Spring 2019

The BUZZ
A Quarterly Newsletter

The BUZZ is a forum for Silver Jackets teams' successes, opportunities, and resources.

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Guam Establishes Nation's First Territorial Silver Jackets Team

By Jeff Herzog, USACE Honolulu District

Members of the Guam Silver Jackets Team gather for the initial meeting of the team. This marks the first official Territorial Silver Jackets Team in the Nation. (Photo by Jeff Herzog, 2019)

On Feb. 5, 2019, the Guam Silver Jackets team convened for the first time. Building resilience across our nation and beyond the 50 states, this historical event marked a first for the national Silver Jackets program as well as the Guam Silver Jackets. The Guam Team Charter, which was signed and adopted by six agencies within the government of Guam and is currently being routed for signatures by federal partners, establishes the nation's first territorial Silver Jackets team.

The U.S. Corps of Engineers (USACE) Honolulu District initiated discussions with the government of Guam in August 2018 with the Coastal Management Office and the Office of Civil Defense. "What we have done these past few months is an exemplary demonstration of leveraging resources," said Edwin Reyes, administrator of the Guam

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Coastal Management Program. "The technical studies that USACE provides along with the local and federal partnerships truly empowers the planning process by providing us with an understanding of our threats as well as a portfolio of options and pathways forward to help those who experience chronic flooding and erosion threats."

They emphasized the many hazards that Guam battles, including riverine flooding, coastal flooding, coastal erosion, tsunami, typhoon, as well intrusion into their fresh water aquifer.

Despite the challenge of being 19 hours ahead of the Honolulu District, coupled with being 15 hours ahead of the U.S. East Coast, the Guam Silver Jackets team serves to be the catalyst for interagency collaboration across all the agencies and territory. The team met for the second time in March to develop an interagency proposal for the upcoming federal fiscal 2020 proposal cycle.

Guam Governor Lou Leon Guerrero and Lt. Governor Josh Tenorio expressed the territory administration's commitment to working with not only USACE, but also other groups, both local and national, during their remarks to the Assembly of Planners on Feb. 6. They emphasized the many hazards that Guam battles, including riverine flooding, coastal flooding, coastal erosion, tsunami, typhoon, as well intrusion into their fresh water aquifer.

Ellen Berggren from the National Silver Jackets Team and Jeff Herzog, the Honolulu District Silver Jackets Coordinator for the Pacific Islands region, attended the meeting of both local and federal partners in Guam. "We find ourselves in this 'cost culture' environment at all levels of government," said Herzog. "The ability to align visions and priorities, working together and addressing hazards, assists leaders in making informed decisions." Herzog stressed that "it's not about creating more work, but maximizing outputs with limited inputs aligning the already identified work."

The coast of Guam. (Photo by Ellen Berggren, 2019)

IMMERSED: A Flood Mitigation Virtual Reality Experience

By Peter Herrick Jr., FEMA HQ

IMMERSED is an exciting virtual reality (VR) experience that gives people the feeling of living through a flood. It also shows them ways to plan for flooding before it occurs. The Federal Emergency Management Agency (FEMA) introduced IMMERSED in March 2017.

Wearing a headset, users see, hear, and carry out tasks in flooded locations. They explore seven scenes of a flooding event. First, they experience the flooding by moving through a home, along a road, and in a school. Then they go to an emergency management office and talk about ways the community could have reduced the impact of the disaster. Finally, they return to the home, the roadway, and the school where a flood has taken place, after their community reduced risks and prevented damage. This way, users understand more clearly how those actions can protect a community during a flood event.

For the past two years, FEMA has conducted an IMMERSED roadshow, focusing on how to change the way communities think about their risk. FEMA also supports community actions to reduce risk and increase safety. IMMERSED has been featured at more than 50 events. These include meetings hosted by the U.S. Chamber of Commerce, American Planning Association, National Association of Counties, National League of Cities, National Hurricane Conference, American Institute of Architects, and Association of State Floodplain Managers. Many of the more than 2,000 users said they learned something new and were excited by the technology.

Still image from IMMERSED virtual reality experience. (FEMA, 2019)

FEMA continues to explore new technologies to help communities prepare for natural disasters. Research shows that VR is a powerful tool for changing people's views. VR can motivate people to take real-world actions because it makes both the risks and the results seem more real.

