Volume 3 No. 2 **Sept. 2022**

FRM BUZZ NEWSLETTER

Reducing Flood Risk: Many Partners, One Team

Healthy Kansas Watersheds – the benefits of regenerative agricultural practices for reducing flood risks *p.10*

Changing leadership:
A welcome and a farewell
Christy Jones is the new USACE deputy chief, Office of Homeland Security and director of the National Flood Risk Management Program.
p.1

New guide for risk reduction on alluvial fans benefits Utah communities
The Utah Silver Jackets' recently published guide detailing risk reduction on alluvial fans is proof that good things come in sets of three.
p.4

US Army Corps of Engineers

Volume 3 No. 2 **Sept. 2022**

FRM BUZZ NEWSLETTER

CONTENTS
September 2022

FRM BUZZ Newsletter
Office of Homeland Security
441 G Street, NW
Washington, D.C. 20134-1000

In this issue

The big reveal! A new Silver Jackets logo

Silver Jackets teams have evolved to tackle a wide range of issues and challenges since the development of the original logo in 2009. The timing was right to create a new logo, to freshen and modernize it and to better reflect what Silver Jackets represents.

P.14

Nevada Silver Jackets develop a Flood After Fire Guide

The Nevada Silver Jackets team developed the Nevada Flood After Fire Guide to help minimize flood after fire risks by increasing community awareness and preparedness.

P.12

On the cover

Healthy Kansas Watersheds – the benefits of regenerative agricultural practices for reducing flood risks

Members of the Kansas Hazard Mitigation Team (KHMT), which also functions as the state Silver Jackets team, are examining regenerative agricultural practices as a possible tool for reducing flood risks. Regenerative agriculture focuses on enhancing soil health to promote sustainable food production while also restoring and conserving ecosystem services.

P.10

Changing leadership: A welcome and a farewell

By Stephanie Bray, USACE National Flood Risk Management Program Manager,
Ellen Berggren, former National Silver Jackets Program Manager, and
Lacey Thomason, Acting National Silver Jackets Program Manager

On behalf of the U.S. Army Corps of Engineers (USACE) National Flood Risk Management Program (NFRMP) and partnering, state-led Silver Jackets teams, we are pleased to welcome Ms. Christy Jones as the new USACE deputy chief, Office of Homeland Security and director of the National Flood Risk Management Program. We extend our warmest appreciation to Mr. Mark Roupas, for whom Jones took over following his retirement on Feb. 28, 2022.

Jones brings to the job diverse career experiences in flood risk management, giving her the background to understand and appreciate work by the NFRMP and Silver Jackets teams to build stronger connections between the many public and private sector programs, levels of government, and community members that must work together to successfully manage flood risks.

After earning a Bachelor of Science in Civil and Environmental Engineering from Cornell University and a master's degree in Civil and Environmental Engineering from the University of California, Davis, Jones started her career working in private consulting. She managed projects including designing early flood warning systems, designing storm drain systems for newly constructed neighborhoods and business parks, and working with HEC software to model watersheds.

Ms. Christy Jones is the new USACE deputy chief, Office of Homeland Security and director of the National Flood Risk Management Program.

From the private sector, she transitioned to the federal government, accepting a position with USACE Sacramento District. She held several positions at the district, first working in Water Management, where she revised water control manuals and made decisions about how much water to release from reservoirs under various flood and drought scenarios. She then became the Public Law 84-99 program manager, where she worked on the All-Hazards Plan, Continuity of Operations planning, and many rehabilitation projects. She later returned to Water Management, first as the senior lead reservoir operator and then as the chief of water management. She ended her stint with the Sacramento District as the hydrology and hydraulics branch chief.

From USACE, Jones was recruited to work for the California Department of Water Resources, where she served as deputy director of the Security and Emergency Management Program. During her time as deputy director, one of the largest emergencies she oversaw was the Oroville Dam Emergency Spillway failure of 2017.

Jones again returned to USACE, this time working for the South Pacific Division, where she served as deputy chief of readiness and contingency operations until accepting her current position at USACE Headquarters.

From her work experiences, Jones gained a firsthand understanding that serving the flood risk management

Mark Roupas and his family celebrate his retirement from USACE at his February retirement ceremony in Washington, D.C.. (Lisa Silbernagel, March 2022)

Continued on page 2

Past and present USACE Directors of Contingency Operations joined together to celebrate Mark Roupas' retirement from USACE. From left, Mr. Ed Hecker, Ms. Karen Durham-Aguilera, Mark Roupas, Mr. Ray Alexander, and Mr. Steve Hill. (Lisa Silbernagel, March 2022)

needs of all communities equally requires maintaining strong connections and clear communication between the many people engaged in flood risk management at the federal, state and community level. Robust relationships between agencies and communities make it easier to share information, avoid conflicting policies and explore opportunities to work together. This reduces time and financial costs that, for many communities, would otherwise get in the way of accessing the information and support they need to manage flood risks.

Under Jones's leadership, the NFRMP will continue to invest in activities designed to help build relationships between communities and agency partners. At the field level, this includes regular internal coordination, collaboration, and relationship-building across the USACE mission areas, participation on and support to Silver Jackets teams' efforts, and the everyday outreach of Silver Jackets and NFRMP team members. At the national level, the NFRMP will continue to strengthen connections by sponsoring training opportunities, supporting internal and interagency coordination meetings, initiating collaborative policy or technical work among different agencies or USACE program areas, and developing resources to improve access to flood risk information.

As we welcome Jones, we would also like to recognize and thank Roupas for his leadership during his time as deputy chief, Office of Homeland Security at USACE Headquarters. Roupas was a strong champion for the NFRMP and promoted interagency flood risk management approaches. He consistently advocated for the NFRMP and enabled the program to better meet the needs of our internal and external partners through enhanced coordination and collaboration.

Roupas always looked for opportunities to further internal partnership between the NFRMP and the Emergency Management program, both of which he oversaw in his role as deputy chief. He actively engaged in national-level interagency groups to support collaborative flood risk management, including the Federal Interagency Floodplain Management Task Force and the Mitigation Framework Leadership Group. He was also a strong partner to nongovernmental organizations supporting flood risk management, such as the Association of State Floodplain Managers, National Association of Flood and Stormwater Management Agencies, and Natural Hazards Center.

The NFRMP is grateful for the many years of support offered by Roupas and wish him the best in his retirement. Building on the foundation he left behind, NFRMP and Silver Jackets team members will continue their work to improve communication and strengthen connections among and within agencies and communities. Under the new guidance of Jones, these connections will serve as a basis for working together to break down time, cost and information barriers to ensure all communities have equitable access to the flood risk information and program resources needed to manage their flood risks.

FEMA's Hazus Loss Library provides ready access to natural hazard risk information

By Maureen Kelly, Natural Hazards Risk Assessment Program, FEMA

The Federal Emergency Management Agency's Hazus Loss Library, released in November 2021, provides the first open and authoritative online collection of Hazus risk assessments, loss modelling studies and hazard data, all readily accessible to emergency managers, planners and the public.

Hazus is FEMA's geographic information system-based, natural hazard modelling tool. It provides data and standardized methods for assessing risks from natural hazards across the country, including flood, hurricane, earthquake and tsunami events.

