Services (AWS) cloud. To reduce project costs, HEC developed Nebula, a platform for utilizing computational resources managed by HEC. Nebula reduces the cost of computational resources substantially by allowing District users to

compute on AWS cloud for a flat fee that is much less than a typical contract fee. In addition to saving time devoted to contracting, the District Product Delivery Team (PDT) is able to run and adapt models in-house. To date, HEC-WAT on Nebula has been used by Mill Creek (WI) GI Study PDT and the Folsom Dam (CA) Raise Risk Assessment. 

Guidebook Developed to Help New Hampshire Communities Improve Local Flood Resilience

By Samara Ebinger, NH Office of Strategic Initiatives, and Sheila Warren, USACE New England District

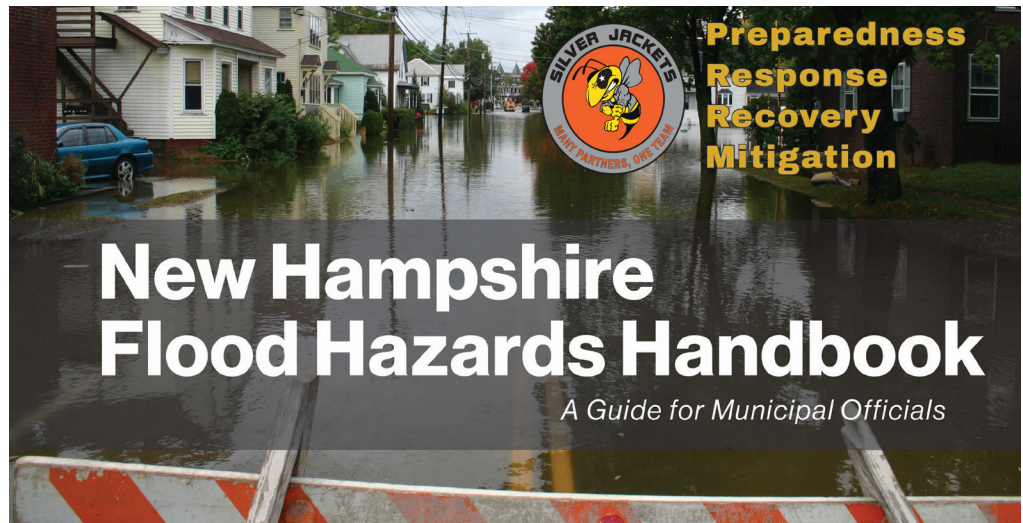
Floods can impact many components of a community – its residents, businesses, and infrastructure, its officials' duties and workload, its desirability as a place to live, work, and visit, and its overall economic and social health. Taking steps to manage flood risk can mean reducing potential:

- loss of human life
- property damage
- environmental damage
- displacement of residents
- disruption of businesses
- burden on community infrastructure, services and staff

A community's existing resources – i.e., staff, plans and preparations, regulations and compliance procedures, and equipment and supplies – serve as the first line of defense when it comes to managing flood risk and keeping people, property, and infrastructure safe. However, assistance in a variety of forms is also available from many federal and state agencies, which can supplement a community's resources as needed.

Since 2005, 16 major federal disaster declarations related to flooding have been declared in the state of New Hampshire. Many of these events have affected towns with limited resources; thus, some communities have struggled in their response and recovery efforts. Furthermore, many communities that have not experienced a significant flood in over a decade are now managed by staff who may have little or no experience with flood response and recovery activities. These officials may lack familiarity with community regulatory responsibilities and the resources that are available to assist them.

This fall, the [New Hampshire Silver Jackets Team](https://silverjackets.nfrmp.us/State-Teams/New-Hampshire.cfm) released the *New*



Hampshire Flood Hazards Handbook: A Guide for Municipal Officials, which is intended to help communities prepare for, respond to, and recover from floods more effectively. The handbook includes guidance, best practices, and information about available federal and state resources organized into situation-specific sections: “Before the Flood,” “During the Flood,” and “After the Flood (Short Term Recovery and Long Term Recovery Considerations).”