For questions about IMMERSED, please contact Peter Herrick at peter.herrickjr@fema.dhs.gov or visit fema.gov/immersed for more information.

A player is IMMERSED in a virtual reality experience of flooding and flood risk management decision-making. (Resilience Action Partners, 2017)

VR can motivate people to take real-world actions because it makes both the risks and the results seem more real.

Applying Cutting-Edge Research through the U.S. Coastal Research Program

By Julie Dean Rosati, USACE Engineer Research & Development Center

The first USCRP Thematic Workshop to engage the broad coastal community on a particular topic was held in 2015 on "Dune Management Challenges" and resulted in a call for research proposals to be co-led by academic researchers and coastal practitioners.

The U.S. Coastal Research Program (USCRP) is a national coastal initiative to coordinate federal coastal research activities, strengthen academic programs, and build a skilled workforce. It features engagement from several federal agencies, academics, and coastal stakeholders (Nearshore Processes Community 2015; Elko et al. 2016). The U.S. Army Corps of Engineers (USACE) is one of the founding federal agencies in the USCRP and has leveraged work with many federal, nonfederal, and academic organizations to better define research needs, collaborate on ongoing research, support academic studies, and transfer knowledge to coastal practitioners and the public.

The first USCRP Thematic Workshop to engage the broad coastal community on a particular topic was held in 2015 on "Dune Management Challenges" and resulted in a call for research proposals to be co-led by academic researchers and coastal practitioners. As a result, five research proposals were prioritized and jointly funded in 2016 to address top needs related to coastal dune management challenges. The proposals were selected to conduct research on dunes that was were relevant to society, while working closely with coastal practitioners and local communities. Topics for the studies covered a range of needs pertaining to dunes, as described in Fact Sheets that can be accessed from the USCRP website and briefly summarized here.

Oregon State University and others worked with practitioner data from Bogue Banks, North Carolia, to improve a coupled dune-vegetation-process numerical model called Windsurf to add a module, Coastal Recovery from Storms Tool (CReST), within the Windsurf modeling framework to evaluate management strategies, such as sand fencing, beach nourishment, beach and dune grading, dune planting and removal, and hard engineering structures. Their findings demonstrated the skill of Windsurf in simulating dune evolution over hours to years and CReST in facilitating evaluation of environmental, ecological, and anthropogenic factors (Ruggiero et al, submitted).

Researchers from the University of North Carolina also worked with the data from Bogue Banks and obtained additional kite-based structure-from-motion data. They were able to develop an approach that uses measured topographic data as an initial condition and observed kite-based topography at a later time with machine learning methods to reduce errors in remote measurements. The method streamlines calibration of dune-vegetation numerical models and could be used with other coastal morphodynamic models (Goldstein and Moore, 2018).

A PhD candidate from Pennsylvania State University constructed a movable bed wind tunnel to evaluate the sand-trapping capabilities of dune vegetation and worked with high school students to provide a hands-on learning opportunity. The wind tunnel can reach wind speeds of 12.1 m/s (~40 miles per hour) and provided a multifaceted study of ecology, geology, sedimentology, and restoration options (Charbonneau and Casper, 2018). Researchers from North Carolina State University evaluated the trade-offs between constructed beach characteristics: swash runup and dune dynamics, which are particularly critical for coastal communities constructed extremely close to the shoreline. Their project findings indicate that estimating runup elevation

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on a beach nourishment project using an equivalent slope approach is sufficient for design of starter dunes, allowing practitioners to quickly evaluate project designs considering berms and the subsequent effects on potential dune overtopping. Researchers presented these findings along with a description of the project to the Town of Kitty Hawk, North Carolina, and the public in February 2018.

Finally, using data from the Outer Banks, North Carolina, since 1900, researchers from Arizona State University and University of Alabama evaluated the correlation between storm intensity and dune erosion at local and regional scales. They found that using storm intensity as a proxy for dune erosion was viable at regional scales, but data were not available in sufficient temporal and spatial resolution to evaluate local response.