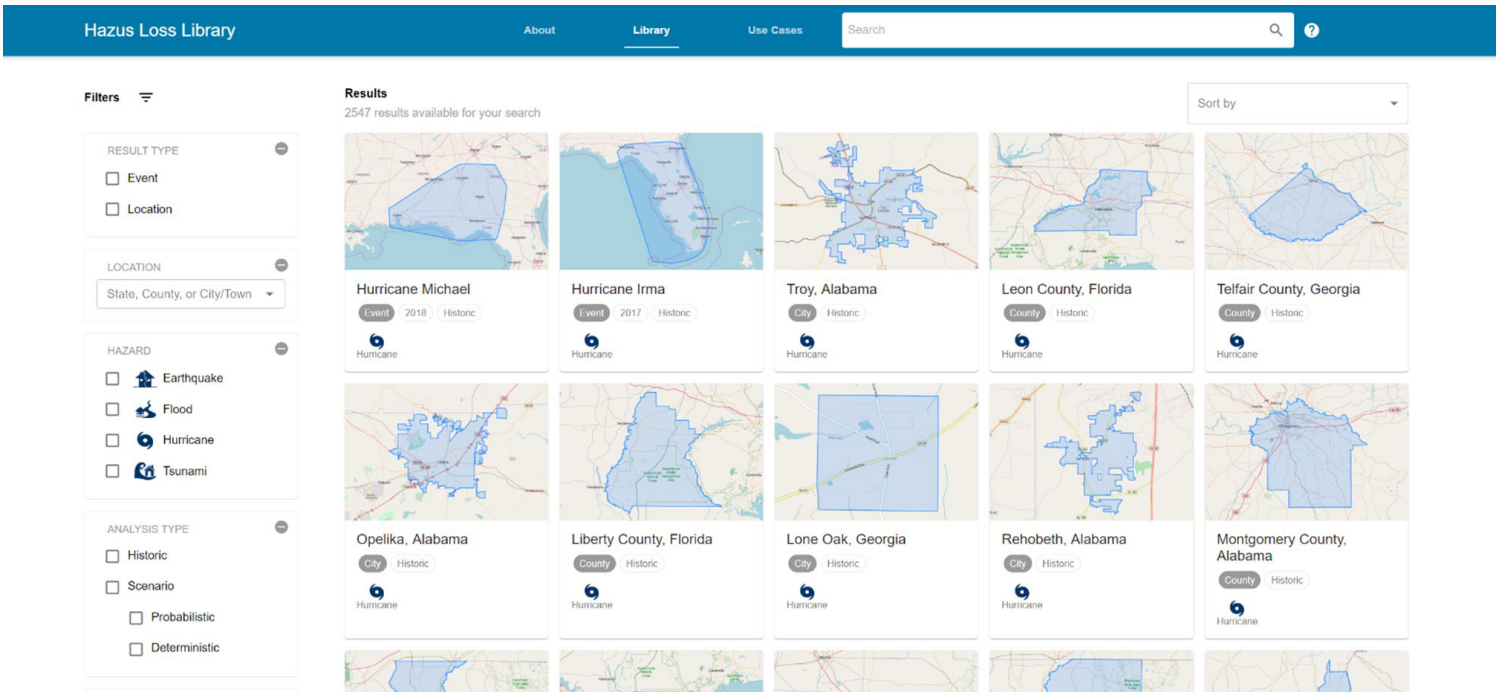
Hazus is used to conduct risk assessments and loss modelling. Hazus reports provide information on the physical damage, economic impacts and social impacts of natural hazards, as well as the cost effectiveness of mitigation measures. They are widely used to support mitigation planning, disaster response exercises, recovery efforts and to inform community decision-making.

The Hazus-generated information available in the Loss Library supports all phases of hazard management at the local, state and federal levels. Specifically, it can support risk assessments in mitigation plans, identify where to focus resources and program benefits in emergency management, provide losses-avoided studies for mitigation grants, and more.

FEMA created the Hazus Loss Library to make the type of measurable risk information provided by Hazus reports more accessible to the nation. Users can search, view and download risk information for communities across the United States. Studies are organized by location, type and hazard, so users can quickly find risk information for their emergency management projects. Economic losses, building damage and social impacts from both historic disasters and planning scenarios are available for download in spatial formats, spreadsheets and reports.

The Hazus Loss Library also includes loss information from high-resolution flood inundation depth grids. These depth grids come from the U.S. Geological Survey's Flood Inundation Mapper platform. The data is visualized, summarized and available for download in the Hazus Loss Library.

The Hazus Loss Library application is free and easy to navigate for both technical and non-technical users. Visit FEMA's Hazus Loss Library website to view the library and find the risk information available for your community.

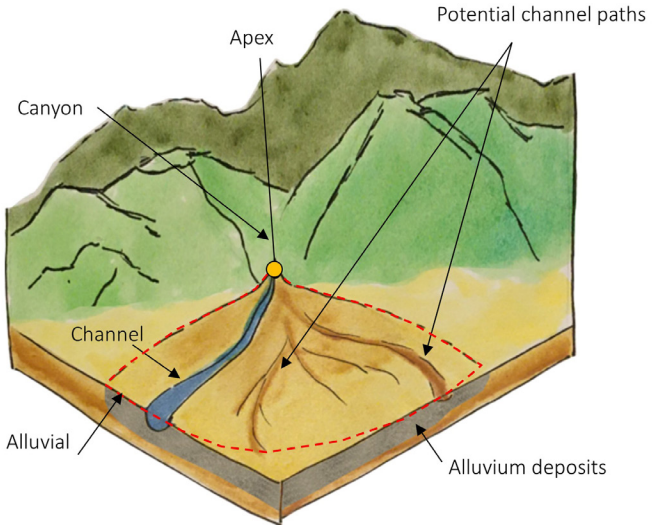


Hazus risk studies are searchable by location, hazard, analysis type and historical event year. (Hazus Loss Library, April 2022)

New guide for risk reduction on alluvial fans provides comprehensive management options to Utah communities

By Carolyn Gombert, USACE Sacramento District

The Utah Silver Jackets' recently published guide detailing risk reduction on alluvial fans is proof that good things come in sets of three. A tri-disciplinary foundation built on scientific research, effective communication and proactive community outreach has been front and center for the guide development team, led by the U.S. Army Corps of Engineers (USACE) Sacramento District and the Utah Division of Emergency Management (DEM).



The guide includes a crash-course on alluvial fans, introducing vocabulary terms and technical concepts that communities can use to inform their risk management discussions and decisions. (USACE, 2021)

The "Community Guide for Flood Risk Reduction on Alluvial Fans" is a comprehensive document aimed at supporting Utah residents who live or work on an alluvial fan. In its introductory pages, the guide offers a mini science lesson in the form of text, diagrams and photographs. This background provides communities with the knowledge and vocabulary required to engage in risk management discussions. The core of the guide focuses on nonstructural risk reduction measures, such as the development of a community emergency action plan, active management of forested lands, and strategic land-use planning, such as development of parks and open spaces on the most vulnerable areas of an alluvial fan.

An alluvial fan is not a landform that usually comes up in everyday conversation. As the name suggests, alluvial fans are fan-shaped deposits of sediment, also known as alluvium, located at the base of a canyon on the valley floor. A fan is built over thousands of years. Each time flood waters exit a canyon, they flow in a new direction and lay down a fresh deposit of alluvium.

For millennia, natural processes have driven the creation of a patchwork of alluvial fans across the Utah landscape. Yet these geologic timescales are at odds with human timescales. A picturesque hillside may seem to be the perfect place for a neighborhood until a rare flood event comes through, leveling structures and leaving a trail of debris. This is where USACE and Utah DEM entered the picture.

Jamie Huff, manager of Utah DEM's Risk Management and Planning (Risk MAP) Program, is responsible for identifying the flood risk portion of the alluvial fan equation. Huff initiated an inventory of alluvial fans across the state of Utah, one of the fastest growing states in the nation. Simultaneously, Huff led Utah DEM into a partnership with USACE and the Utah Silver Jackets team. This created fertile ground for the development of communication materials that can be leveraged to educate residents in high hazard areas when flood risk has been identified.

The statewide dataset of alluvial fans across Utah is scheduled to be available at the same time as the "Community Guide for Flood Risk Reduction on Alluvial Fans." Throughout development of the guide, the Utah Silver Jackets team met to exchange feedback on the working version of the document. Team members from the U.S. Geological Survey, the Federal Emergency Management Agency, the National Weather Service, and the Utah Geological Survey all provided key input on the technical concepts presented in the guide.

Upon completion of the community guide, the Utah Silver Jackets team created a short informational video to help roll out the guide and reach a broader audience. The video includes an animation of alluvial fan vocabulary terms and directs viewers to learn more from the community guide. Utah DEM plans to post the informational video as well as a digital copy of the guide on their Information for Floodplain Specialists webpage. With these resources in hand, Utah residents will be able to better understand alluvial fan flood risk in their communities and take the next step to actively manage that risk.

USACE Levee Safety Program looks ahead

By Jacob Nienaber, P.G., USACE HQ, Levee Safety Program Manager

It has been a busy season for the U.S. Army Corps of Engineers (USACE) Levee Safety Program. Looking ahead to what will be accomplished this year, it is safe to say that program implementation is continuing to heat up. This article provides a brief recap of recent successes and events and describes what is in store for the program.

USACE recently published Engineer Circular 1165-2-218: USACE Levee Safety Program, which outlines USACE activities, roles and responsibilities for federally authorized levees, as well as activities conducted by local levee sponsors – USACE partners in levee ownership, operation and maintenance. Since publishing the guidance, significant strides have been made by establishing more consistent budgeting processes and working with the field to address questions during regular "office hours" meetings.

