Volume 1 No. 4 **Dec 2020**

FRM BUZZ NEWSLETTER

Reducing Flood Risk: Many Partners, One Team

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US Army Corps of Engineers

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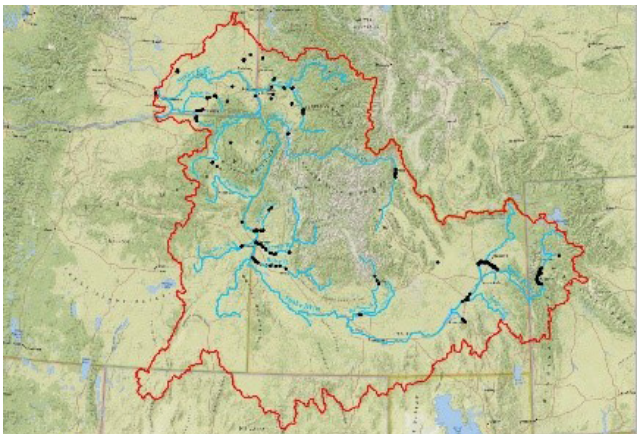

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The Importance of Partnering

By Mark Roupas, Deputy Chief, Office of Homeland Security

Happy Fall and thank you for taking the time to read this edition of the Flood Risk Management Buzz Newsletter. In September, I was able to travel along with our agency's new Deputy Commanding General for Civil and Emergency Operations, Maj. Gen. William (Butch) Graham, and the then Chief of Engineering and Construction, Dr. Christine Altendorf, to visit various locations along the Missouri River within the Kansas City and Omaha districts of the U.S. Army Corps of Engineers (USACE). The primary purpose of this trip was to learn about current efforts within the Missouri River basin, including ongoing levee repair efforts after the 2019 flooding, longer-term efforts to improve resiliency and reduce flood risk, as well as navigation, environmental and endangered species challenges. While not explicitly the purpose of this trip, I was once again reminded about the importance of partnership, especially as I listened and learned from district team members about some of the innovative strategies they have been able to employ in repairing levees, thanks to their strong partnership efforts with local levee sponsors.

Commitment to partnership is a cornerstone of many aspects of USACE, particularly within the Civil Works mission area. Assistant Secretary of the Army for Civil Works, Mr. R.D. James, spoke to this in a video message on partnership in July 2020. He expressed the need to be actively engaged with partners across all Civil Works activities and across all phases of their work. Mr. James stated, and I believe we can all agree, that our efforts as an agency, including our traditional Civil Works projects as well as other activities we undertake within the Flood Risk Management and Emergency Management arenas, would not be as successful as we have been without the expertise our partners bring. The additional data, information, perspectives, and expertise these partnerships bring to our combined efforts are invaluable in our decision-making processes and our successful execution of our various missions.

Within the Office of Homeland Security, I oversee the Flood Risk Management Business Line, the Emergency Management Business Line, the National Flood Risk Management Program (NFRMP) (including the Silver Jackets Program), the Floodplain Management Services Program (FPMS), Public Law 84-99 (including the Rehabilitation Program), the Emergency Management Community of Practice, and the Critical Infrastructure Protection and Resilience Program. The Office of Homeland Security is also involved in the interface into DHS CISA for the Infrastructure Sector, the FEMA Mitigation Framework Leadership Group, partnership with FEMA on the new Building Resilience in Communities (BRIC) program, the relationships with the National Association of Flood and Stormwater Management Agencies (NAFSMA). Partnership is absolutely critical to achieving success for all of these programs. Across these programs, we partner internally, bringing together multiple communities of practice and functional areas to make sure the full expertise and resources of USACE are being brought to bear on challenges and opportunities we face. We also partner with other federal agencies, state, local, and tribal agencies, including local sponsors of USACE Civil Works projects, academic and other research institutions, international partners, and, in some cases, the private sector as well.

The NFRMP was established to improve partnership efforts internally and externally. The Silver Jackets Program, which implements NFRMP principles at the state level, supports USACE district participation on state-led Silver Jackets teams, which bring federal agencies and other partners together to collaboratively address state-identified flood risk management priorities. The FPMS program partners more heavily with local communities to assist in addressing flood risk management challenges. And of course, within the Flood Risk Management Business Line, partnership is critical to the conduct of flood risk management studies, as well as the operations and maintenance of completed projects. In particular, cost-share partners are vital to the success of the Flood Risk Management Business Line.

Many of our readers are already aware that USACE maintains formal liaison officers (LNO) at key federal partners. From the Civil Works Directorate, we have a full-time LNO within the Office of the Secretary of Defense; FEMA (two LNOs, one for Recovery and one for Response); one LNO at the US Northern Command and another at US Fifth Army; an LNO to the United States Coast Guard; a liaison with the Department of Energy; and a liaison to

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Participants at the 2020 Interagency Flood Risk Management Training Seminar, held this February in St. Louis, MO, were able to meet with and learn from representatives of other federal agencies, nongovernmental organizations, academic organizations, and other partners in flood risk management. Participants identified opportunities for future partnership efforts to work toward flood risk management goals. (USACE, 2020)

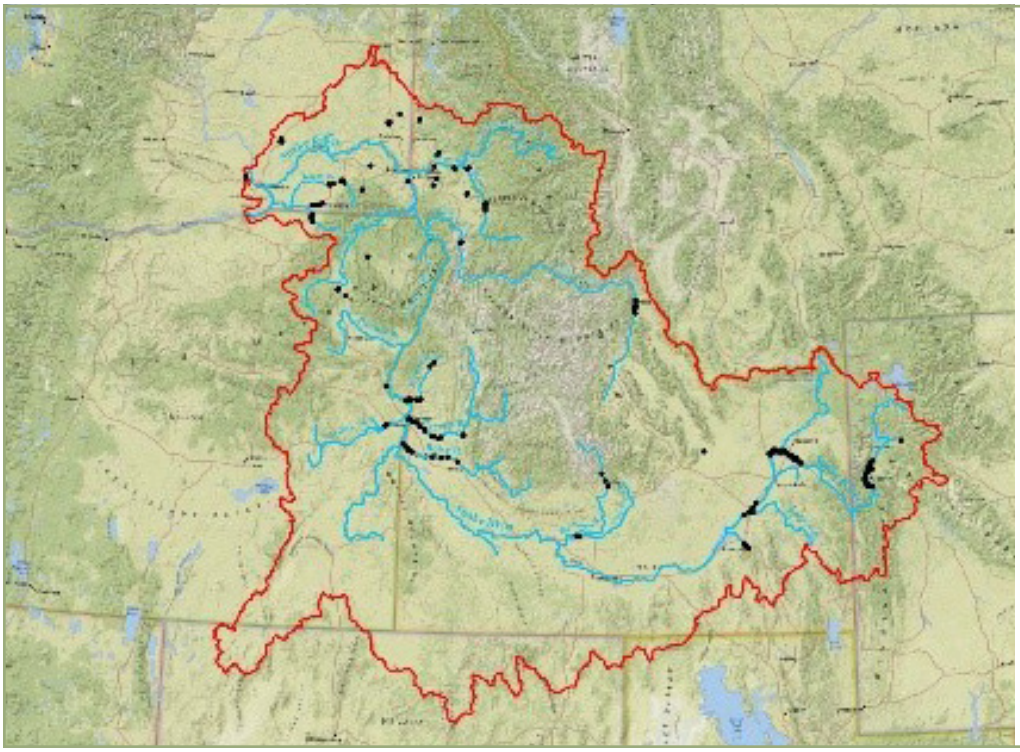
the Bureau of Reclamation. Additionally, our liaison and partnership with FEMA is especially strong as we are considered "FEMA's engineers." This partnership is promoted in formal agreements that some of our divisions (Major Subordinate Commands, or MSCs) maintain with their respective FEMA regions. It is further enhanced through the established relationships our ESF-3 Permanent Cadre have with the FEMA regions they are assigned to support. For the PL 84-99 program, our districts maintain strong relationships with the state and local maintaining agencies of Flood Control Works (FCW) projects in order to provide more efficient and effective response and recovery to flood events.

In addition to the above partnership efforts focused primarily on disaster response and recovery, the Civil Works Directorate maintains a listing of outside public and private sector stakeholders. These relationships are crucial to our ability to stay in touch with industry and our various communities of practice to stay abreast of current direction and information in the general population. These partnerships are also key for engagement opportunities for our senior leaders. We are currently in the process of updating this list that will assist us to identify strategic engagements for our new Chief of Engineers, Lt. Gen. Scott Spellmon, together with Maj. Gen. Butch Graham and Director of Civil Works Al Lee.