The USCRP continues to grow and build upon federal, academic, and stakeholder partnerships. The USCRP hosted a second Thematic Workshop on Storm Processes and Impacts in April 2018, with 105 attendees, including representatives from federal agencies, academia, and state and local emergency management organizations (Elko et al., in press). Research challenges formulated during the workshop concerned improving the state-of-knowledge related to storm prediction and impacts and methods to better communicate storm information to coastal communities during a hurricane. Following the workshop, eight academic studies were funded to improve the state of understanding and predictive capability for storm impacts and provide knowledge to benefit coastal practitioners and communities.

For a complete list of references on the research studies discussed herein, please refer to Rosati et al. (Proceedings, Coastal Sediments 2019, World Scientific Publishing).

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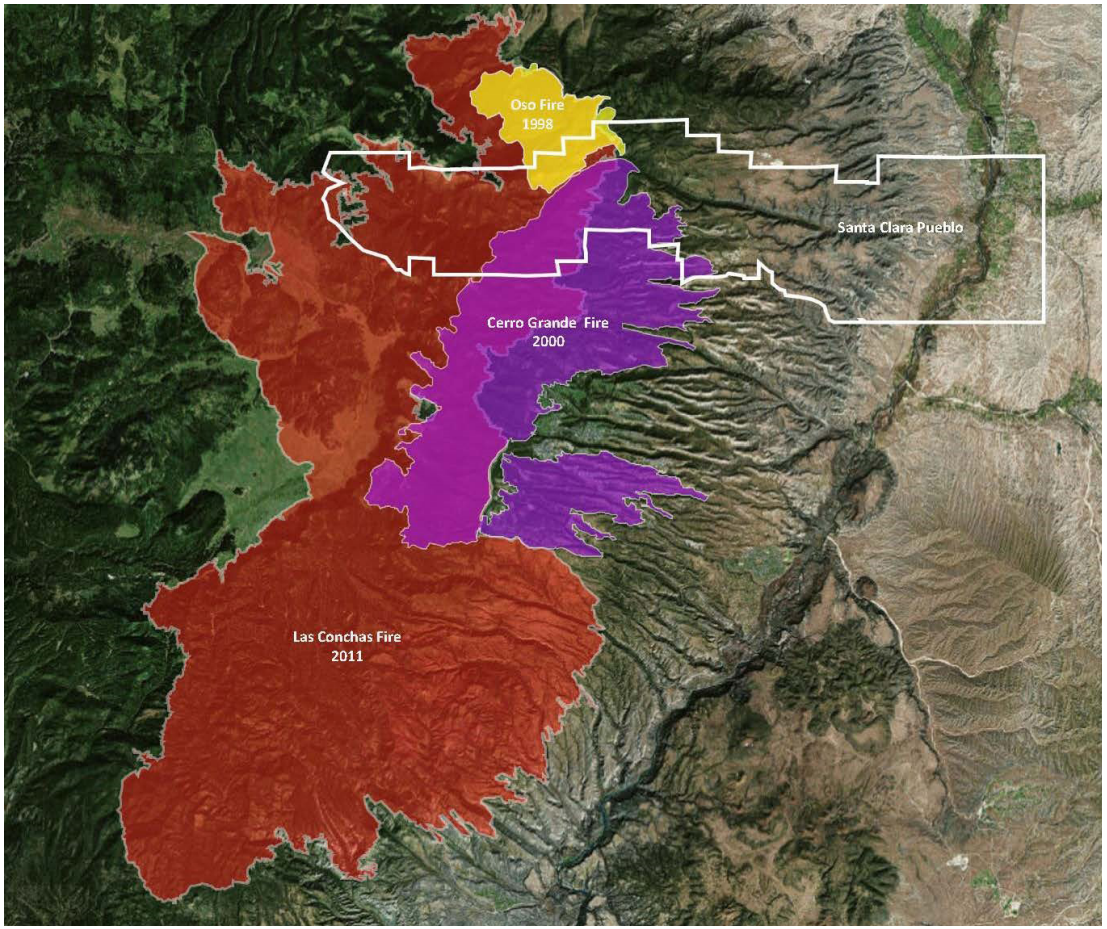
Fighting Floods after Fire: Restoring the Watershed and Resilience of Santa Clara Pueblo

By Garrett Altmann, Santa Clara Pueblo GIS Coordinator, and **Stephen Scissons,** USACE Albuquerque District

A series of devastating wildfires and floods have prompted the tribe to adopt a collaborative recovery strategy among federal, state, tribal, and non-governmental organizations.