Prior to publishing the guidance, the USACE Levee Safety Program team engaged in a series of discussions with sponsors for federally authorized levees and learned there is a desire for USACE to be a better partner, tell a more balanced story about levees, and support actionable recommendations that secure the benefits levees are designed to provide. The team continues to work to adjust in this regard and recognizes the importance of raising awareness of levees and their benefits and risks, as well as communicating that they are one tool among many that can help communities address flooding.

The team will continue to emphasize the importance of partnership and working together to support broader flood risk management moving forward. Levee Safety Program teams are encouraged to work with their division and district partners in flood risk management,

Through the Levee Safety Program, USACE partners with levee sponsors to manage more than 1,600 levees across the U.S. to help reduce flood risk to people, businesses, critical infrastructure and the environment. (Civil Works Levee Safety Program (army.mil), 2022)

with the understanding that more comprehensive solutions to shared challenges can be found by leveraging diverse perspectives.

As USACE works toward fully implementing the USACE Levee Safety Program by 2028, divisions and districts are now focused on resetting schedules for program activities and spending time with sponsors for levees within their area to get on the same page about sharing levee information with one another and within the broader community. The Headquarters USACE team is focused on supporting divisions and districts by engaging in more frequent conversations with district and levee sponsor teams and creating resources that promote partnership and consistent communication about levees and flood risk management.

An increased emphasis on partnership and understanding how levees fit within the broader community has also been a focus for the National Levee Safety Program (NLSP), a new initiative that is co-led by USACE and the Federal Emergency Management Agency. The program aims to develop an integrated framework for consistently managing reliable levee systems around the nation. The article "National Levee Safety Program – Thoughts from Phase One" in this edition of the FRM Buzz and www.leveesafety.org have more information about this new program, including how it relates to the USACE Levee Safety Program and future opportunities to get involved.

Looking ahead, the USACE Levee Safety Program is one of the many partners that make up the team to reduce flood risk throughout the country. The Levee Safety Program team is committed to encouraging continued collaboration with partners and is optimistic about the progress to be made working together in 2022 and beyond.

National Levee Safety Program – thoughts from Phase One

By Jennifer Laux, USACE Levee Safety Center, Vicksburg District

In December 2021, the U.S. Army Corps of Engineers (USACE) and the Federal Emergency Management Agency (FEMA) initiated development of the new National Levee Safety Program. This program aims to support all stakeholders who have an interest in or are affected by levee systems. At the end of March, the National Levee Safety Program Team successfully wrapped up the first phase of stakeholder engagement activities, which included holding nine virtual workshops over the course of January and February. Over 500 people, representing various interests from all over the country, logged on to the four-hour workshops to learn more about the program and provide feedback to help shape its development.

In addition to background information on how the National Levee Safety Program came about through legislation, stakeholders learned about the foundational components of the program including developing national levee safety guidelines, standing up formal levee safety programs, improving data quality in the National Levee Database, and finding opportunities to align federal programs to reduce burden and redundancy in levee safety activities.

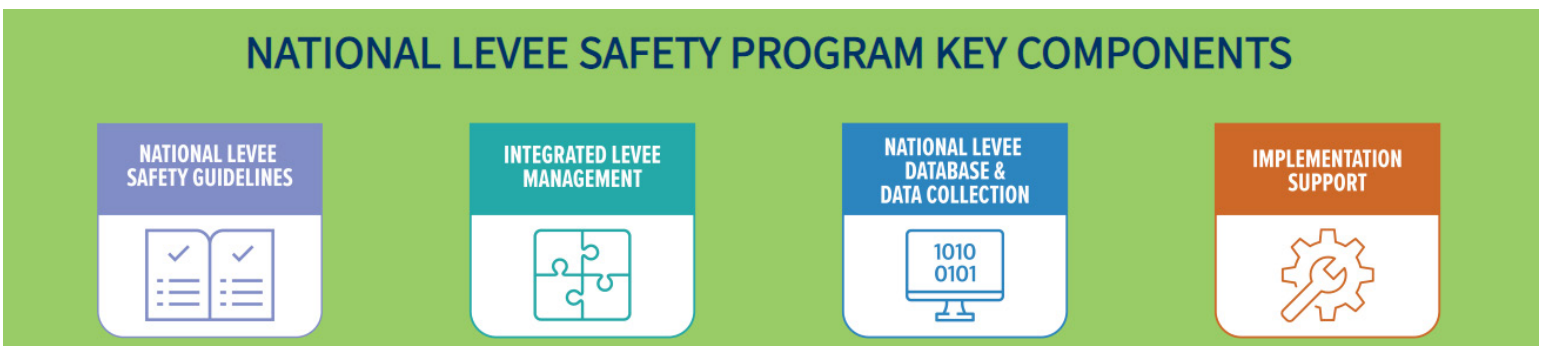
During the workshops, stakeholders had the opportunity to engage with each other in smaller breakout groups and talk about the challenges they are facing in their day-to-day levee safety activities as government officials, state agency representatives, levee owners and/or operators, tribal members, emergency management officials and private contractors. Many high-level themes emerged during these conversations, including difficulty in operating and maintaining levees due to insufficient funding and staffing, and cumbersome and/or conflicting regulations; lack of public awareness of risks and benefits associated with levees; and inconsistent characterization of levee risk.

As the nation looks to make the next generation of investments in flood risk management, USACE and FEMA, alongside key stakeholders, are working together to coordinate efforts and increase community resilience, which makes this an exciting time to be involved in the National Levee Safety Program.

Stakeholders also wanted to ensure that (1) the national levee safety guidelines are scalable for different situations around the country and take a holistic approach to the floodplain; (2) formal levee safety programs do not create an additional burden on levee safety activities; (3) accurate data, which inform important levee management decisions, are available in the National Levee Database, and (4) USACE and FEMA, co-leads of the National Levee Safety Program, take a hard look at their existing programs to increase efficiency.

The National Levee Safety Program team is compiling all stakeholder comments received during Phase One and developing a summary report that will be available for download at www.leveesafety.org. In addition, the team will be preparing draft products that stakeholders will be able to review and provide feedback on during Phase Two, which will begin this fall.

Nearly two-thirds of Americans live in a county that relies on levees to help reduce the impacts of flooding. As the nation looks to make the next generation of investments in flood risk management, USACE and FEMA, alongside key stakeholders, are working together to coordinate efforts and increase community resilience, which makes this an exciting time to be involved in the National Levee Safety Program. For the latest program updates, including upcoming stakeholder engagement opportunities, visit www.leveesafety.org.



Successful flood project benefits small village and New York City miles away

By JoAnne Castagna, Ed.D., USACE New York District

Matthew Krzyston grew up in the village of Delhi, a rural community located in Delaware County, New York.

"I grew up half a mile downstream from Reservoir Park. As a young kid, my parents would take me there to picnic and play in Steele Brook," said Krzyston. "It was a special place that people of all ages loved to visit. However, during storm events, extreme eroding of the streambanks caused trees and clay sediment to fall into the stream. This created flooding in the village and made it impossible to even enter the park and it was basically forgotten."

Four decades later, Krzyston is part of a team of people that helped to change this. Today he's a member of council with the town of Delhi and a member of Delhi's Joint Flood Mitigation Committee. The committee with the help of the U.S. Army Corps of Engineers (USACE), New York District, restored Steele Brook's banks and as a result, there is less flooding, improved water quality, and it's giving new life to Reservoir Park.

"Now the park is more accessible and more beautiful than it ever was before. I was excited to bring my boys – ages 13 and 15 – back to the same park where my parents had brought me. When we entered, they were amazed that they had never seen this hidden gem that is right up the road. My youngest looked around and said it felt like we were in a National Park. We will be returning often," said Krzyston.

The Steele Brook Streambank Stabilization Project is one of many that USACE has performed under its New

Matthew Krzyston and other members of Delhi's Joint Flood Mitigation Committee having a discussion at Reservoir Park while work was in progress. (Delhi's Joint Flood Mitigation Committee, Nov. 2021)

Completed Project. (Delaware County Soil and Water Conservation District, Nov. 2021

Continued on page 8

York City Watershed Environmental Assistance Program. Rifat Salim, project manager, USACE New York District said, "This program funds projects that are protecting the water quality of New York state's watersheds that provide drinking water to millions of New York City residents and businesses."

Steele Brook flows into the West Branch Delaware River that is located in the heart of the village of Delhi. The West Branch flows into the Cannonsville Reservoir, one of several large upstate reservoirs that supply more than 1 billion gallons a day to the New York City water supply system.

If a streambank is eroding and trees and clay sediment are falling down the streambank and into the waterway, this can reduce the quality of the water that will eventually become the public's drinking water and it can also cause flooding.