Thank you again for taking time to review this edition of the FRM Buzz Newsletter. I hope this article and Mr. James's video have increased your understanding of the importance of partners to both flood risk management and emergency management. I want to take this opportunity to reemphasize my commitment to partnership efforts within the programs that fall within the Office of Homeland Security and I hope to see many of you on the other end of joint efforts in the future. As Mr. James and so many USACE senior leaders have said before, "Make a friend before you need a friend."

New FRM Team Comes Together in Rapid Response to Flooding Crisis

By Tracy Schwarz, USACE Walla Walla District



DISTRICT FLOODING BACKGROUND

Walla Walla District experiences two distinct flood seasons. The first flood season is the spring floods, which are principally snowmelt-based runoff. These tend to be long-duration floods augmented in many basins by reservoirs that store the peak and spread the release gradually. In 2017, the Boise River remained at flood stage continuously for over 100 days.

The second flood season is mainly winter rain on frozen/saturated ground. These winter rains affected the Blue Mountains in 1996 and in February 2020. The floods are of short duration (1-3 days) and are augmented by snowmelt.

They say catastrophe brings people together; this is also true for flood risk management (FRM) teams during rapid response to floods. In February 2020, severe flooding caused significant damages to communities and infrastructure in the Blue Mountains region. However, a team of relatively new, untested staff was able to come together to prevent more catastrophic damages from occurring.

The Blue Mountains experienced record winter flooding Feb. 6 and 7. It was the first major local flood event and response in the Walla Walla District's area of responsibility since 2017 and the first major flood for many members of the district's FRM team. Since the 2017 floods, Walla Walla District had brought on a new Dam Safety manager, Levee Safety manager, Water Management manager, and Readiness & Contingency Operations Chief.

Four inches of precipitation landed on the normally arid Blue Mountains from Feb. 5 through Feb. 6. Rivers rose rapidly. Five basins were particularly hard-hit: Touchet River, Mill Creek, Walla Walla River, Tucannon River, and Umatilla River.

The 2017 flood After-Action Review determined that the district's FRM team needed to meet frequently during the flood season to increase situational awareness. Now the team meets twice a month from January through June, and quarterly the rest of the year. This helps offset the turnover in key positions, allowing new personnel to become familiar with their predecessors' and counterparts' roles, responsibilities, and duties. This practice was key to the team's response in February 2020.

The Touchet River, Walla Walla River, Tucannon River and Umatilla River have levees active in the Rehabilitation Program under Public Law 84-99. (PL 84-99 authorizes USACE to restore damaged levees to pre-storm condition.) In addition, Mill Creek has a USACE-maintained reservoir and USACE-maintained levees, which brought a different group of FRM players to the table. The Umatilla River is in Portland District, while the other four rivers are in Walla Walla District. Walla Walla District stood up an Emergency Operations Center (EOC) Feb. 5.

Readiness and coordination with Portland District counterparts started at the onset of the event. The full team came to the EOC meetings and all were engaged and actively communicating. Outside the EOC, flood risk managers were communicating with Planning Branch project managers who had two ongoing FRM projects on these rivers.

On Feb. 6, the National Weather Service's River Forecast Center forecasted that the jet stream was moving north to British Columbia and that the Blue Mountains storm was moving on. There were lingering concerns, however, as the Mill Creek

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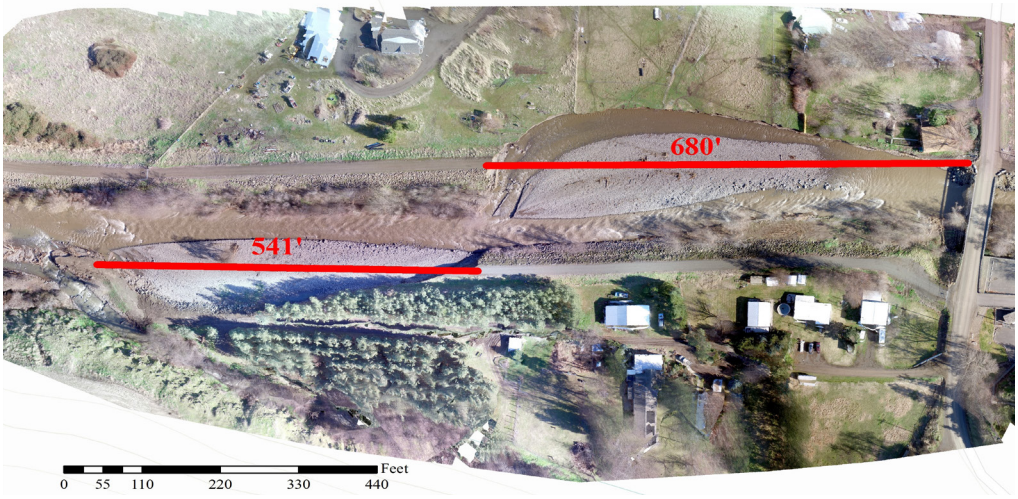
Mill Creek channel at capacity (Tracy Schwarz, 2020)

Mill Creek Reservoir filling. (USACE)

reservoir was about 50 percent full, leaving little capacity to contain additional floodwaters. The weather and streamflow conditions were monitored throughout the night as a precaution. This was fortunate as the storm turned and headed right at the Blue Mountains. Another 4 inches of rain fell on the saturated soils. Water Management staff initiated flood response and communications in the middle of the night.

On Mill Creek, flows were temporarily increased beyond the levee design capacity in the channel downstream of the dam. With staff stationed at critical locations all along Mill Creek, the channel water surface was raised to near-zero freeboard on the levees and in the concrete channel. (Freeboard is the vertical distance between the water surface and the top of the levee embankment.) Walla Walla District's Planning, Water Management, and Dam and Levee Safety programs all monitored and shared information about the flood impacts on their projects and activities in the area.

Damaging flows occurred in all five river basins, but on Mill Creek flows downstream of the reservoir were kept below flood stage. By mid-day on February 7th, a levee on the Walla Walla River in Milton-Freewater, Oregon, started to fail. The failure was too rapid



Milton-Freewater Levee failure. Destroyed levee centerline in red. (Walla Walla Basin Watershed Council, 2020)

for emergency response to keep up. Over 1,200 feet of levee was lost. Rains finally subsided, but with record peaks in all the basins, significant damages had been sustained. Many homes were flooded or completely obliterated on Mill Creek and the Touchet, Walla Walla, and Umatilla rivers. Field reconnaissance noted that in many locations, as a result of flooding damage, it was only marginally apparent that homes ever existed. Many bridges were lost or compromised within the affected basins, including some downstream of the flood mitigation infrastructure on Mill Creek.

The Walla Walla District team, including managers and staff from several different programs, pulled together, continuously interacted, and communicated well throughout the event. After the immediate crisis, the district transitioned directly into recovery efforts. Rehabilitation is now under way on levees with emergent threat, while others are included in long-range repair plans. New data from these floods has informed planning studies on the Touchet River and Mill Creek.

Complete recovery will take time, as many of those displaced by the flood must make decisions about whether to rebuild. Communities are assessing their flood resilience as they make repairs, and the Walla Walla District is available and standing by to provide technical assistance as requested.

Port Monmouth, NJ, Partners With USACE New York District for Coastal Storm Defense

By JoAnne Castagna, USACE New York District

Hurricane Isaias stormed up the East Coast in early August, bringing heavy rain and 85 mph winds to the shores of flood-prone Port Monmouth, New Jersey. The New York District of the U.S. Army Corps of Engineers (USACE) reached out to assess how the community was faring, and how well the Port Monmouth flood risk management project was working.

Local resident Charles Rogers noted, "The system of tide gates and pump stations allowed all of the streets that normally flood under these conditions to drain properly. Port Monmouth fared well in the storm."

Middletown, New Jersey, engineer Ted Maloney observed, "It was good to see the system in action and performing as designed. This is empirical evidence that the Army Corps' floodgate and pumps worked swimmingly!"

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Port Monmouth, New Jersey Resident, Charles Rogers (Right) and Ted Maloney, Township Engineer for Middletown, New Jersey looking over the new flood gate and pump station operation at the Port Monmouth Flood Risk Management Project. Credit: USACE.

Levee at the Port Monmouth Flood Risk Management Project. Credit: USACE.

This type of responsive communication between USACE and the communities it serves is nothing new, especially with flood risk management projects. Active communication happens between and during storms. The Port Monmouth Flood Risk Management (FRM) Project shines as an example on the northern New Jersey coast.