Topics covered in the handbook include the following:

- Identifying local flood risks, including added risk factors such as dams, ice jams, and climate change
- Planning activities to increase preparedness and reduce flood risk
- FEMA hazard mitigation assistance grants
- Sources of data that can help communities improve their flood awareness
- Evacuation and sheltering guidance
- Post-disaster cleanup, debris removal, and permitting
- Post-flood requirements for communities that participate in the National Flood Insurance Program
- FEMA post-disaster assistance and other potential sources of assistance

for communities, businesses, and residents

- Flood mitigation resources for communities and residents to increase resilience to future floods
- Public outreach guidance, including key messages to communicate to residents before, during, and after a flood

Also included is a customizable Flood Response and Recovery Checklist which can be used by municipal officials to identify and manage priority activities when a flood event does happen. Content for the handbook was developed collaboratively by the state and federal agencies that comprise the New Hampshire Silver Jackets team. It is hoped that by sharing the team's collective knowledge in this way, local communities will have better access to the guidance and resources they need to work towards a flood-resilient future and to more effectively respond to flood events when they happen.

The Flood Hazards Handbook is now available through the New Hampshire Silver Jackets Team website (<https://silverjackets.nfrmp.us/State-Teams/New-Hampshire.cfm>). 



Round the National Silver Jackets Table

By Ellen Berggren, USACE Institute for Water Resources

The National Silver Jackets Team comprises eleven Federal agencies that meet quarterly (see inset box).

“Round the Table” is a standing agenda item at National Team meetings, with each agency sharing information about new tools, publications, initiatives, and information exchange and learning opportunities. These informal discussions may launch more in-depth discussion at future meetings or inspire future collaborative efforts. Information shared at a recent meeting are listed below.

- The National Silver Jackets team has completed an update to the [Special Edition of The Buzz](#), listing agency programs, services and tools available to support state flood risk management priorities and goals. The fourth Special Edition features information for all eleven National Silver Jackets team agencies and is posted on the [Silver Jackets website](#).
- FEMA has released a revised [National Response Framework \(NRF\) Fourth Edition](#), including a new Emergency Support (ESF) Function #14 – Cross Sector Business and Infrastructure Annex. The document incorporates lessons learned from the 2017 hurricane and wildfire season. A FEMA Podcast is available with an in-depth look at the [NRF Fourth Edition](#).
- FEMA has released the [Community Lifelines Implementation Toolkit 2.0](#), updating information and resources to better understand and implement Community Lifelines throughout the emergency management community. The toolkit incorporates lessons learned from recent disasters and stakeholder feedback
- FEMA has published a [Disaster Recovery Reform Act Annual Report](#). The report provides an overview of the DRRRA, highlights its alignment with FEMA’s strategic goals, and describes its efforts to implement the law.

National Silver Jackets Team Purpose

Support state Silver Jackets interagency flood risk management teams at the national level by:

- Sharing information about agency data, programs, resources and expertise available for on-the-ground support.
- Coordinating programs and leveraging funding opportunities to enhance agency program execution and outcomes (data, technical expertise, regulatory, planning frameworks).
- Increasing agency regional staff awareness of and opportunities to support SJ teams.
- Addressing challenges SJ teams identify in the field that would benefit from coordination and collaboration at a National level.
- Sharing best practices to promote shared responsibility resulting in sound flood risk management and more resilient communities.

National Silver Jackets Team Participating Agencies

- Environmental Protection Agency (EPA)
- Federal Emergency Management Agency (FEMA)
- Federal Highway Administration
- U.S. Housing and Urban Development (HUD)
- National Aeronauts and Space Administration (NASA)
- USDA Natural Resources and Conservation Service (NRCS)
- NOAA – National Weather Service (NOAA/NWS)
- NOAA Office of Coastal Management (NOAA/OCM)
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Transportation (USDOT)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)

The Natural Hazards Center launches series of training modules for disaster scholars and professionals

The National Science Foundation-supported CONVERGE team at the University of Colorado's Natural Hazards Center is launching [a series of online modules](#) that help accelerate the training of a diverse hazards and disaster workforce. These interactive, 30- to 60-minute courses cover a variety of topics that researchers—with a special emphasis on students and emerging scholars—can use to quickly educate themselves on conducting extreme events research.

The first of these modules focuses on [social vulnerability and disasters](#). The course introduces participants to academic literature that describes the social drivers of disaster vulnerability and highlights populations typically recognized as being more vulnerable than others through each phase of the disaster cycle.

The second module focuses on [disaster mental health](#). It introduces participants to academic literature that describes common mental health outcomes associated with disaster.