Santa Clara Pueblo is a federally recognized Tribe inhabiting ancestral lands in northern New Mexico. The Tribal territory traces the Santa Clara Canyon from the eastern flank of the Valles Caldera National Preserve down to the Rio Grande Valley, descending 5000 feet in 26 miles. A series of devastating wildfires and floods have prompted the tribe to adopt a collaborative recovery strategy among federal, state, tribal, and non-governmental organizations. This strategy has enabled the Tribe to initiate landscape-scale post-fire restoration and flood mitigation.

Between 1998 and 2011, three major wildfires devastated the forested upper area of the Pueblo's watershed, clearing the vegetation and leaving only bare hydrophobic soils on loose volcanic substrate, dramatically increasing flood risks. Following the first two fires, the Pueblo began working with a diverse range of state and federal agencies, and non-governmental organizations (NGO's) to restore burned areas and mitigate flood risks. Then, within months of the massive 2011 Las Conchas Fire, seasonal monsoons brought the first flooding. Hydrologic analyses showed that the fire damage had quadrupled peak flood flows. The tribe further expanded its collaboration with government agencies and civil society partners, including a Section 203 watershed



The Santa Clara Pueblo (white boundary) has suffered from three major wildfires (colored areas) in recent years, particularly in its forested upland region. (Source: ESRI StoryMap, Santa Clara Forestry Department)

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study and comprehensive watershed management plan conducted with the U.S. Corps of Engineers (USACE). Meanwhile, flood risks remained elevated: in 2013, destructive floods and debris flows breached four dams, caused severe erosion, and extensively damaged infrastructure in excess of $200M.

The Pueblo's Federal partners include the U.S. Forest Service, EPA, National Park Service, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, Bureau of Reclamation, Natural Resources Conservation Service, and USACE. The Nature Conservancy and its Rio Grande Water Fund have contributed key expertise and resources, along with over 16 other NGO's, state agencies, and private sector firms. Crucial additional support has been provided by the San Manuel Band of Mission Indians and the Shakopee Mdewakanton Tribal Nation, which have helped the Pueblo to meet cost-share obligations for federal assistance.

Santa Clara Pueblo's strategy for rehabilitating the watershed and developing resilience combines a number of approaches in order to address multiple aspects of the complex challenge:

- Co-stewardship of neighboring lands. Not only is the watershed embedded in the larger ecosystem of the region, but all three fires originated beyond the Pueblo's boundaries.
- Flood mitigation, stream restoration and bioengineering. A variety of structural and non-structural techniques are being used to restore and develop resilient infrastructure.
- Erosion control and bank stabilization, emphasizing the use of natural materials whenever possible.
- Prescribed fire and mechanical thinning, to promote nutrient cycling for vegetation while mitigating the risk of runaway fires.
- Reforestation, including tree and shrub planting, to facilitate forest regeneration in the upper watershed.
- Monitoring, to measure the effectiveness of environmental restoration strategies.
- Promoting ecosystem services, to encourage the values provided by a functioning ecosystem, and to help restore the cultural connection to the landscape.
- Building internal capacity, so that the tribe is able to make informed decisions and take effective action to sustain its resilience actions into the future.

Santa Clara Pueblo Forestry Personnel utilize woody debris and boulders to construct a log mattress. This structure type is intended to reduce erosion, capture sediment and facilitate aggradation of incised channels. (Photo courtesy of Santa Clara Pueblo Forestry Department, 2018)

These structures are intended to reduce erosion, capture sediment and facilitate aggradation of incised channels. (Photo courtesy of Santa Clara Pueblo Forestry Department, 2018)

The Pueblo's Federal partners include the U.S. Forest Service, EPA, National Park Service, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, Bureau of Reclamation, Natural Resources Conservation Service, and USACE.

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The Watershed Management Plan (WMP) was recently approved, the USACE's first Tribal WMP, which achieves a critical milestone toward the strategic goals of comprehensive watershed restoration, resilience, and the preservation of cultural heritage.