Before the project got started, the stream's banks were eroding, causing trees and clay sediment to fall into the stream. (Delaware County Soil and Water Conservation District, June 2017)

New York City Watershed System

The New York City watershed region encompasses approximately 2,000 square miles of land north of New York City.

The land includes three watershed systems – the Catskill, Delaware, and Croton systems – that are located in the counties of Greene, Schoharie, Ulster, Sullivan, Westchester, Putnam, Dutchess and Delaware.

A watershed is an area of land that catches rain and snow that drains or seeps into a marsh, stream, river, lake or groundwater.

This water eventually gets stored in reservoirs, places where water is collected and kept for use when wanted, such as to supply a city.

The New York City Watershed System provides more than 90 percent of New York City's water supply. This comes to approximately 9.5 million people.

New York City makes sure that this water is safe by treating it at the source rather than building a costly filtration plant. The source is the land that surrounds the streams, rivers, lakes and reservoirs.

"In 1996, all of the municipalities in the New York City watershed region came to an agreement. They wanted to avoid the creation of a huge filtration plant. Instead of a plant they agreed to have small projects throughout the region to provide the public with clean water with minimal filtration. This is how our New York City Watershed Environmental Assistance Program came about," said Rifat Salim, project manager, New York District, U.S. Army Corps of Engineers.

A portion of Steele Brook's streambank was showing a great deal of erosion. During storm events, trees and clay sediment washed down from the banks, into the stream, and down the waterway. This debris got lodged under bridges within the village causing the water to overtop and cause extreme flooding for the residents and businesses, impacting a population of approximately 3,100.

Krzyston said, "I witnessed flooding within the Village, stemming from Steele Brook, on two occasions. Two important bridges were almost completely blocked with woody debris that had eroded from the riverbank. Floodwater jumped the banks, flowed down Main Street, and entered residential, businesses and municipal properties. Municipal workers and local businesses took emergency action, using heavy equipment to remove the woody debris that was blocking the bridges. This action allowed Steele Brook to pass under the bridges

Continued on page 9

and water levels to subside back within the river's banks."

In order to restore the streambank to reduce flooding and improve water quality, several agencies collaborated including USACE, the New York State Department of Environmental Conservation, the New York City Department of Environmental Protection, the village of Delhi and Delhi's Joint Flood Mitigation Committee, the Delaware County Department of Watershed Affairs, and the Delaware County Soil and Water Conservation District.

The streambank stabilization work included clearing the falling trees and debris from the 632-foot-long Steele Brook and its 21-foot-high slopes to stabilize the streambanks.

Along the edges of the stream, loose stones were placed. The stones slow down the stream and reduce potential damages downstream.

Also, along the stream border, a stacked rock wall was built. This was done to prevent sediment from running off the slopes into the stream during storm events.

Above the stacked rock wall, 8,414 feet of the bank that was eroding was revegetated with native plants, including native willow live stakes.

Graydon Dutcher, stream program coordinator with the Delaware County Soil and Water Conservation District, said, "The plants' roots stabilize the soil and prevent the soil from running into the river. The vegetation also traps and absorbs sediment and pollutants, like harmful phosphorus and nitrogen particles, from entering the stream."

These pollutants can come from nearby roads. Dutcher said, "When streambanks are eroded, it makes it easier for soil and pollutants to travel from roads to bodies of water. During storm events, water on roads can sweep up contaminants and transport them to bodies of water, such as a stream, adversely affecting the water that will eventually become a part of the water supply. Now with the newly planted vegetation, the flood water will drain from the road and filter through this vegetation before entering the stream."

Completed Project. (Delaware County Soil and Water Conservation District, Nov. 2021)

Another way to prevent pollutants from traveling from roads to the stream is by making sure there is a healthy floodplain. The stream was realigned to include a floodplain. A floodplain is an area of low-lying ground that is adjacent to the stream that keeps a stream clean by filtering the water that runs from roads into the stream and absorbing pollutants before they enter the stream. Floodplains also provide space for water to spread out and slow down during big storm events. Because of Steele Brook's steep side slopes, there was little to no floodplain, so the water ran straight into the stream without getting filtered.

Preventing sediment from entering the stream is not only beneficial to the public's water supply, but also to aquatic habitats. Clay sediment can reduce oxygen in the water, suffocating aquatic wildlife.

To further protect aquatic habitats, a mixture of deep and shallow water depths was created in the stream to support different types of fish and invertebrate life.

Deep waters – or pools – were created. Pools have slow-moving waters that are favorite places for certain species of fish, such as trout, to hang out.

Shallow water – or riffles – were also created. Riffles are faster moving sections of a steam, where rocks break the water surface. When the water rushes over the rocks it adds oxygen to the water. These are good places for certain insects to live.

In addition, this project has given the public access to Reservoir Park once again and the village is encouraging visitors. According to the mayor of Delhi, picnic tables and grills will be placed in Reservoir Park to encourage not only locals to enjoy the area, but also visitors from New York City.

Krzyston added, "The flood commission members are very grateful to the Army Corps for the role they played in this project. I considered this to be an emergency. We have the local know-how and energy to address these types of emergency situations. However, it is very difficult – sometimes even impossible – to implement these projects without support from the Army Corps. While the project was designed to ensure public safety, the social and recreational benefits to the local population are immeasurable. There will be many family memories made at Reservoir Park."

Healthy Kansas Watersheds – the benefits of regenerative agricultural practices for reducing flood risks

By Brian Rast, USACE Kansas City District

Members of the Kansas Hazard Mitigation Team (KHMT), which also functions as the state Silver Jackets team, are examining regenerative agricultural practices as a possible tool for reducing flood risks.

Regenerative agriculture (or a soil health management system) utilizes farming and grazing practices that restore soil biodiversity and increase organic matter. Such practices include no-till or minimum tillage cultivation, use of cover crops and crop rotations, planting perennials and trees, composting, and use of high-density "mob-grazing" practices that allow for longer periods of grass recovery, among others. Regenerative agriculture focuses on enhancing soil health to promote sustainable food production while also restoring and conserving ecosystem services.

July 2021 field trip to Axtell, Kansas, where a class led by Bill Buessing, Buessing Farms, presented no till land use practices to other farmers and watershed groups. (Brian Rast, July 2021)

The Kansas Department of Health and Environment (KDHE) encourages adoption of regenerative agricultural practices for purposes of preserving soil quality and reducing nonpoint source runoff as part of its Watershed Restoration and Protection Strategy. Scott Satterthwaite, an environmental specialist at KDHE and member of the KHMT, has worked with Kansas watershed groups on projects funded by the Environmental Protection Agency Section 319 grants to implement regenerative agricultural practices as a means of reducing nonpoint source pollution.

From these experiences, Satterthwaite recognized that regenerative agriculture also offers promise as a way of managing flood risk. "What I realized," says Satterthwaite, "is water quality and water quantity (issues) were merging." The additional organic soil content resulting from regenerative agricultural practices tends to increase the rate at which the soil absorbs water, referred to as "soil infiltration." Greater soil infiltration can help diminish flood flows.

Satterthwaite and other KHMT Silver Jackets members recognized the potential of regenerative agricultural practices as a tool for reducing flood flows but did not know what scale of adoption would be necessary to realize such benefits. The degree to which regenerative agricultural practice can contribute to reducing flood flows is determined by several factors, including the number of landowners willing to adopt such practices; the amount of agricultural or grazing land on which such practices could be applied; and the degree to which the practices improve infiltration, consequently reducing flood flows and water levels.

Without a better understanding of the relationship between regenerative agricultural practices and their impact on flood flows, the KHMT team members had limited ability to consider policies or programs that would further encourage adoption of regenerative agricultural practices for purposes of achieving the added flood risk reduction benefits.

In response to this need, KHMT Silver Jackets members collaborated on a project, dubbed "Healthy Kansas Watersheds," to analyze the impacts that regenerative agricultural land use practices could have on flood flows and water depths in a Kansas watershed. Agencies contributing to this project included the Kansas Department of Health and Environment, the Kansas Department of Agriculture's Division

Continued on page 11

In August 2021, the project team visited the Clay Center, Kansas testing site where they examined a field of sorghum that was part of the no till land us practices in use. (Brian Rast, Aug. 2021)

of Water Resources and Division of Conservation, the Kansas Division of Emergency Management, the U.S. Agriculture Department's Natural Resources Conservation Service and USACE. USACE technical assistance to this study was funded through the Floodplain Management Services Program (FPMS) as an interagency nonstructural project. FPMS authorities allow for considering changes in land use practices as a type of nonstructural option for reducing flood risks.