Port Monmouth has been battered by flooding, blizzards and major storms for years, especially by Hurricane Sandy in 2012, which destroyed 750 homes and businesses and spawned the FRM project, scheduled for completion in 2023. “Sandy placed almost 4 feet of water in my house and 6 feet in my cellar, and we lost our heating, electric, food and personal items,” said 82-year Port Monmouth resident Rogers, who has weathered his share of storms. Over time, these storms have eroded much of the natural beachfront and dune complexes that provide coastal protection to the community.

The FRM project’s goal is to reduce the risk of flooding throughout the entire community. Coastal protective measures against storm damage may include dunes and berms, breakwaters, groins, or T-groins, all of which nourish beaches, causing sand to settle on nearby beaches. Dunes and berms depend on sand replenished by beach nourishment. Recently, tide gates were added to this menu of measures.

William Dixon, director of Coastal Engineering, New Jersey Department of Environmental Protection, said, “We have a long-standing, strong partnership with the Army Corps and work on a lot of projects with them. Partnership and collaboration are one of the reasons why New Jersey, the Army Corps, and local municipalities have been so successful in implementing so many projects, including the [very complex] Port Monmouth project.”

Pier at the Port Monmouth Flood Risk Management Project. Credit: USACE.

Work that has been completed includes:

- Building up and widening the shoreline along Sandy Hook Bay by replenishing sand and constructing a new stone groin perpendicular to the shoreline. Groins are long, thin structures extending out from shore that interrupt along-shore water flow, limit sand movement, prevent beach erosion and increase resiliency.
- Constructing a mile-and-a-half-long, 15-foot-high protective dune to provide a natural barrier to the destructive forces of wind and waves.
- Adding 195 feet to a local fishing pier for expanded recreational use by the community.

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Groin at the Port Monmouth Flood Risk Management Project. Credit: USACE.

Public outreach works in two directions and has had vital effects in building this project. Among public participation steps, New York District has conducted public meetings while developing specific elements of this project, both to inform the public and to learn about public concerns. The dune construction led residents to ask for details, and after USACE and other agency teams held public meetings they agreed to construct a walking path to improve public access. Public concerns about the tide gate and pump station structures led USACE to conduct public training and system testing, which allayed concerns about cost and maintainability. Without the early public communication piece, project leadership might never have recognized these significant issues in sufficient time to act.

The new flood gate and pump station operation at the Port Monmouth Flood Risk Management Project. Credit: USACE.

Ongoing work includes construction of:

- An almost 6,600-foot-long (or 20 football fields) concrete floodwall to reduce flooding from Pews Creek to Compton Creek. A floodwall is a vertical barrier designed to temporarily contain the waters of a river or other waterway which may rise to unusual levels during seasonal or extreme weather events.

- A 7,070-foot levee system (the length of more than 23 football fields).

Because soil in the area was not strong enough to support a levee, USACE used an environmentally friendly soil stabilization process called In-Situ Soil Stabilization, which mixed the low-lying salt and freshwater marsh with cement and water, allowing it to support a levee system.

"Typically, we would dig up the marshy soil and haul it out and truck in new soil," said David Gentile, USACE civil engineer. "By doing this process, we eliminated the need for over 1,750 tri-axle truck trips, carrying wet, mucky, and odorous material through residential streets, as well as saved a great deal of money."

As part of the defense surrounding Port Monmouth, pump stations, road closures and a tide gate at Pews Creek have been established. Tide gates allow water to flow freely under normal conditions but can be closed to prevent flood waters from swamping a community.

Rogers, who appreciates the USACE work with communities, said, "During the 1944 Great Atlantic Hurricane, my father placed me on his shoulders and walked through 4 feet of water to take me to my grandmother's house. During Hurricane Donna in 1960, the area was evacuated, and my entire family were transported by the U.S. Coast Guard via an amphibious vehicle to the firehouse to safety, and during Hurricane Sandy in 2012, my house was flooded, and we lost a lot. Without the help of the Army Corps, flood-prone areas would never receive the protection needed to keep property and residents safe."

Road closure structure and flood wall at the Port Monmouth Flood Risk Management Project. Credit: USACE.

The ABCs of Flood Risk Management for a Rural Community

By Brian Rast, USACE Kansas City District

Many communities do not have the staffing to get from A to B to C in flood risk management. Small rural communities commonly lack the resources they require to build resilience. They appreciate seeing these steps laid out:

A. Identify the flood risk problem

B. Understand the best risk management options

C. Fund the measure (to build a feature or enable an activity)

The gap between A, identifying the problem, and C, funding the solution, is too great a leap for many to go it alone. Federal agencies have many programs that help with the cost in C, especially with new FEMA grants this year (see sidebar, "Applying for Federal Flood Grants"). The Missouri Silver Jackets team took on the Harrisonville, Missouri, flood risk problem, and their story shows how Silver Jackets can set communities up for grants with other agencies.

Step A

The Harrisonville journey from A to B began in 2017 with two major Muddy Creek summer floods. After an estimated $1.2 million in damages, residents and businesses pressed the city to act. When another flood struck in 2019, the Missouri State Emergency Management Agency (SEMA) asked Missouri Silver Jackets for help.

The Silver Jackets team coordinated state and federal agencies for Step A; SEMA, the Federal Emergency Management Agency (FEMA), U.S. Geological Service (USGS), and U.S. Army Corps of Engineers (USACE) staffs formed a virtual team to address public concerns and mitigate potential conflict through public engagement. Everyone wanted more facts. For example, many property owners believed that the Missouri Department of Transportation (MODOT) culvert under the Interstate-49 (I-49) had clogged with sediment and caused the floods, but was this supposition true?

Figure 1. Silver Jackets helped the city staff manage the public's expectations in the Board of Aldermen's meeting (KMBC News, October 7, 2019).

USACE approved a 2019 Silver Jackets interagency nonstructural effort to support public engagement and engineering analysis. The team used two models developed by USACE's Hydrologic Engineering Center; the models considered the whole drainage system and identified and measured the flooding problem (Step A). It turned out that the culvert had not been as significant a cause of flooding as suspected.

Based on the results of the modeling analysis, the team determined the most effective flood risk management measures (Step B). See the Missouri Silver Jackets report for a full description of measures. Moreover, the Silver Jackets team had included dam break modeling in the analysis, which improves planning for the aging Lake Luna and City Lake dams.

Public outreach was largely web-based; fact sheets and articles were locally disseminated on the city web site. Among other things, the online information informed the public that sediment in the I-49 culvert had not caused the flooding in 2017.

Harrisonville's floodplain management planning and the community's and city leadership's understanding of flood risk and impacts of potential flood solutions have all improved through research by the team and ongoing public outreach.

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APPLYING FOR FEDERAL FLOOD GRANTS

Communities can use Silver Jackets products to apply for FEMA's fiscal 2020 Hazard Mitigation Assistance (HMA) grants under the Flood Mitigation Assistance (FMA) and new Building Resilient Infrastructure and Communities (BRIC) programs, which are now open. All applications must be submitted no later than January 29, 2021, by applying through the FEMA Grants Outcomes system.

Step B

For Step B, USACE planners provided two technical services: an engineering analysis (report), "Harrisonville, Missouri: Silver Jackets Floodplain Investigation, dated June 2020, and public involvement services. The latter especially aided in raising awareness about the full menu of flood risk management measures and included outreach tools like a placemat and a tri-fold pamphlet. These documents were made available online during the 2020 COVID pandemic response.

Figure 2. Silver Jackets helped the city staff manage the public's expectations in the Board of Aldermen's meeting (KMBC News, October 7, 2019).

The USACE study team recommended talking points from the engineering report for the mayor and city staff. Multiple agencies attended the city's fall Board of Aldermen public meeting, where USACE presented. Following the Aldermen's meeting, the study team remained and listened for over an hour to residents and businesses dealing with flood damages.

Working from the public feedback, the study team partnered with city staff, the city public information officer (PIO) and city web site staff to develop key messaging, including a project fact sheet that describes the report's findings and other available public messaging. This helped refine the PIO's coordinated outreach campaign. The city's staff said that these efforts turned the public perception in a more positive direction.