Ultimately, both modules are intended to promote more effective policies and programs to address the needs of those at risk. In each module, examples of studies and evidence-based training, tools and policies are included to expose users to common research methods, as well as the research's impact. In addition, trainings, tools, and policies that familiarize users with evidence-informed actions that address the needs of those affected by disaster are also included.

Each module closes with 10 recommendations for future research to encourage the next generation of scholars to address unanswered questions and challenges in their work. Links to additional resources, including key readings, datasets and measures, mental health surveys, and screening tools are also provided.

After completing each module, users can take a 10-question quiz to receive a certificate of completion. These certifications will become part of a larger accreditation system for hazards and disaster researchers as more modules are released.

"We are so thrilled to see that social scientists, engineers, and practitioners from a variety of different professional backgrounds have accessed these modules," said Lori Peek, director of the Natural Hazards Center and principal investigator of the CONVERGE facility. "We were also excited to hear that educators are using these modules in their classrooms, as well."

Upcoming training modules include:

- Cultural Competence in Hazards and Disaster Research
- Conducting Emotionally Challenging Research
- Institutional Review Board (IRB) Procedures for Hazards and Disaster Researchers
- Broader Ethical Considerations for Hazards and Disaster Researchers
- Social Science Methods and Approaches for Hazards and Disaster Research
- Interdisciplinary Methods and Approaches for Hazards and Disaster Research
- The Science of Team Science: Forming Interdisciplinary Teams for Hazards and Disaster Research
- Publishing Disaster Data, Data Collection Protocols, and Research Instruments
- Public Disaster Science: Best Practices for Sharing Hazards and Disaster Research

Preview the training by watching the [CONVERGE Training Module Demonstration](#), a recorded webinar. To receive updates and information on new training modules, [subscribe here](#).

2020 FEMA CTP Program Special Topics Course offered this spring at EMI

If you are a newer Cooperating Technical Partner (CTP), new to a CTP organization, or simply need a refresher, you are invited to join the FEMA CTP spring training course at the Emergency Management Institute (EMI) in Emmitsburg, MD. The 4-day course, hosted Monday, April 20–Thursday, April 23, 2020, will provide training on communications and outreach strategies related to the Risk Mapping, Assessment, and Planning Program (Risk MAP). To apply, you must work for an organization that is currently a CTP. If your organization is interested in becoming a CTP, please reach out to your Regional FEMA office.

The deadline for registration for the spring course is Friday, February 21, 2020. Admission spots are limited and available on a first-come-first-serve basis, so candidates are encouraged to apply for a pre-approval letter at your earliest convenience. To do so, please follow these steps:

1. Complete the eligibility questions using this link to qualify for a pre-approval letter.
2. If approved, you will receive a pre-approval letter and you must apply directly to EMI by Friday, February 21, 2020 and attach your pre-approval letter to your online application.

During the training, participants will:

- Learn the CTP grants management process, including grant compliance and the grant life-cycle;
- Identify how best to engage communities throughout the Risk MAP process in order to encourage better disaster-related human behavior;
- Learn best practices for communications and outreach using Flood Risk Products and Story Maps;
- Engage with experts with extensive knowledge on their topics;
- Meet experienced CTPs and build your professional network;
- Learn about other CTP opportunities.

For more information about the 2020 CTP Spring Special Topics course, contact CTPAdmin@riskmapCDS.com or Laura Algeo, National CTP Program Coordinator (Laura.Algeo@fema.dhs.gov).

UPCOMING EVENTS

Workshops and Conferences

[Post-Fire Hydrology and Runoff Management](#). February 5-6, 2020. McClellan, CA.

[AWRA Spring Conference](#). March 23-26, 2020. Austin, TX.

[Floodplain Management Association Annual Conference](#): "Knowledge is Power: Keeping the Lights on Floodplains, Resilience Planning and Risk Reduction." April 7-10, 2020. San Diego, CA.

[Florida Floodplain Managers Association Conference](#). April 7-10, 2020. Orlando, FL.

[United States Society on Dams \(USSD\) Conference](#). April 20-24, 2020. Denver, CO. Regional conference approvals are required for USACE presenters and attendees.

[Annual American Planning Association \(APA\) Conference \(NPC20\)](#), April 25-28, 2020. Houston, TX.