The team developed a hydrologic model evaluating the relationship between the level of regenerative agricultural practices adopted and the resulting impacts on flood flows and water depths. After selecting a watershed containing a mix of agricultural and grazing practices that are typical for Kansas, the team mapped those areas within the watershed that were currently either grazing land or cropland and considered that acreage to be available to implement regenerative agricultural practices.

The team then drew on past research to identify the relationship between various levels of adoption of regenerative agriculture on both the organic matter content of soils and the possible increases to the ability of saturated soils to allow water movement.

Using the model, the team conducted sensitivity analyses to identify which variables would lead to reduced flood peaks if the modelled regenerative agricultural practices were adopted watershed-wide. Results of the analysis showed that soils benefitting from increased organic content due to regenerative agricultural practices can reduce downstream flows as much as 8 percent.

The information generated by the team's work will inform KHMT's efforts to design policies and programs that support adoption of regenerative agricultural practices for purposes of managing flood risks. Based on the study findings, the team believes that regenerative agricultural practice can serve as a tool to address current flood risks. Additionally, the team sees potential for regenerative agricultural practices to offer dual benefits for addressing future potential increases in flood risk due to climate change. Many practices can help reduce greenhouse gas emissions by capturing carbon in cover crops, trees and the soil. The increase in soil organic matter acts as a climate mitigation measure by sinking carbon. Additionally, the Kansas Healthy Watersheds Study findings suggest that regenerative agricultural practices can be an effective climate adaptation measure by reducing flood risks resulting from climate change by increasing the capacity of soils to absorb rainfall runoff and reduce peak flood flows. The project also includes a sensitivity analysis using new rainfall intensity increase factors projected by the National Weather Service's Atlas-14 precipitation frequency atlas of the United States. These findings will promote further investigative work for similar watershed-wide practices.

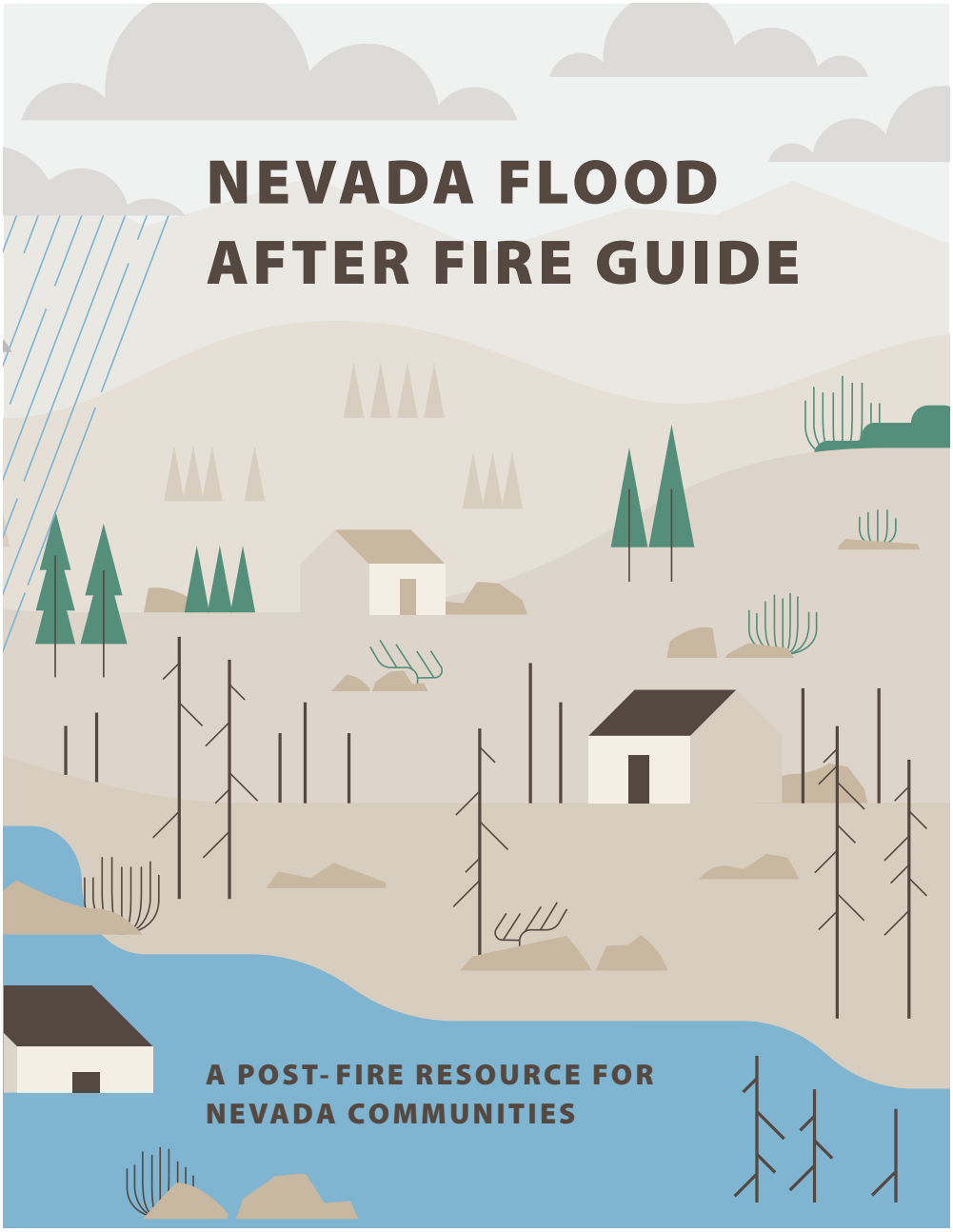
The team's findings are documented in the technical report "Kansas Healthy Watershed Study, Hydrologic Modeling Sensitivity to Soil Parameters Soldier Creek Watershed" and the report appendices.

Nevada Silver Jackets develop a Flood After Fire Guide

By Jess Edwards, USACE Sacramento District

Like other western states, Nevada is facing increasingly severe wildfires. These fires can create hazards that persist for weeks, months or even years after a fire is put out and often result in flash-flooding, debris flows, rock falls, roadway erosion and burned and distressed trees. Also, if ground temperatures impacted by a wildfire become hot enough, impermeable layers within the soil can develop and lead to an increased risk of excess water runoff during rainstorms, triggering destructive flooding conditions.

A highlight of Silver Jackets is that it brings together national, state and local partners to assist communities through tough challenges, like flood risk after a wildfire, and prepare themselves for a more resilient future. It was through such an interagency effort that the Nevada Silver Jackets team developed the Nevada Flood After Fire Guide to help minimize flood after fire risks by increasing community awareness and preparedness. The guide provides a consolidated, easy-to-use resource to help Nevada residents find the most pertinent information and resources available to easily and safely navigate the planning and recovery processes. It provides content on ways to stay safe in a flood, how to prepare one's property, evacuation preparation and checklists, ways to stay informed (weather, safety apps, and alerts), post-fire hazards awareness, and available programs to help with recovery. As stated by Danae Olsen, U.S. Army Corps of Engineers (USACE) Sacramento District project manager for the Nevada Flood After Fire Guide, "The hope is this guide will be an easily digestible and useful resource for Nevada residents, and that through the content provided in the document residents will be better prepared for the risks associated with flooding after a wildfire."



Cover of the recently published Nevada Flood After Fire Guide. (Adapted from the Nevada Flood After Fire Guide, publication #SP-21-14, with permission from the University of Nevada, Reno Extension and the Living With Fire Program. Published Feb. 3, 2022)

Silver Jackets partners that assisted with interagency development of the Nevada Flood After Fire Guide included representatives from the University of Nevada Reno (UNR) Extension Living with Fire Program, Federal Emergency Management Agency, National Weather

Continued on page 13

Infographic showing how to stay safe in a flood. (Adapted from the Nevada Flood After Fire Guide, publication #SP-21-14, with permission from the University of Nevada, Reno Extension and the Living With Fire Program. Published Feb. 3, 2022)

Service, Nevada Division of Emergency Management, Nevada Division of Environmental Protection, Nevada Division of Water Resources, Carson Water Subconservancy District and USACE. The USACE Sacramento District co-led multiple internal and external reviews and collaborated virtually with project partners to develop the guide from a concept into a peer reviewed, published document. The guide is hosted on the UNR Extension's Living with Fire website. The guide has been printed and distributed to the Nevada project partners for continued use and further distribution at future flood awareness and outreach events.

USACE Sacramento District gave a presentation about flood after fire and highlighted the ongoing development of the Nevada Flood After Fire Guide at the 2021 Living with Fire Virtual Series. A recording of that presentation can be found on the series website.