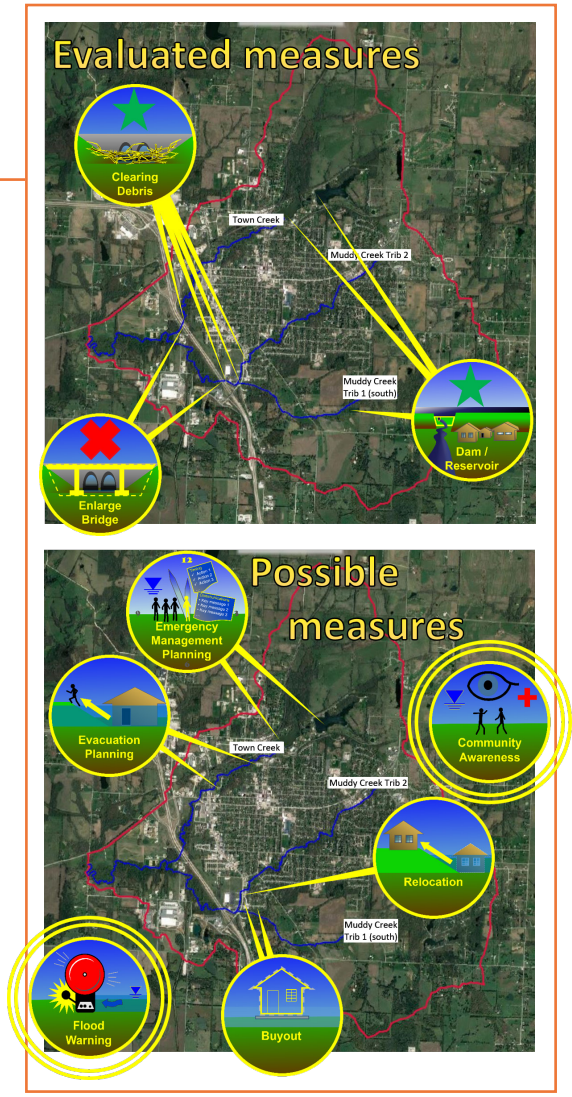
Step C

Step C, finding funding for measures, became difficult as the country went into COVID-related lockdown around March 1. USACE and most other federal agencies began teleworking in earnest at about that time. The critical team members from Harrisonville began working heavily online, participating in regular phone and Webex meetings, and — perhaps surprisingly — the project was able to continue with little organizational struggle.

Planned public meetings largely ended for several months, although team information continued to be developed and transmitted by public information sources (web, email, telephone, radio and television news). USACE held a final public meeting in Harrisonville with masks and social distancing in May. The city accommodated a FEMA team member unable to attend by setting up a computer with a FEMA-hosted web meeting for FEMA to answer questions.

The local, federal and state agencies continue to move this project forward. MODOT agreed to clear all their Harrisonville culverts of debris. USGS installed precipitation and stream gages to improve flood warnings. Harrisonville and a local developer entered a public/private real estate acquisition program at the regional detention basin. USACE dam break modelling helped the city move ahead with meetings on the affected properties.

Not every community has the technical tools mentioned in this article; they face Step B with few resources. Silver Jackets efforts like this can help carry cities through the steps with buy-in from the public. This helps these communities prepare to apply for FEMA hazard mitigation grants or the USACE Continuing Authorities Program to make progress towards a flood solution (Step C).



Virtual Teams are "Up in the Air"

By Andrea Carson, USACE Pittsburgh District, and Hunter Merritt, USACE Sacramento District

We may feel a certain sense of loss from the missed in-person moments we were accustomed to with our Silver Jacket teammates before the COVID pandemic. Even with new collaborative technologies rolling out, it's easy to still feel disconnected. That begs the question – how CAN we feel connected with our Silver Jacket teammates when we aren't able to get together in person?

The USACE Collaboration and Public Participation Center of Expertise (CPCX) aimed to answer that question at a May Silver Jackets webinar called *"Get On the Plane Jane: How to Keep Connected While You're Up in the Air."* The presentation focuses on how Silver Jackets teams can stay engaged and cohesive across the digital divide. It includes principles and best practices for facilitating and participating in virtual meetings and functioning as a virtual team. This webinar serves as a follow up to the March 2019 webinar "Get on the Bus Gus: How to Rev up a Team and Drive it Home." Here are a few best practices extracted from *"Get on the Plane Jane"* that are *particularly* important for virtual teams.

Preparation Before "Takeoff"

What's our destination?

- Identify the meeting purpose and objectives, ideally ahead of time, and at the beginning of the meeting. All meeting choices will flow from these objectives. Do we only need to have a conversation? Will we brainstorm solutions, or co-create something? Do we even NEED to have a meeting, or can our objectives be met with asynchronous communication?

Which airline should I choose to fly?

- Once we've identified our meeting objectives, look at available meeting platforms to decide which platform will best suit the meeting needs. Many agencies have limitations on which platforms they can use to host or attend meetings. If it is a simple task, make it a simple phone call if possible, which could help avoid web meeting fatigue. One exciting note: the new USACE WebEx Platform has breakout rooms, a useful feature for virtual teaming!

What else should we do before takeoff?

- Plan regular engagement opportunities. Research by Hale and Grenny (Harvard Business Review) shows that engaging participants every 3 to 5 minutes during a meeting is the best way to ensure continued attention and participation during a virtual meeting. "Death by PowerPoint" is not any better virtually than in person; instead, intentionally create opportunities to engage meeting attendees through annotation exercises, round robins, polling, discussion using webcams, and other interactive techniques. A WORD OF CAUTION: attendee engagement takes time – cutting content time in half will accommodate for the increased engagement.

Providing Great "In-Flight Service"

Give them the safety briefing.

- At the beginning of a flight, the flight attendants tell everyone about the features of the plane and where to find the exits. Similarly, at the beginning of your meeting, ensure members are comfortable with the technology. Create time to play/become familiar with your platform. This will help passengers enjoy the flight while reducing the risks of any accidental in-flight deplanings.

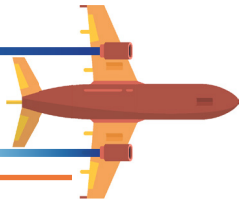
Who is on the Flight Manifest today?

- In a virtual environment, it can be more difficult to keep track of names, faces, and associated organizations (especially for those newer to the team). To assist with teambuilding, create a team member list with photos and info about each person. Provide intentional opportunities for attendees to learn more about each other, through introductions/ice breakers, small group discussions, encouraging the use of video, or even informal relationship-building activities over breaks.

Enjoy Happy Hour on the plane.

- While we may have shared personal stories at a pizza lunch or dinner social at in-person Silver Jacket conferences, virtual meetings don't allow for socializing unless we intentionally create that space. Create time to PLAY and honor the value of non-work interactions — it is NOT just small talk; it is networking!

Landing Your Plane



Celebrate the Landing.

- Acknowledge and celebrate team successes. Think of quarterly meetings as the four phases of a flight: Takeoff, cruising altitude, approach, and landing. There is something to celebrate at every phase. Perhaps summarize accomplishments at the beginning of each call, quarterly or annually. For a Silver Jackets team, perhaps acknowledge that an identified flooding issue from last week was jointly tackled by meeting attendees; celebrate the interagency proposals that were selected; etc.

Send out a customer satisfaction survey.

- After a flight, airlines send out an email requesting feedback. Do the same with Silver Jackets teams. As we try these new virtual technologies and teaming techniques, check in with participants periodically and request feedback. Who knows? A teammate may have recently attended a very helpful webinar on virtual teaming and may have tons of ideas for how to connect while up in the air.

Two Ways to Bring Happy Hour to the Plane

1. **If a 30-minute meeting wraps up early, transition the conversation towards something else, like the latest COVID recipe or a recap of the last weekend.**

2. **When scheduling a meeting that would only take 15 minutes, schedule 30 minutes anyway, and let folks know there will be social time at either end. Ease into the "work" part of the meeting; doing this as a regular activity allows people to log in a minute or two late (In pandemic operations, people even more regularly schedule back-to-back meetings, and are often late or leaving early to go to the next meeting).**

RISE Program Sparks Youth Innovation to Improve Community Resilience

By Terri Baumann, Resilience Action Partners

Students from Estes Park Middle School implement their award-winning project "Firewise" to protect their school from the threat of wildfire. (FEMA 2019)

Estes Park Middle School students receive their funds to implement their 2019 winning project. (FEMA 2019)

This fall, the Federal Emergency Management Agency (FEMA) Region VIII announced the expansion of their youth engagement program, the RISE Challenge, along Colorado's Front Range and in Montana and Illinois. The RISE Challenge, standing for Resilience, Innovation, Sustainability, and the Environment, teaches students the importance of environmental health and sustainability using project-based learning.