Log barriers and bank tapering applied to tributary head cuts. These techniques are intended to reduce energy, erosion and aggrade sediment and gully nick points. Vegetation is propagated via grass plugs and shrub planting when water table permits. (Photo courtesy of Santa Clara Pueblo Forestry Department, 2017)

Governor J. Michael Chavarria, summarizes the stakes of this effort for the Tribe:

> "For the community, and most especially the children, there is an enormous sense of loss and also a sense of fear because the Santa Clara Canyon that has for generations been at the core of the tribe's identity is gone. Indeed, the damage is now a threat to their existence. Through collaboration, ecosystem restoration and adaptive management, the ecosystem and cultural ties to this sacred landscape can be reconnected."

Already the interagency partnership is yielding fruit: the Pueblo's final Watershed Management Plan (WMP) was recently approved, the USACE's first Tribal WMP, which achieves a critical milestone toward the strategic goals of comprehensive watershed restoration, resilience, and the preservation of cultural heritage.

The Muddy River: Where Vitality Meets Flood Risk

By Patricia Fontanet Rodríguez,
FUSACE Sacramento District

Residents in Clark County know that floods are common. In fact, the Muddy River, located approximately 60 miles northeast of Las Vegas, floods almost every year. The river, only 32 miles long, is considered an essential economic driver for nearby communities. For generations, many communities have depended on the broad, low-lying fertile lands along the Muddy for their livelihoods, despite harsh flood events. Settling along the Muddy was a logical choice for Native Americans and early settlers who wished to farm the area.

"The power of water is awesome and not to be trifled with." This is the message Tim Sutko, former Environmental Mitigation Manager at the Clark County Regional Flood District for 29 years, would like everybody in Southern Nevada to understand.

Today, alfalfa and Sudan grass are the primary crops grown during the summer; oats and barley for pasture are harvested during the winter. Diversions from the Muddy are also used to irrigate nearby farm land and to supply water for the Reid Gardner Power Generating Station and Moapa Valley Dairy. Non-diverted flows continue toward the Overton Arm of Lake Mead.

Muddy River flood damage on I-15 near mile marker 92, NV. (Clark County Regional Flood Control District, September 2014)

The importance of the Muddy cannot be overstated, but neither can its flood risk. Since the Muddy is surrounded by flat lands, when floodwaters overtop the river, they spill into the floodplain and travel long distances reaching homes and farms. Sometimes these floods can be unforgiving.

The largest recorded flood occurred in 1981, known as the California Wash Flood; it caused millions of dollars in damages. A huge storm caused six and a half inches of rain to fall in under an hour. More than 200 residences were damaged; railroads, and roads became inaccessible; and more than 500 dairy cows died in the

The river, only 32 miles long, is considered an essential economic driver for nearby communities.

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Residents who have lived in the Moapa Valley for generations understand the Muddy River better than anyone else. They know how to use the river for irrigation, cultivation, and recreation.

event. Although no human deaths were reported, this was only due to the heroic efforts of people like Kelly Booth, a long-time resident of Moapa.

After the rain started to pour, Booth and his boss headed over to the California Wash, where the water was about 13 feet deep. Booth could see mobile homes starting to become submerged. Booth noticed a family still inside one of the mobile homes. He and a few others got on a boat and made their way to the trailer, which was almost totally submerged by the time they reached it. The family of six, including a two-year old baby, were trapped inside and only had about six inches of air left to breathe. Booth and the others forced the window open and rescued the entire family.

The Clark County Regional Flood Control District categorized the California Wash Flood as a "500-year" flood event, meaning a flood that has a one in 500 (0.2 percent) chance of occurring in a given year.

"The standard for the design of flood control facilities is the 100-year event. That's the storm that has a one percent chance of occurring in any given year," says Sutko. "You can always have a bigger storm. It's rare. But it can happen. And it does happen."

Flood risk management projects have been completed and are ongoing in the Moapa Valley area to help manage flood waters. These projects include levees, diversion structures, and concrete culverts designed to mitigate the impacts of floods at least as frequent as those with a 1 percent chance of occurring each year. Should another 0.2 percent annual chance event occur, such as the one in 1981, residents of Moapa Valley remain at risk.

Ultimately, it is up to individuals to understand their flood risk and to take measures to prepare in case of a flood event. Flood risk management structures offer some protection, but are only one part of the flood preparedness equation. Residents who have lived in the Moapa Valley for generations understand the Muddy River better than anyone else. They know how to use the river for irrigation, cultivation, and recreation. In turn, residents who share a livelihood with the river also share the responsibility to recognize flood hazards.