Another highlight of Silver Jackets is that interagency collaboration and creativity often foster new opportunities to blossom beyond an initial idea and goals. One such gem occurred during a virtual outreach event held during Nevada Flood Awareness Week in November 2021, which sparked the idea to develop and host a hybrid (in-person and virtual) flood after fire workshop for Nevada's Douglas County residents, who recently experienced the second largest wildfire in the state's history. Members of the Nevada Silver Jackets team held a successful hybrid (in-person/virtual) Douglas County Flood After Fire Workshop in February 2022 for residents with presentations made by USACE, Douglas County, CWSD, East Fork Fire Department, Nevada Division of Water Resources, Nevada Rural Water Association, NWS and United States Geological Survey office.

Another highlight of Silver Jackets is that interagency collaboration and creativity often foster new opportunities to blossom beyond an initial idea and goals.

The big reveal! A new Silver Jackets logo

A conversation with Ellen Berggren, former national Silver Jackets Program Manager

The National Flood Risk Management Program recently unveiled a new Silver Jackets logo! The FRM Buzz sits down with Ellen Berggren, former national Silver Jackets program manager, to ask her a few questions about the program and the messages behind the new logo.

Question: What is Silver Jackets and what do the teams do?

Berggren: The Silver Jackets is a component of the U.S. Army Corps of Engineers (USACE) National Flood Risk Management Program (NFRMP), which promotes integrated flood risk management solutions that focus on life-cycle risk reduction and shared responsibility. The USACE Headquarters Office of Homeland Security is the NFRMP champion, with the Institute for Water Resources managing national execution of the program.

Silver Jackets teams are interagency teams that facilitate collaborative solutions to state flood risk priorities. The state-led teams bring together multiple state, federal, and sometimes tribal and local agencies to learn from one another and work together to reduce risk from floods and sometimes other natural disasters. By applying their shared knowledge, the teams enhance preparedness, mitigation, and response and recovery efforts. The state or territory sets the priorities, with each agency member supporting the team using its own programs and resources within the constraints of available budgets and agency authorities. USACE funds staff at its local district offices to support each of the established Silver Jackets teams.

The new Silver Jackets logo includes puzzle pieces joined together representing "many partners" forming "one team," or fitting together to form a solution. Individualized logos were created for each Silver Jackets team, with the outline of the state or territory replacing the Silver Jackets mascot. (USACE, 2022)

Question: Where did the concept for Silver Jackets come from? Why 'silver' and 'jackets'?

Berggren: The Silver Jackets idea originated with USACE who partnered with the Federal Emergency Management Agency (FEMA) to advance the concept of interagency state-led teams that would bring together federal and state partners dedicated to flood risk management. The idea for the name came from a play on words. During disaster response, FEMA wears blue jackets and USACE wears red; the name "Silver Jackets" was coined to represent the many agencies working together to tackle flooding issues.

Question: Why the new logo?

Berggren: The first pilot Silver Jackets teams were formed in Ohio in 2005 and Indiana in 2006. Since then, 54 Silver Jackets teams have formed in all 50 states, three territories (Guam, Puerto Rico, and U.S. Virgin Islands) and the District of Columbia. Along with the growth in number of teams, Silver Jackets teams have evolved to tackle a wide range of issues and challenges since the development of the original logo in 2009. The timing was right to create a new logo, to freshen and modernize it and to better reflect what Silver Jackets represents.

Question: What is different and significant about the new logo?

Berggren: As part of the process to develop a new logo, we asked Silver Jackets teams what they liked or disliked about the former logo and what the new logo should communicate. The new logo maintains elements of the former logo that respondents liked, such as the motto "Many Partners, One Team," and added new elements to convey concepts that respondents felt were not clearly conveyed by the former logo, such as teamwork, partnerships, shared responsibility and flooding.

The new logo maintains a simple design but communicates a more complex message than the previous logo.

Continued on page 15

New elements include puzzle pieces joined together, representing "many partners" forming "one team" or fitting together to form a solution. The white outline of the puzzle pieces can also be interpreted to represent team members with arms reaching out to connect and form the team symbolized by the Silver Jackets mascot (a yellowjacket wasp wearing a silver jacket). The mascot has been scaled down in size so that it does not compete with the new elements, while maintaining the reference to the Silver Jackets name. The background includes blue waves to represent water. In addition, logos were created for each Silver Jackets team, with the outline of the state or territory replacing the Silver Jackets mascot. This allows each team a unique logo while maintaining continuity in branding and messaging.

The new logo maintains a simple design but communicates a more complex message than the previous logo. With modern graphics and color scheme, the new logo effectively symbolizes the partnership and teamwork behind Silver Jackets teams and their efforts to manage flood risk.

Please contact Lacey Thomason, Acting National Silver Jackets Program Manager, with any questions about the logo (or Silver Jackets) at IWR.SilverJackets@usace. army.mil. Learn more about Silver Jackets teams in action at https://silverjackets.nfrmp.us/.

Round the National Silver Jackets table

The National Silver Jackets Team is composed of 13 federal agencies that meet quarterly. "Round the Table" is a standing agenda item at National Team meetings, with each agency sharing new tools, publications, initiatives, and information exchange and learning opportunities. Contact the National Team at IWR.SilverJackets@usace.army.mil.

Recorded Webinars

National Silver Jackets team member agencies frequently present at monthly Silver Jackets webinars. Recent recorded presentations provided by USACE agency team members are posted on the Silver Jackets webpage and include:

- USACE Call for FY23 Interagency Nonstructural Flood Risk Management Proposals (Floodplain Management Services Program) (February 2022)
- USACE The Coastal Hazards System (February 2022)
- USACE Regulatory Program and Permits Overview – Clean Water Act/River and Harbors Act (April 2022)
- USACE Corps Water Infrastructure Financing Program (June 2022)

Bipartisan Infrastructure Law

Many National Silver Jackets team agencies will receive funding under this law which, among other purposes, seeks to improve the resilience of the nation's infrastructure to changing climate and natural disasters. An online Guidebook details the many agency programs funded by the law and includes a sortable table of program data.

EPA

- EJScreen, an environmental justice and mapping tool developed by the EPA, uses nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports. The tool, user guide and video tutorials are available online.
- EPA and the American Association for the Advancement of Science have hosted several webinars and convenings about green infrastructure and nature-based solutions, including panel discussions with states, communities and non-governmental entities, as well as federal agency convenings, about barriers to equitable implementation.
- EPA's Office of Community Revitalization provides Equitable Resilience technical assistance to four state and tribal governments to plan projects that build resilience to climate change, natural disasters, and/or industrial or hazardous materials risk. The projects use American Rescue Plan funding.

Continued on page 16

FEMA

- Updated state and local mitigation planning policy guides have been released to support consistent evaluation and approval of hazard mitigation plans.
- FEMA and AARP have partnered to release a Guide to Expanding Mitigation: Making the Connection to Older Adults, discussing how natural hazards affect older adults with tips to reduce risk. FEMA has also released a Guide to Expanding Mitigation: Making the Connection to the Coast, exploring issues and hazards that affect coastal communities with resources and risk reduction best practices.

FHWA

The National Highway Institute has released four one-hour web-based courses focused on resilience to climate change and extreme events. The courses provide an introduction to past and expected future environmental conditions, future sea levels, climate datasets and modeling tools for temperature and precipitation change, system level vulnerability assessment, and methods for conducting project-level resilience assessments.

- FHWA-NHI-142081 Understanding Past, Current and Future Climate Conditions
- FHWA-NHI-142082 Introduction to Temperature and Precipitation Projections
- FHWA-NHI-142083 Systems Level Vulnerability Assessments
- FHWA-NHI-142084 Adaptation Analysis for Project Decision Making

NOAA NWS

- Links to National Water Center Products and Services, Operational and Experimental.