The RISE Challenge combines classroom instruction with an annual competition and summit, focused on natural hazards and student-led learning. Students work throughout the year to find vulnerabilities to natural disasters in their local community and submit a real-life solution to the identified risk. The winning projects are then awarded prize money to implement their solutions.

"The RISE Challenge is adaptable to different situations and communities, and we're excited to move into more communities," said Tony Mendes, FEMA Region VIII Senior Emergency Management Specialist. "The next generation is full of talent, ideas, and passion, and we look forward to engaging new students to find innovative solutions and improve community resilience."

Originally named the Rocky Mountain Environmental Challenge (RMEC), the RISE Challenge began in 2017 and the first competition was held in 2018 in Colorado. Projects have included local wildfire mitigation activities, organizing a flood awareness event for a mobile home community, and installing park shelters at bus stops to keep people safe during storms. The 2020 winning project from Blevins Middle School in Fort Collins, Colorado, identified lack of emergency preparedness in their school community by conducting a survey of the student body. The students developed a proposal to host an informational night to teach families what to do in case of an emergency.

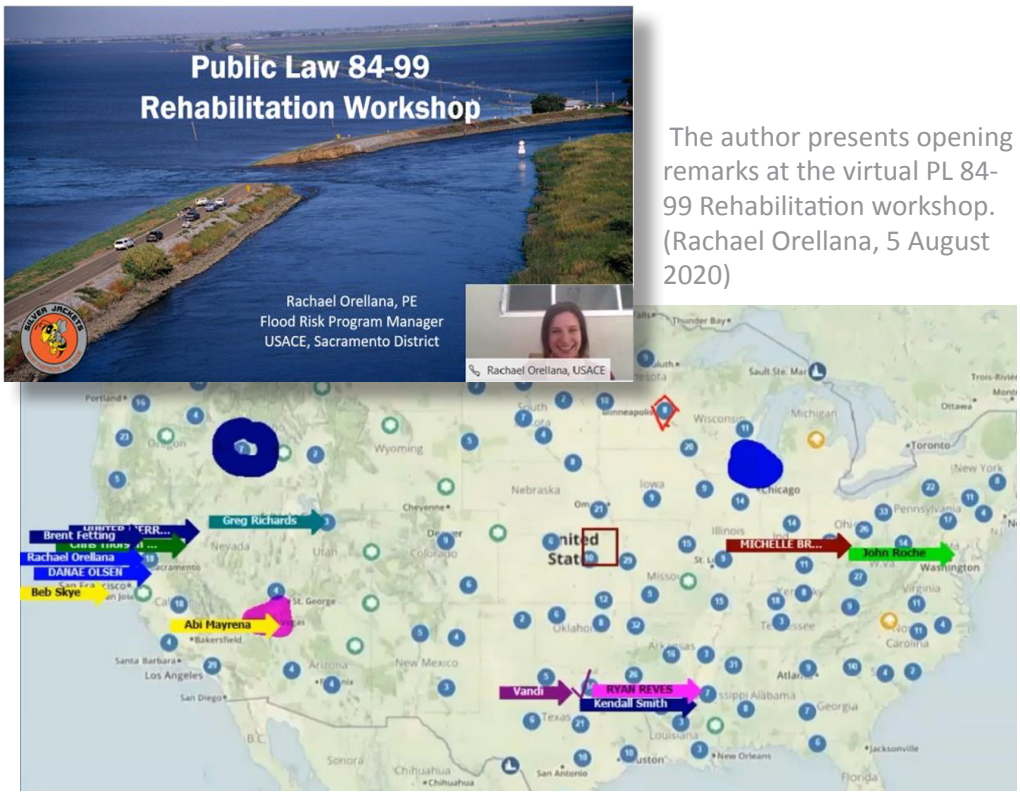
Earth Force, a nonprofit organization for youth environmental education, manages the RISE Challenge nationally, and FEMA is the primary program sponsor. Earth Force provides local organizations with resources and tools to implement the program in their community and schools. Brightways Learning in Montana and the Environmental Education Association of Illinois (EEAI) will work with Earth Force to implement the program in their respective states. The Association of State Floodplain Managers (ASFPM) Foundation provides the student award grants.

The RISE Challenge is open for participating schools in Colorado, Montana, and Illinois for the school year 2020-2021. The program is available to new communities across the country. FEMA's point of contact for the program is Tony Mendes, Senior Emergency Management Specialist, Region VIII (tony.mendes@fema.dhs.gov).

California Silver Jackets Improve Interagency Coordination Through Virtual Collaboration

By Rachael Orellana, USACE Sacramento District

Days of intense rainfall and king tides in California's Sacramento-San Joaquin Delta Region in 2017 breached several levees and flooded two delta islands. The flooding response required extensive coordination and collaboration between local, state, and federal agencies. The California Silver Jackets team, seeing a need for improved interagency coordination, initiated the California Emergency Response Exercise Project in January 2020. The project focuses on renewing existing but recently unused lines of communication between federal, state and local agencies. Having clear lines of communication between all partners during an emergency is critical, as good communication helps to prevent life loss during and after emergencies.



The author presents opening remarks at the virtual PL 84-99 Rehabilitation workshop. (Rachael Orellana, 5 August 2020)

This exercise will strengthen emergency response communication and coordination. Using Civil Air Patrol real-time data and photos during a large-scale regional disaster will aid the Yolo County Office of Emergency Services (YCOES) emergency response decision-making. YCOES will lead planning efforts for a full-scale emergency exercise in the delta, targeted for early spring 2021. The exercise was threatened when YCOES efforts shifted to COVID emergency response, and the California Silver Jackets team quickly adapted and sought options to conduct emergency exercises and workshops that promote interagency communication in a virtual environment.

On August 5, 2020, USACE Sacramento District hosted a virtual workshop focused on a wide breadth of Public Law 84-99 rehabilitation topics. Congress grants discretionary authority to the U.S. Army Corps of Engineers (USACE) under PL 84-99 to respond to flooding emergencies and allows USACE to repair and/or rehabilitate any qualified flood control project whether it is federally constructed or privately owned.

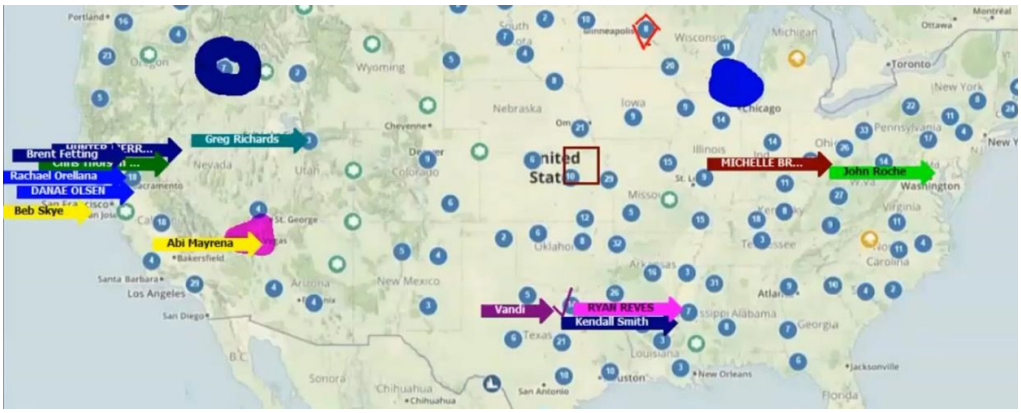
The California virtual workshop was well attended with 130 participants, with varying PL 84-99 experience levels. Topics covered in the three-hour workshop included end of flood to submission of sites, site eligibility, and completed Project Information Report to completed rehabilitation. Each topic included brief presentations from federal, state, and local perspectives. Speakers included representatives from the USACE Sacramento District, California Department of Water Resources, Central Valley Flood Protection Board, Contra Costa County Flood Control and Water Conservation District, and Reclamation District 108. Each presentation was purposefully brief to provide a broad look at the nuances in the PL 84-99 rehabilitation process from various agency perspectives and experiences.

The California Silver Jackets team intends to schedule follow-up workshops for later in 2020 to cover in greater depth certain topics which garnered interest from the participants.

Efforts have also resumed for the large-scale exercise. This project will promote sharing of knowledge and facilitate communication efforts across agencies. Improved communication during an emergency helps federal, state, and local partners have a clearer picture of the status of an emergency, as well as the need for and status of repairs after the emergency. Having all the relevant information helps partners be more informed and prepared to participate more fully when determining their course of action and response after an emergency.