Round the National Silver Jackets Table

The National Silver Jackets Team comprises twelve Federal agencies that meet quarterly (see inset box). "Round the Table" is a standing agenda item at National Team meetings, with each agency sharing information about new tools, publications, initiatives, and information exchange and learning opportunities. These informal discussions may launch more in-depth discussion at future meetings or inspire future collaborative efforts. Resources shared at a recent meeting are listed below.

State SJ Teams can send feedback to the National Silver Jackets Team at IWR. SilverJackets@usace.army.mil

Nature-based or Green Infrastructure Resources

- FWHA US Department of Transportation — Nature-based Resilience for Coastal Highways website with pilot project, papers and links to webinars, tools and other resources, including the Vulnerability Assessment and Adaptation Framework, 3rd Edition.
- EPA — Hazard Mitigation and Water Quality Discussion Forum List Serve — Provides an open forum for posting and discussion of news and information related to a FEMA and EPA initiative to encourage use of water quality and nature-based approaches in hazard mitigation planning. Join by email to lyris@lists.epa.gov and include in either subject line or message body: 'Subscribe EPA-HAZARD-MIT [Your First Name] [Your Last Name]' (e.g., Subscribe EPA-HAZARD-MIT Jane Doe). Once confirmed, you can post a message to the list by sending to epa-hazard-mit@lists.epa.gov.
- EPA — Watershed Academy — Lessons Learned on Integrating Water Quality and Nature-based Approaches into Hazard Mitigation Plans

Post-wildfire Resources

- FEMA's Bioengineered Wildfire Mitigation Job Aid — November 2018 — Supports individuals who want to incorporate bioengineered wildfire mitigation techniques into their hazard mitigation planning or implement these techniques with FEMA Hazard Mitigation Assistance (HMA) planning and project grants.

National Silver Jackets Team Purpose

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

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

These informal discussions may launch more in-depth discussion at future meetings or inspire future collaborative efforts.

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NOAA/National Weather Service Office of Water Prediction (NWS OWP) is requesting support for development of a NOAA Atlas 14 volume to include the states of Idaho, Montana, Oregon, Washington, and Wyoming.

Other Resources of Interest

- Union for Concerned Scientists — "Turning Soils into Sponges – How Farmers can Fight Floods and Droughts," Author: Andrea Basche, August 2017.
- NOAA/National Weather Service Office of Water Prediction (NWS OWP) is requesting support for development of a NOAA Atlas 14 volume to include the states of Idaho, Montana, Oregon, Washington, and Wyoming. NOAA Atlas 14 volumes are the authoritative federal source for precipitation frequency information. (https://hdsc.nws.noaa.gov/hdsc/pfds/). The NWS is soliciting sponsors to contribute to this essential activity. Previous studies have been funded in part by contributions from federal, state, county, and local government bodies. To provide a method for accepting and managing sponsor funding, the NWS is using a Federal Highway Administration (FHWA) Transportation Pooled Fund process. The NWS solicitation is published at: https://www.pooledfund.org/Details/Solicitation/1490 .
- NOAA OCM — "Adapting Stormwater Management to Coastal Floods," Online decision-support resource.
- NRCS — Weekly Report — Water and Climate Update — Weekly report prepared using data and products from the National Water and Climate Center, focusing on seasonal snowpack, precipitation, temperature, and drought conditions in the United States.

Upcoming Workshops and Conferences

- Federal Interagency Sedimentation and Hydrologic Modeling Conference; June 24 – 28, 2019; Reno, Nevada — Joint Federal Interagency conference with sessions pertaining to post-fire response and flood response.
- 8th International Conference on Flood Management (ICFM8), "Lowering Risk by Increasing Resilience;" August 17 – 19, 2020; Iowa City, Iowa; The University of Iowa campus — Abstract submission July 1–Sept 15, 2019, with notification of acceptance Dec 1,2019 and full paper submission Jan 15– April 27, 2020. See https://icfm2020.org for details and to subscribe for updates.
- Transportation Resilience 2019; November 13 – 15, 2019; Washington DC — Conference will discuss extreme weather efforts — with a focus on transportation.