USACE

- Bridging the Equity Gap: Flood Resilience for the Whole Community – Organized and moderated by the San Francisco District, National Flood Risk Management Program team, the latest recorded webinars in the series include:
  - Feb. 9, 2022, No Resilience without Representation: A Discussion in Building a Diverse and Inclusive Flood Risk Management Workforce
  - March 3, 2022, When Communities Lead: Environmental Justice through Participatory Flood Risk Management
  - June 7, 2022, Out of Harm's Way Without Harm: Environmental and Climate Justice in Flood Buyouts and Relocation

National Silver Jackets Team Participating Agencies

- Economic Development Administration (EDA)
- Environmental Protection Agency (EPA)
- Federal Emergency Management Agency (FEMA)
- Federal Highway Administration (FHWA)
- National Aeronautics & Space Administration (NASA)
- National Park Service (NPS)
- 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. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)
- U.S. Housing and Urban Development (HUD)

- Engineering with Nature, Seasons 3 and 4 podcasts – Recent topics include:
  - USACE, NOAA and the Value of Partnership
  - Scaling Up, Up, Up with CSTORM and Engineering with Nature
  - Leveraging Federal Partnering to Infuse Nature into Urban Community Resilience
  - Parks and Refuges Embrace the Future of Adaptive Management
  - Engineering with Nature for Safe and Livable Cities
  - Follow-up to the Natural and Nature-based Features Guidelines Launch

The Urban Institute releases State Flood Resilience and Adaptation Planning Challenges and Opportunities research report. This March 2022 report assesses the current state of state-level flood planning with a survey and analysis of 148 state plans nationwide that address flooding, along with in-depth interviews in Iowa, Colorado, North Carolina, Washington and Florida. The report provides cross-cutting observations about the strengths and limitations of approaches states employ to plan for flood hazard mitigation, adaptation and resilience. It offers examples of innovative practices, including watershed-level planning by the Iowa Watershed Approach, the state of Colorado's use of resiliency criteria in planning, and mitigation programs such as Floodplains by Design in Washington. The report concludes by describing actions states can take to improve their flood planning to be more strategic, to address the needs of low-resourced communities, to incorporate more rigorous and comprehensive probabilistic flood modeling and to more fully engage the public in the planning process.

FEMA's Floodplain Management Training, Education and Development Committee releases its new online National Flood Insurance Program (NFIP) training course, NFIP 101. This training is hosted in partnership with the Association of State Floodplain Managers (ASFPM) and will help new and experienced floodplain administrators, emergency managers, elected officials and others learn more about the NFIP and its requirements. New floodplain administrators will also learn how floodplain management decisions affect insurance, health, and public safety.

This self-led course is free and does not require ASFPM membership. It is nine sections long and will take about 14-18 hours to complete. There is no time limit, so you can finish the course over days, weeks, or months. The course can be used in two ways. The first way is for those new to Floodplain Management who wish to learn the basics. This route concludes with an exam and, if passed, confers 12 continuing education credits from ASFPM. The course is also useful to more experienced FPAs who are seeking a refresher on basic floodplain management tools, terms, and concepts

The committee plans to expand the current course with more updates and topics next year. Access the new NFIP 101 training here. (Thank you to Matt Buddie, FEMA, for providing this update)

USACE Flood Risk Management Planning Center of Expertise certifies updated planning models. The U.S. Army Corps of Engineers (USACE) Flood Risk Management Planning Center of Expertise (FRM PCX) is composed of individuals within the agency designated as experts qualified to support the planning community through a variety of services such as conducting peer reviews, providing technical advice and offering training. The FRM PCX is also responsible for certifying planning models used by the agency in accordance with approved model certification protocol.

The FRM PCX recently certified updates to two key models widely used by the flood risk management planning community, the Hydrologic Engineering Center's Flood Damage Analysis (HEC-FDA) software version 1.4.3 and the Risk Management Center's LifeSim 2.0

FDA 1.4.3 Certification: In the fourth quarter of fiscal 2021, the FRM PCX nationally certified the Hydrologic Engineering Center's Flood Damage Analysis (HEC-FDA) software version 1.4.3 for economic risk analysis. HEC-FDA 1.4.3 is an update to the previously nationally certified iteration of the HEC-FDA software, version 1.4.2. The 1.4.3 version is modified to better account for damages from infrequent flood events, such as low-frequency events used in dam safety. It uses additional computation points for highly infrequent events when computing the probability-damage relationship to ensure that small differences in the inflow-outflow relationship are captured in project performance and expected annual damages results. Additionally, HEC-FDA version 1.4.3 includes improvements to database storage and data accessibility. HEC-FDA 1.4.3 is the last iteration of the HEC-FDA software in the 1.4 version series. A major version update is underway and the next version of HEC-FDA will be version 2.0.

For the USACE flood risk management planning community, new studies initiated in fiscal 2022 should use HEC-FDA version 1.4.3. More information about HEC-FDA 1.4.3, including the release notes, can be found on the HEC-FDA documentations page. To download the HEC-FDA 1.4.3 software, use the HEC-FDA download link.

LifeSim 2.0 Certification: In the first quarter of fiscal 2022, the Flood Risk Management Planning Center of Expertise (FRM-PCX) nationally certified the Risk Management Center's LifeSim 2.0 for use in planning studies. LifeSim 2.0 models the potential life loss consequences and economic consequences for specific flood events. Results are reported geospatially, tabularly and graphically.

LifeSim 2.0 is an "agent based' dynamic simulation model, which means each simulation tracks the movements of individual people through the warning and evacuation

Continued on page 18

process. By modelling the movements of individuals, LifeSim can help identify where people are most at risk of losing their lives, whether it is on roads or in structures. This makes it possible to pinpoint the locations of greatest potential life loss, which is useful when developing alternative project formulations.

LifeSim 2.0 also offers a fuller modelling of the effects of flooding on life loss and structure damage. Most consequence models only measure the effects of submergence, that is the effects of water depth on structure damage and life loss. LifeSim 2.0 also models stability, which incorporates consideration of both water depth and velocity to measure the potential for a structure to be toppled, a vehicle to be swept downstream, or a person to be knocked off their feet and swept downstream.

A complete discussion of the workflow and computation logic in LifeSim 2.0 is provided in the Technical Reference Manual available here on the RMC website along with the software, training videos, the LifeSim 2.0 Validation Study and the User's Manual. (Thank you to Jesse E. Morrill-Winter, USACE South Pacific Division, FRM-PCX, for providing this update)

2022 Sea Level Rise Technical Report provides up-to-date sea level rise projections available for all U.S. states and territories. Published in February 2022, the report is a product of the Sea Level Rise and Coastal Flood Hazard and Tools Interagency Task Force. It provides the first update on sea level rise since 2017 and provides projections to the year 2150. The report provides technical input for the Fifth National Climate Assessment that is underway. Report data will also be incorporated into a variety of agency tools and already are available in NOAA's Sea Level Rise Viewer and NASA's Task Force Projection Tool, which can be used to access information for particular communities or regions.

The Flood Science Center at the Association of State Floodplain Managers (ASFPM) creates ReduceFloodRisk.org, a web-based library of flood mitigation strategies and resources. This website assists property owners, renters and buyers with accessing information about flood risk mitigation actions they can take to protect their homes, businesses and neighborhoods from flooding. It is a repository of flood mitigation information and resources combined with an interactive interface designed to assist users with exploring what mitigation strategies best address their unique needs and circumstances. Users can opt to work their way through a guided process by answering a series of questions to home in on the strategies that are most relevant to their needs. Or they can browse through the full selection of resources and strategies on their own. Resources provided on the site include information about the National Flood Insurance Program and financial assistance available to support flood risk mitigation work.

UPCOMING EVENTS

Workshops and Conferences

Dam Safety 2022 Association of State Dam Safety Officials (ASDSO) national conference. Sept. 18-22, 2022. Baltimore, MD.

Oklahoma Floodplain Managers Association Annual Conference 2022. Sept. 18-22, 2022. Durant, OK.

Northwest Regional Floodplain Management Association 2022 Annual Conference. Theme: "Life along the Columbia and Beyond." Sept. 19-22, 2022. Vancouver, WA.

ASCE Convention 2022 American Society of Civil Engineers. Oct. 23-26, 2022. Anaheim, CA.

Interstate Council on Water Policy 2022 Annual Meeting. Oct. 25-27, 2022. Davenport, Iowa

Arizona Floodplain Management Association Fall 2022 Conference. Oct. 26-28, 2022. Tempe, AZ.

Flood Expo Flood Exhibition and Conference. Nov. 9-10, 2022. Anaheim, CA.

37th International Conference on Coastal Engineering. Dec. 4-7, 2022. Sydney, Australia

Texas Floodplain Management Association (TFMA) 2023 Annual Meeting. March 7-10, 2023. Houston, TX.

2023 ASFPM 47th Annual Conference. May 7-11, 2023. Raleigh, NC.

Indiana Association for Floodplain and Stormwater Management 2023 Annual Conference. Sept. 13-15, 2023. Florence, IN.

Courses, Webinars and Resources

The Law's the Limit: Sea Level Rise Adaptation and Local Government. Part of the Planning Information Exchange seminar series, this recorded webinar focuses on sea level rise from the perspective of local government by addressing the legal implications of rising seas and discussing how communities can adapt.