Opportunity in Crisis: Nevada Silver Jackets Workshop Goes Virtual and Expands its Reach

By Brent Fetting, USACE Sacramento District



This screenshot from the virtual workshop shows the nationwide distribution of participants. (USACE 2020)

In January 2020, the Nevada Silver Jackets team was planning a series of in-person workshops for Emergency Action Plans and tabletop exercises to be delivered by the U.S. Army Corps of Engineers (USACE) Sacramento District and the Nevada Division of Water Resources Dam Safety Office (NDWR). But then COVID-19 changed everything.

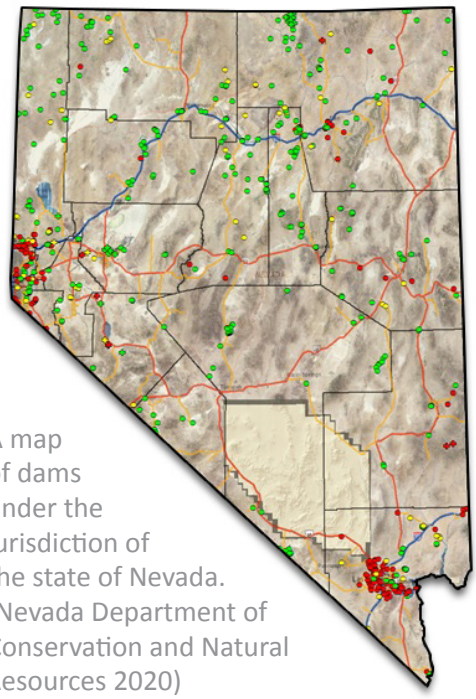
The team hoped that workshops and exercises in Elko, Reno-Sparks, and Clark County would happen in August as planned. However, it was clear by mid-May that in-person workshops couldn't happen. Nevada State Floodplain Manager and Silver Jackets lead Erin Warnock decided that a virtual workshop could succeed despite COVID-19 challenges. It was as simple as changing measures of success, given the new conditions, and maintaining enthusiasm to "practice for an emergency during an emergency." With this optimism, the team began planning a virtual Emergency Action Plan workshop for August 2020.

Part of changing the measures for success meant changing the knowledge to be delivered. To help close the gap between dam safety, emergency operations, and floodplain management, the team brought in private sector experts as well as USACE and NDWR staff who had experienced emergencies in dam operations. With that growth came additional interest that expanded the reach of the workshop. By going virtual, the Nevada Silver Jackets team leveraged contacts nationwide, tapping into a broader community of professionals that included engineers, emergency managers, environmental specialists, and more. During workshop development, some USACE tabletop exercise efforts illustrated the potential of virtual facilitation. Ms. Jenna Petersen from the Sacramento District's Operations Division invited a few Silver Jackets team members to witness virtual exercises in action and learn about facilitation in the distance-learning environment.

On Aug. 26, 2020, the Nevada Silver Jackets Dam Safety Emergency Action Plan and Tabletop Exercise Workshop was presented to over 100 attendees, some from as far as New York state, well beyond the expectations of the team. Participant Maren Stoflet, National Weather Service Hydrologist from Kansas City, (Kansas or Missouri?) said, "these types of workshops… are excellent in our telework mode to keep partner interactions going…. I'd love to see these sorts of workshops and engagements continue!"

A recording of the workshop is available for download at www.nevadafloods.org/. Susan Nall, USACE Colorado West Regulatory section chief, said after watching the recorded workshop, "I benefited from listening in on [the] Nevada Dam Safety Workshop, especially the examples shared of dam breaches and improved awareness for potential emergencies. There is a need for this team's knowledge."

Having learned the value and reach of this approach, the Nevada Silver Jackets team is now looking ahead to 2021, with plans to host a series of educational tabletop exercise webinars and to develop a tabletop exercise to be conducted at a site selected by NWDR, virtually connecting disparate disciplines and offices to share knowledge and build relationships across the state of Nevada and beyond.



A map of dams under the jurisdiction of the state of Nevada. (Nevada Department of Conservation and Natural Resources 2020)

A leader in Collaboration: Melissa Weymiller Presented 2020 COL Morrison Collaborative Leadership Award

By Lindsay Floyd, USACE Sacramento District

Dedicated, hardworking, and supportive. These three words embody the Colonel Morrison Collaborative Leadership Award presented to Ms. Melissa Weymiller at the 2020 California virtual Silver Jackets meeting September 11, 2020.

The award was first established in 2019 after Col. Carleton "Carl" Morrison, Jr. tragically passed away in April 2018. Morrison was a pillar in the California Silver Jackets and California Flood Risk Management communities. His dedicated, supportive, and friendly spirit was highly regarded amongst everybody that knew him. He was a veteran of the Vietnam War, Pacific Region Vice Commander of the Civil Air Patrol, Lieutenant Colonel for the Marine Corps, a lawyer, and an active member of the Church of Jesus Christ of Latter-Day Saints.

Throughout his career,Morrison contributed to the Watershed University project, worked to connect Silver Jackets and Civil Air Patrol, and established and strengthened the Coastal Hazards Adaptation Resiliency Group that provides technical support to communities facing challenges from sea level rise. Furthermore, he worked to secure $20 million of funding to install a cutting-edge Advanced Qualitative Precipitation Information system for the Bay Area to improve forecasting for atmospheric river events. He was also a champion for interagency regulatory permit coordination efforts.

With attendance from his family at the virtual 2020 Silver Jackets Meeting, the COL Morrison Collaborative Leadership Award was presented to Ms. Melissa Weymiller, a recipient who embodies Morrison's collaborative spirit. Melissa is a Project Manager and the Silver Jackets Deputy at the Sacramento District of the U.S. Army Corps of Engineers (USACE).

COL Morrison was the Pacific Region Vice Commander of the Civil Air Patrol and worked throughout his career to connect the Civil Air Patrol with Silver Jackets. (Carl Morrison 2017)

"I am honored to be selected for this award, and humbled to be included among amazing leaders like Colonel Carl Morrison and last year's award winner Maria Lorenzo Lee. I have been lucky to be a part of so many fantastic interagency teams, and I am excited about the future opportunities we have to make an impact to reducing disaster risk and impacts."

The competition for the award was tough this year, but Melissa stood out with not just one, but two nominations for the award – one from USACE and the other from the California Department of Water Resources (DWR).

Ms. Rachael Orellana, the Flood Risk Program manager at Sacramento District, said, "California Silver Jackets leaders Maria Lorenzo-Lee, Kathy Shaefer and I were heartbroken when we heard about Carl's plane crash in April of 2018. We wanted a way to keep his memory alive and help the team members to strive towards being the type of humble leader that he was, and Maria came up with the idea of an annual award. We put quite a bit of thought into the description of this award and settled on it being meant for someone who is dedicated, hardworking, and supportive, embodying the collaborative spirit. This describes Melissa to a tee. Melissa has frequently shown that collaboration is about transforming fragmented services into partnerships."

Continued on page 15.

Melissa Weymiller is this year's recipient of the COL Morrison Collaborative Leadership Award. Melissa exemplifies Morrison's collaborative spirit through her tireless work with Silver Jackets. (Melissa Weymiller 2020)

Melissa is currently leading 15 projects with over $6 million of USACE support to DWR, tribes and local communities. She is constantly looking for ways to bring agencies together to provide services for the communities that need them most. She has been a consistently strong advocate for serving tribes and disadvantaged communities through Silver Jackets. Additionally, Melissa served a six-month detail in 2018 to help those affected by the fire in Paradise, California, to take steps towards long-term recovery and she volunteered in April 2020 to help set up alternate care facilities in Utah as the COVID-19 pandemic accelerated.

Wendy Wang, the prior Silver Jackets Deputy at DWR, said, "Melissa has contributed countless innovative ideas, and her unparalleled organization and carry-through have led to the successful implementation of numerous projects."

Melissa's key contributions to the flood risk management community include collaborating and overseeing the Tribal Workshops project which combined presentations from tribal officials, tribal members and agency representatives with structured discussion and networking opportunities. Melissa worked to secure approval of a large project that will provide even more workshops to tribes in the coming years. Her accomplishments also include managing a portfolio of over $13 million with 27 active projects; serving a National Flood Risk Management Program detail through which she helped coordinate the national Silver Jackets training workshop with over 200 attendees; and overseeing numerous projects including tribal floodplain management plans, tribal flood inundation mapping projects, and education and outreach efforts.

Congratulations to Melissa Weymiller for her well-deserved recognition!