National Silver Jackets Team Participating Agencies

- Environmental Protection Agency
- Federal Emergency Management Agency
- Federal Highway Administration
- U.S. Housing and Urban Development
- National Aeronauts 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. Department of Transportation
- U.S. Fish and Wildlife Service
- U.S. Geological Survey

Teaming Tip: Five Dynamics vs. Five Dysfunctions of Teams

Each edition of The Buzz in 2019 will feature at least one teaming tip. The Winter issue introduced Google's data-driven research on the five traits or "key dynamics" of the most successful teams, and briefly highlighted the single most important trait, which underpins the other four: "psychological safety." It turns out that Google's five dynamics mostly correspond to consulting guru Patrick Lencioni's well-known Five Dysfunctions of a Team, with some interesting differences. Comparing the two frameworks may yield insights for leaders or team members regarding how to mitigate dysfunction and make their teams more effective:

Lencioni's foundational dysfunction is "absence of trust." Lencioni's definition of "trust" closely tracks Google's definition of "psychological safety;" without it, team members will be too afraid to make themselves vulnerable to each other, too afraid to risk rejection of their ideas, too afraid to advocate for what they believe are the best decisions or courses of action, and too afraid to take on critical responsibilities. Lencioni's second dysfunction, "fear of conflict," follows closely on lack of trust. Without trust (or psychological safety), team members are afraid to engage in constructive conflict. The ability to take the risks that are inherent in conflict is also folded into Google's notion of psychological safety. According to Lencioni, without constructive conflict — a vigorous process of hashing out ideas — it is difficult to fully clarify issues or to gain the buy-in necessary for team-wide commitment.

Google's Key Dynamics of Effective Teams	Lencioni's Five Dysfunctions
1. Psychological safety	1. Absence of trust
2. Dependability	2. Fear of conflict
3. Structure and clarity	3. Lack of commitment
4. Meaning of work	4. Avoidance of accountability
5. Impact of work	5. Inattention to results

Lencioni suggests that one technique for understanding a team's own dynamic — thus providing a foundation for making its conflict more constructive — is "conflict profiling." This involves two steps. First, individual team members assess their own personality types and interaction styles. Next, the team collectively evaluates its conflict style. Lencioni provides several tools for doing this. For example, he argues that conflict falls on a scale from "artificial harmony" at one end — wherein everyone is deferential to the point of avoiding the key issues —to purely destructive "ad hominem attacks" at the other; he pushes for finding a mid-point at which participants are somewhat uncomfortable but not threatened. Lencioni finds that most teams, wanting to avoid the discomfort of conflict, tend to hover too close to the "artificial harmony" side of the scale.

According to Lencioni, teams which engage in more substantive debates more often will ultimately be more effective than other teams. Thus, he also offers a

Comparing the two frameworks may yield insights for leaders or team members regarding how to mitigate dysfunction and make their teams more effective...

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When each team member feels that his or her work is personally rewarding and that the team's work makes a difference to the community or the world, the team will be more deeply motivated and ultimately more effective in achieving its goals.

"depth/frequency" quadrant diagram for rapidly assessing a team's performance:

Infrequent, substantive debates	Frequent, substantive debates
Infrequent, shallow debates	Frequent, shallow debates

Teams wishing to improve their performance should try to nudge their assessments toward the upper right of the diagram[1].

Once a team has gained a better understanding of its own conflict dynamics, it can act to shape and constrain future debates through "conflict norming." Through this exercise, the team agrees to a set of simple ground rules for guiding debates and preventing them from veering too far toward either artificial harmony or destructive ad hominem attacks. For example, some teams may be comfortable with raised voices; others may not. Some teams may wish to have all of their debates moderated or to follow a formal debate structure; others may prefer a free-for-all. Whatever it is, committing to written rules of engagement can help provide clear boundaries and a safe space for vigorously hashing out decisions and ideas.

As noted above, Lencioni's notion of commitment requires both clarity and buy-in; this aligns with Google's "structure and clarity" dynamic. Without commitment, it is difficult to hold team members accountable for their roles. And Lencioni's "avoidance of accountability" dysfunction is essentially the obverse of Google's "dependability" trait. Can team members count on each other?

From here, the two frameworks diverge in an interesting and informative way. Lencioni's fifth dysfunction is "inattention to results." He argues that any team's raison d'etre is to achieve some kind of measurable results, and without a determined focus on the key metrics that characterize results for each role and for the team as a whole, no team will be able to achieve its ultimate goals.