[Association of State Floodplain Managers \(ASFPM\) Annual Conference](#). June 7-11. Fort Worth, TX.

[8th International Conference on Flood Management \(ICFM8\)](#): "Lowering Risk by Increasing Resilience." August 17-19, 2020. Iowa City, Iowa. See <https://icfm2020.org> for details.

Courses & Webinars

Community Rating System (CRS) Webinars are archived at: <https://crsresources.org/training/>

NOAA Office of Coastal Management (OCM) Courses:

[Adaptation Planning for Coastal Communities](#)

- February 13–14, 2020. University of Puerto Rico Mayaguez Mayaguez, PR.

[Building Risk Communication Skills](#)

- March 4, 2020. San Francisco State University, San Francisco, CA.

[Planning and Facilitating Collaborative Meetings](#)

- March 17–18, 2020. Northwest Fisheries Science Center, Seattle, WA.
- March 18–19, 2020. Florida Department of Environmental Protection, Tallahassee, FL.
- April 15-16, 2020. Hudson River National Estuarine Research Reserve, Staatsburg, NY.
- May 12-13, 2020. Delaware National Estuarine Research Reserve, Dover, DE.
- June 16-17, 2020. Texas General Land Office, Austin, TX.
- June 17-18, 2020. Stanford Gallery, Sacramento, CA.

[Planning Effective Projects for Coastal Communities](#)

- April 1-2, 2020. Old Woman Creek National Estuarine Research Reserve, Huron, OH.
- April 28-29, 2020. The Brightwater Center, Woodinville, WA.

[Facilitation Basics for Coastal Managers](#)

- April 8, 2020. Renaissance Palm Springs, Palm Springs, CA.
- April 21, 2020. Vermont Agency of Natural Resources, Montpelier, VT.

FEMA Emergency Management Institute (EMI) Courses:

Emmitsburg, MD. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

[E0312: Fundamentals of Building Science](#)

- August 31-September 3, 2020.

[E0313: Basic HAZUS](#)

- March 2-5, 2020.
- April 6-9, 2020.
- June 8-11, 2020.
- July 13-16, 2020.
- August 17-20, 2020.

[E0172: HAZUS for Flood](#)

- July 27-30, 2020.

[E0272: Core Principles for Hazard Mitigation: Floodplain Management Specialists](#)

- February 3-5, 2020.

[E0273: Managing Floodplain Development through the NFIP](#)

- March 2-5, 2020.
- May 4-7, 2020.
- August 31-September 3, 2020.

[E0278: NFIP/Community Rating System](#)

- February 3-6, 2020.
- April 20-23, 2020.
- July 27-30, 2020.

[E0279: Retrofitting Flood-Prone Residential Buildings](#)

- May 11-14, 2020.

[E0282: Advanced Floodplain Management Concepts II](#)

- March 16-19, 2020.

[E0284: Advanced Floodplain Management Concepts III](#)

- July 6-9, 2020.

FRM BUZZ

NEWSLETTER

Reducing Flood Risk: Many Partners, One Team



USACE Flood Risk Management Program:

<https://www.iwr.usace.army.mil/Missions/Flood-Risk-Management/Flood-Risk-Management-Program>



Silver Jackets Program:

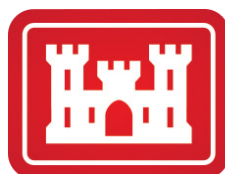
<http://silverjackets.nfrmp.us>

FRM BUZZ Statements of Need: Submitting "Statement of Need" is the first step in the process of a concept becoming a requirement for research and development. If USACE District personnel have problems or situations they feel should be addressed by research, the Flood Risk Management Gateway, <http://operations.usace.army.mil/flood.cfm>, is the place to submit these research Statements of Need (SoNs).

Past issues of this newsletter, various links, news items, and presentations, are all available on the Flood Risk Management Gateway, <https://operations.erdc.dren.mil>. Check it out!

This newsletter is a product for and by the Flood Risk Management Community. The views and opinions expressed in this unofficial publication are not necessarily those of the U.S. Army Corps of Engineers or the Department of the Army.

If you would like to submit an article or an idea for an article for the next edition of the newsletter, or if you have any comments or questions about articles in this edition, please email Stephanie.N.Bray@usace.army.mil.



**US Army Corps
of Engineers**