Interagency Work, Community Efforts Mitigate Wicked Flood Risk in Rossville, Kansas

By Brian Rast, USACE Kansas City District

Flooding on Cross Creek in Rossville, Kansas, has become an increasingly worrisome problem. A new Silver Jacket effort seeks to mitigate the flood hazard before Rossville suffers a permanent setback. A team of planners, hydraulic engineers, geospatial analysts, and economists from the U.S. Army Corps of Engineers (USACE) Kansas City District is working to connect the community to the agencies with the most appropriate resources.

Rossville is a small town of about 1,100 residents outside of Topeka, classified by FEMA as a disadvantaged community. Flooding in June 1982 prompted town officials to ask USACE for help. USACE conducted studies, but those didn't lead to construction at the time. Another major flood struck in 2005. A Silver Jackets effort set up a flood warning tool in 2012. And then another flood in 2015 impacted the town's school and businesses.

The USACE team built on past work and listened to its state and federal partners. The prior engineering analysis showed that bridge and channel widening would not mitigate flood hazards. Additional analysis showed that upstream detention by the Cross Creek Joint Watershed District helps but doesn't completely resolve the flood risk. A diversion around the north side might help, but then could simply pass the flood impacts on to Silver Lake, Kansas, just downstream. In short, the problem is too complex to solve by building a single feature. The team concluded that an interagency solution is needed when flooding is a wicked problem.

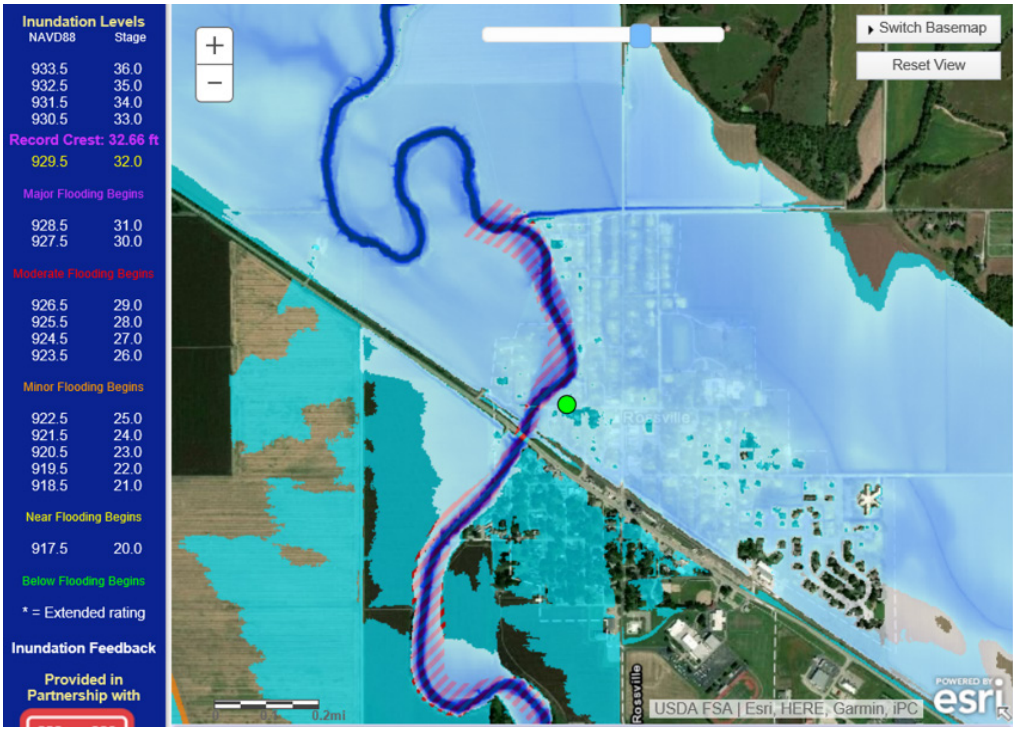


Fig. 1. The NWS Advanced Hydrologic Prediction Service provided an interagency tool in partnership with KDA DWR, USACE, and USGS in Rossville.

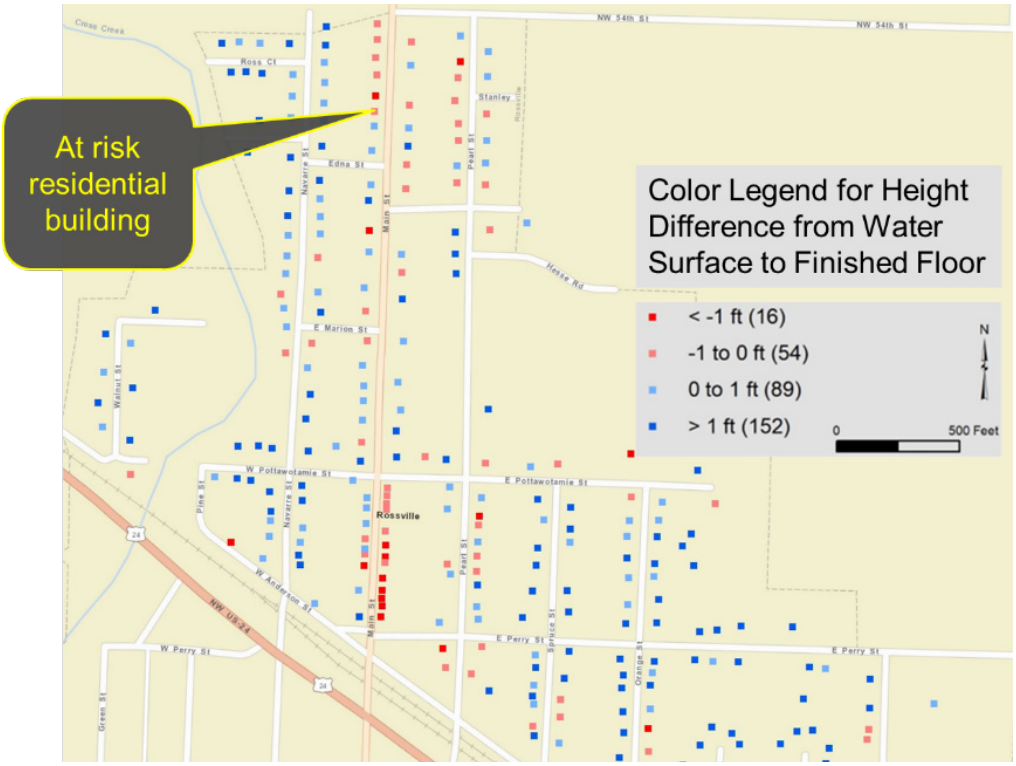


Fig. 3. The USACE team made a map of buildings colored depending on the finished floor elevation compared to the base flood elevations.

Continued on page 17.

"...an interagency solution is needed when flooding is a wicked problem."

The team created a map to assist in plan formulation for more solutions that looks similar to the FloodFactor, a not-for-profit (First Street Foundation) flood identification tool for potential homebuyers that has recently garnered significant media attention. The map showed that a significant flood risk exists for buildings in Rossville.

The team focused analysis on the consequences of flooding, rather than the probability, which means figuring out the best measures to avoid damage within the floodplains rather than changing the floodwaters' behavior. The team developed alternatives that would use buyouts, building elevations, or relocations as solutions.

While at-risk buildings are both residential and commercial, many business owners have realized the risks. Steve Samuelson, the NFIP Coordinator with the Kansas Division of Water Resources, wrote about these in the June 2020 *Kansas Floodplain Management Tips, "Rossville Knows How To Flood"*.

Samuelson points out that many buildings in Rossville demonstrate adaptive flood protection measures. In Figure 4, photo number 1 shows a floodwall around the building. This floodwall has grooves in the cement to install barriers at door openings. Building 2 is a community center with no carpet or sheet rock, built so that floodwater that gets inside can be easily cleaned up. Furniture is simple and flood resistant. Building 3 has a raised floor keeping all contents above potential floodwaters. Building 4 is the city library with impervious brick walls. Only the front and back doors need sandbags, and the building also has an 8-inch raised floor with access. The

Fig. 4. Businesses along Main Street in Rossville Kansas, have adapted to repetitive shallow flooding and may be more resilient to more severe floods as well. (Steve Samuelson 2020)

project team observed these and other proactive measures that had already been implemented. Because these measures offered a learning moment, Lead Silver Jackets Coordinator Brian Rast organized a building flood resilience training workshop with Samuelson in October 2019.

As the project analysis unfolded, planners discovered a residential building that used a mini-floodwall like Building 1. Unfortunately, residential construction cannot get reduced flood insurance premiums like nonresidential construction. While such measures diversify and improve the Rossville risk reduction portfolio, in terms of preventing economic loss, arguably none of the measures is as cost-effective as a FEMA flood insurance policy.