Linking Conservation and the FEMA Community Rating System: Tools to Protect Habitat, Enhance Coastal Resilience and Reduce Flood. Part of the Planning Information Exchange seminar series, this recorded webinar describes The Nature Conservancy's efforts to link conservation and restoration with CRS. Conservation activities, such as buying and protecting undeveloped lands and restoring wetlands, are 'nature-based solutions' that are creditable under CRS.

What You Should Know in Floodplain Management: Federal, State and the NFIP. An online training webinar offered by the Texas Floodplain Management Association.

What's New or Not in the Floodplain World. This training webinar is offered by the Texas Floodplain Management Association. Participants can earn four continuing education credits towards their CFM certification requirements.

Protecting Your Community - Floodplain 101. A training webinar offered by the Texas Floodplain Management Association providing a basic introduction to floodplain management and the National Flood Insurance Program.

ASFPM On-Demand Learning provides online courses pertinent to floodplain management and approved for continuing education credits (CECs) for Certified Floodplain Managers. New courses are regularly added.

Continued on page 20

UPCOMING EVENTS

ASFPM Online University with Vector Solutions provides over 150 online courses preapproved for Continuing Education Credits for Certified Floodplain Managers. New classes are added on a regular basis.

EPA Regional Resilience Tool Kit and presentation. EPA recently released its Regional Resilience Toolkit, for addressing regional resilience planning needs to address hazards from natural disasters and is working with a handful of pilot communities.

EPA recorded webinar "Lessons Learned on Integrating Water Quality and Nature-based Approaches into Hazard Mitigation Plans" describes two pilot projects that integrated watershed planning, green infrastructure practices and source water protection into FEMA hazard mitigation plans.

Natural Disaster Training Preparedness Center (NDPTC) at the University of Hawaii offers training and educational programs related to homeland security and disaster management, with a specific focus on natural hazards, coastal communities, and the special needs and opportunities of islands and territories. The NDPTC actively engages internally with FEMA and the University of Hawaii, as well as with external partners across the region to integrate the delivery of its trainings, products and services

Natural Hazards Center CONVERGE Training Modules

- Social Vulnerability and Disasters.
- Disaster Mental Health.
- Cultural Competence in Hazards and Disaster Research.
- Conducting Emotionally Challenging Research.
- Institutional Review Board Procedures and Extreme Events Research.

FEMA Virtual K0705 Fundamentals of Grants Management courses are intended to assist FEMA grant recipients strengthen grant management skills.

FEMA Emergency Management Institute full course schedule posted. Admissions: 301-447-1000, netcadmissions@fema.dhs. gov.

ASFPM Webinar Series addresses cutting-edge issues, techniques and best practices in floodplain management.

Natural Hazards Center Making Mitigation Work Webinars feature innovative speakers and highlight recent progress in mitigation policy, practice and research. A schedule of upcoming webinars is listed on the main series page. An archive of past webinars is available here.

Community Rating System Training Webinars include past recorded webinars and a schedule of upcoming live webinars.

FEMA - Where & How We Build: Using Land Use and Building Codes to Increase Resilience is a recorded webinar describing the role that land-use planning and building codes play in reducing disaster risk.

EPA – Leading Edge Stormwater Financing webinars is a recorded webinar series on innovative stormwater financing.

FEMA Region 2 Preparedness and Resilience Webinars addressing issues related to preparedness, response, mitigation and resiliency.

Continued on page 21

UPCOMING EVENTS

CTP Information Exchange conducts quarterly webinars supporting the Cooperating Technical Partners (CTP) Program's approach to creating partnerships between FEMA and participating NFIP communities, regional agencies, state agencies, tribes and universities to become active participants in the FEMA flood hazard mapping program. Webinars are produced quarterly and are free to attend. This site provides access to recordings of previous webinars.

Silver Jackets Webinars offers access to recordings of past Silver Jackets webinars, 2011 through 2021.

Outreach of ASFPM Conference Sessions provide online access to session presentations from the past ASFPM Annual National Conference. Includes presentations on flood insurance and floodplain management-related topics.

American Planning Association Knowledge Center provides an online repository of planning resources relating to a variety of topics, including:

- Disaster Recovery.
- Hazard Planning.

Adapting Risk Communications to Create Equitable Mitigation Strategies. This recording of an ASFPM presentation provides case studies informing effective strategies for communicating and partnering with socially, politically and economically vulnerable communities.

Building Alliances for Equitable Resilience. This resource from FEMA and the Resilient Nation Partnership Network provides guidance, perspectives, personal stories and resources intended to support community efforts to make equitable and resilient practices part of their day-to-day activities.

International Guidelines on Natural and Nature-Based Features for Flood Risk Management provide practitioners with the best available information concerning the conceptualization, planning, design, engineering, construction, and maintenance of Natural and Nature-Based Features for Flood Risk Management to support resilience and flood risk reduction for coastlines, bays, and estuaries, as well as river and freshwater systems.

Natural Infrastructure Opportunities Tool is a public-facing online tool that assists with identifying natural infrastructure and beneficial use opportunities through the use of map-based visualizations of environmental, geomorphic, and sediment conditions, as well as upcoming USACE projects, and an interface for users to add their resource needs and resource availability.

FEMA – Green Infrastructure Webpage explains the use of nature-based solutions and provides "get started" resources, including types of nature-based practices, funding and planning resources and other resources.

FEMA - Long-Term Community Resilience Exercise Guide provides a "one-stop–shop" for any jurisdiction or organization looking to conduct a climate-focused exercise.

NOAA's new U.S. Climate Normals provides an analysis of U.S. weather of the past three decades by calculating average values for temperature, rainfall and other conditions for the period 1991-2020. These updated calculations give the public, weather forecasters and businesses a standard way to compare today's conditions to 30-year averages.

FEMA - New Building Science Resource Library contains all of FEMA's hazard-specific guidance that focuses on creating disaster-resistance communities.

NOAA - Redesigned Climate Website offers articles about climate science and describes how climate conditions are changing with maps, graphics, features, and videos, as well as classroom-ready teaching resources matched to grade levels and science learning standards.

Continued on page 22

UPCOMING EVENTS

USDA - Disaster Resilience and Recovery Resources – A Guide for Rural Communities is a resource guide released as part of National Preparedness Month to help rural communities seeking disaster resiliency and recovery assistance.

American Flood Coalition - Adaptation for All: How to Build Flood Resilience for Communities of Every Size is a recorded presentation and guide highlighting 26 approaches broken down by cost, benefits, and implementation considerations, to make it easier for communities of any size to evaluate how those approaches can fit into their flood resilience strategies.

ASFPM Conference - Bootstrapping Federal Grants on your Way to Green Resilience is a recorded ASFPM Conference presentation featuring best practices in planning – and funding – nature-based infrastructure and describing how to develop compelling and achievable green infrastructure proposals that improve the likelihood of federal funding.

HUD Disaster Recovery Tools and Templates Library is specifically designed for Community Development Block Grant Disaster Recovery and CDBG Mitigation grantees and provides resources created by technical assistance providers that can help prepare for, design, and implement programs.

USACE Engineering with Nature (EWN) Podcasts, Season 3

- Episode 6 - Parks and Refuges Embrace the Future Through Adaptive Management. Rebecca Beavers, coastal geology and adaptation coordinator for the National Park Service, and Scott Covington, senior ecologist for refuges within the U.S. Fish and Wildlife Service, talk about the importance of connecting people with nature through the parks and refuges and helping them to better understand climate change.
- Episode 7 - Plants as Eco-Engineers and Drivers of Community Resilience. Tosin Sekoni, research ecologist, U.S. Army Corps of Engineers, and Art Froehlich, CEO of AgriView and partner in The Communities for Life Network, talk about the use of plants in the design of natural infrastructure to increase both ecosystem and community resilience.
- Episode 8 - The Dreamt Land – California Water, Sustainability and EWN. Mark Arax, author of the book The Dreamt Land, discusses the history of California's water challenges and the emerging threats of climate change.
- Episode 10 - The Next Generation Makes the Future of EWN Even Brighter. This episode highlights groundbreaking work of three PhD students relating to natural infrastructure.

FEMA Podcast covers topics relating to the agency itself, innovation in the field of emergency management, and stories about communities and individuals recovering after disasters.

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, https://operations.erdc.dren.mil/ideas/index.cfm?CoP=Flood, is the place to submit these research Statements of Need (SoNs).

You can find past issues of this newsletter at https://operations.erdc.dren.mil/flood.cfm. Both the Silver Jackets website and the Flood Risk Management Gateway have weblinks, news items and presentations of interest. Check them 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®