The team completed economic analysis for 73 properties in October. Evaluated measures include residential building elevations and buyouts. Building elevations proved difficult, and the team found only two would be feasible. A reformulated alternative for buying out a subset of 17 properties found a benefit/cost ratio over 1.0, and the cost is estimated at roughly $3.1 million. By comparison, the cost of the bridge widening and channel project from the earlier studies was about $13.4 million. The city hopes to use the analysis to apply for FEMA's fiscal 2020 Hazard Mitigation Assistance (HMA) grants under the Flood Mitigation Assistance (FMA) and new Building Resilient Infrastructure and Communities (BRIC) programs, which are now open. (All applications must be submitted no later than Jan. 29, 2021, through the FEMA Grants Outcomes system.)

The National Mitigation Investment Strategy is pushing federal partners to do more projects like this, in which they coordinate and connect relatively resource-poor communities like Rossville with the agency that has the most suitable flood solution. The Rossville situation shows that various measures may help, but individual measures cannot solve the flood risk problem alone. Collaboration among several federal partners may be necessary. Silver Jackets is tailor-made for facilitating such collaboration.

Round the National Silver Jackets Table

By Ellen Berggren, USACE Silver Jackets Program Manager

The National Silver Jackets Team comprises 12 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

- **EDA,** a bureau within the U. S. Department of Commerce, recently joined the National Silver Jackets team. Its mission is to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy. Visit the EDA website to learn more about the Bureau and its role in disaster recovery.

- **FHWA** has posted solicitations for NOAA Atlas XIV Updates for the following:
  - Delaware, Maryland, Virginia, and North Carolina (Volume 13) - Solicitation 1534
  - Louisiana (Volume 14) - Solicitation 1543

- **NASA** The NASA Earth Applied Science Disasters Program has developed maps, imagery and analysis to aid local agencies and response teams in understanding the impacts from the western wildfires and potential risks. More information can be found on the following websites:
  - NASA Disasters Program
  - NASA Disasters Mapping Portal California Fires Story Map:
  - NASA Disasters Mapping Portal Main Product Gallery featuring data for California, Colorado, Oregon, and Washington

  Questions or assistance regarding this information can be directed to brady.helms@nasa.gov, NASA Disasters Program Disaster Management Coordinator.

- **USACE** is initiating more than 60 new interagency nonstructural flood risk management efforts in fiscal 2021, many involving state Silver Jackets teams. The efforts are planned and undertaken collaboratively by USACE and at least two other governmental partners. Additional partnerships are encouraged, including with non-governmental and private partners. Each agency or partner uses its own existing programs, authorities, resources or talent in a coordinated manner to achieve outcomes that they would not have achieved on their own. USACE funds its participation through its Floodplain Management Services Program. The Silver Jackets website includes a searchable table of all interagency non-structural efforts that have been funded since 2010.

National Silver Jackets Team Participating Agencies

- Environmental Protection Agency
- Federal Emergency Management Agency
- Federal Highway Administration
- U.S. Housing and Urban Development
- National Aeronautics and Space Administration
- Natural Resources and Conservation Service
- NOAA National Weather Service
- NOAA Office of Coastal Management
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Geological Survey

- National Silver Jackets member agencies frequently present at monthly Silver Jackets webinars. Recordings of these recent presentations are posted on the Silver Jackets webpage:
  - ***FEMA*** - *National Mitigation Investment Strategy*
  - ***USACE*** - *National Dam Safety Program – Policy Updates and National Inventory of Dams*

BULLETIN BOARD

EPA consolidates green infrastructure technical assistance information

The EPA has consolidated green infrastructure-based flood risk management information to a single web page with sections on How To, Technical Assistance, Resources, and References. The Technical Assistance section summarizes and links to descriptions of case studies in locations such as Vermont, West Virginia, Puerto Rico, Florida, and Arizona.

January 29 deadline for FEMA Hazard Mitigation Grant applications

The application period for FEMA's Hazard Mitigation Assistance (HMA) grants under the Flood Mitigation Assistance (FMA) and new Building Resilient Infrastructure and Communities (BRIC) programs is now open. Eligible applicants must apply for funding through the FEMA Grants Outcomes (GO) system. All applications must be submitted no later than 3:00 p.m. Eastern Standard Time (EST), January 29, 2021.

These two competitive grant programs provide states, local communities, tribes and territories funding for eligible mitigation activities to reduce the risks they face and the impact of future disasters. For FY21, a total of $660 million in funding is available for FMA and BRIC. FEMA will distribute up to $160 million through the FMA grant program, and a record-breaking $500 million of pre-disaster mitigation funding is available through the new BRIC program. Applications submitted after the deadline will not be considered for funding.

Special Call for Proposals: Weather Ready Research

A call for research proposals from the Natural Hazards Center, NOAA Weather Program Office, and National Science Foundation.

- Deadline: December 2, 2020
- More information: https://hazards.colorado.edu/news/quick-response-news/special-call-for-proposals-weather-ready-research

New CONVERGE training module on Conducting Emotionally Challenging Research from the Natural Hazards Center

CONVERGE training modules are aimed at disaster resilience researchers and practitioners.

- More information on the newest module: https://hazards.colorado.edu/news/center-news/new-converge-training-module-available-conducting-emotionally-challenging-research

UPCOMING EVENTS

Workshops and Conferences

NOTE: A number of workshops and conference schedules have been rescheduled or shifted to online due to the ongoing pandemic. Some have reduced their registration fees. Please confirm details with conference organizers regarding the latest status.

Florida Floodplain Managers Association. April 13-16, 2021. St. Petersburg, FL. Hybrid *(virtual and in-person).*

Association of State Floodplain Managers (ASFPM) Annual Conference. May 9-13, 2021. Raleigh, NC. *In-person.*

46th Annual Natural Hazards Workshop. July 11-14, 2021. Broomfield, CO.

Natural Hazards Workshop Researchers' Meeting. July 14-15, 2021. Broomfield, CO.

8th International Conference on Flood Management (ICFM8). August 9-11, 2021. Iowa City, IA. In-person. See https://icfm2020.org for details.

Oklahoma Floodplain Managers Association. September 20-22, 2021. Norman, OK. *In-person.*

New Jersey Association for Floodplain Management. October 26-28, 2021.

Pennsylvania Floodplain Management Symposium. TBD, 2021. Harrisburg, PA. Deadline for presentation abstracts is December 1, 2020.

Georgia Association of Floodplain Management. TBD, 2021. Deadline for presentation abstracts is January 1, 2021. Email abstract submissions to Traci.Murray@atkinsglobal.com.

UPCOMING EVENTS

Courses & Webinars

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 (IRB) Procedures and Extreme Events Research

Floodplain Management Association Virtual Course:
- Post-Fire Hydrology and Runoff Management. January 20-21, 2021.

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

NOAA Office of Coastal Management (OCM) Training Resources:
- How to Facilitate a Virtual Meeting. Self-guided online training.
- Techniques for Facilitating Virtual Meetings. Reference guide.
- Virtual Meeting Engagement. Reference guide.
- Coastal Zone Management Act 101. Self-guided training resource.
- Green Infrastructure Effectiveness Database. Self-guided training resource.
- How to Map Open Space for CRS Credit. Self-guided training resource.
- Risk Communication Essentials for More Effective Conversations. Self-guided training resource.
- A Community Works Together to Restore the Floodplain and Reduce Damages. Case study.
- Coastal Community Resilience Indicators and Rating Systems. Report.

Many more resources are available at NOAA OCM DigitalCoast/Training.

FEMA Emergency Management Institute (EMI):
Admissions: 301-447-1000, netcadmissions@fema.dhs.gov. Full course schedule available at training.fema.gov.

FEMA webinars on Community Engagement and Risk Communication (CERC)
POC: Peter.Herrickjr@fema.dhs.gov

Communicating Culturally: When in Rome, Georgia…Indiana…Kansas
Thursday, December 3, 2020; 1-2 p.m. ET
Join by phone: (202) 860-2110; Access code: 173 840 4200; Password: NvG3yAsj4p4
Webinar link.

Understanding Audiences to Inform Outreach
Thursday, December 17, 2020; 1-2 p.m. ET
Join by phone: (202) 860-2110; Access code: 173 472 1337; Password: fZrPPpxt472
Webinar link.

Helping Local Communities Plan for Future Conditions
Thursday, January 14, 2021; 1-2 p.m. ET
Join by phone: (202) 860-2110; Access Code: 173 316 7377; Password: S9Xr8KVYSf5
Webinar link.

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