Google's fourth and fifth dynamics, on the other hand, are about the meaning of the work, both personally for each member ("meaning of work") and for the world more broadly ("impact of work"). When each team member feels that his or her work is personally rewarding and that the team's work makes a difference to the community or the world, the team will be more deeply motivated and ultimately more effective in achieving its goals.

Perhaps, for Lencioni, personal motivation and the why of a team's work are out of bounds of discussion; they go without saying. His focus is the production of external outputs. In contrast, perhaps Google simply takes it for granted that measurable results are a team's ultimate deliverable. Its focus is on the subjective experience of the team members. Arguably, both perspectives are valid and important: meaning and motivation, as well as measurable results, are fundamental to teamwork — indeed, to any kind of work done by human beings.

For more from Google and Lencioni on what makes an effective (or dysfunctional) team, visit the following links.

https://www.tablegroup.com/books/dysfunctions

https://rework.withgoogle.com/blog/five-keys-to-a-successful-google-team/

[1]Note that Lencioni's agonistic (i.e., conflict-forward) model is culturally rooted in the experience of mainstream American corporate executive teams and may not be appropriate for all cultural contexts.

Bulletin Board

2018 National Inventory of Dams Now Available to the Public

The 2018 National Inventory of Dams (NID) is now available at http://nid.usace.army.mil. The NID is a congressionally authorized database documenting dams in the United States and its territories. It is maintained and published by USACE.

Major changes to the 2018 NID allow users to download or export certain NID data and to view the hazard potential classification. State or federal agencies may restrict access to information on dams within their jurisdiction, so for information not published in the NID, USACE recommends consulting the agency exercising responsibility over the dam. The hazard potential classification published in the NID does not reflect the condition of a dam. That information can be found in the condition assessment, which is available to approved government users. Historically, the NID has been published every two years, but starting in 2019, it will be updated annually.

In coordination with FEMA, USACE aims to obtain more accurate and complete information. The NID initially consisted of approximately 45,000 dams, which were gathered from extensive record searches as well as feature extraction from aerial imagery. Since updates have been regularly conducted, data collection has been focused on the most reliable data sources, which are the many federal and state government dam construction and regulation offices. As a result, the database has expanded to more than 90,000 dams. In most cases, dams within the NID criteria are regulated by federal or state agencies, which have basic information on the dams within their jurisdiction.

Further information on the National Inventory of Dams is also available on the FEMA website.

FEMA Region III Sponsors Monthly Coffee Break Webinars

FEMA's Region III is hosting a series of webinars for hazard mitigation planners and other partners interested in reducing risk in their communities. These "Coffee Breaks" are hour-long webinar sessions hosted every other month to provide mitigation best practices and highlight the work happening at federal, regional, state, and community levels to reduce flood risk across the region.

The Coffee Breaks are open to everyone involved in hazard mitigation, resiliency, or risk reduction planning in the public and private sector. This includes community planners, emergency managers, floodplain managers, GIS technicians, government officials, contractors, and anyone involved in the development and implementation of hazard mitigation and risk reduction strategies.

To register for future Coffee Break Webinars and to learn more, please visit our Eventbrite webpage.

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Sign up by June 28 for Summer CTP Overview Course

The next Cooperating Technical Partners (CTP) Special Topics Course will be held at FEMA's Emergency Management Institute (EMI) on August 26–29, 2019 in Emmitsburg, MD. If you're a newer CTP, new to a CTP organization or simply need a refresher, this Special Topics course is an opportunity to learn from a high-level overview of technical, communications, and grants management topics. In order to apply, you must work for an organization that is currently a CTP. If your organization is interested in becoming a CTP, please reach out to your Regional FEMA office.

To register:

1. Use this link for the pre-approval survey to receive your invitation letter to apply.
2. Once you receive your pre-approval letter, you must apply directly to EMI by June 28th, 2019 (attaching your pre-approval letter to your application).

During the training, participants will…

- review regulatory flood hazard analysis and products;
- review non-regulatory flood risk analysis and products;
- refresh their knowledge on guidelines and standards;
- dive into grants management;
- learn about the role of communication in behavior;
- understand precision audience profiles and how primary types of bias impact the way audiences receive messages;
- learn how to utilize the CERC Playbook as a resource when communicating Risk MAP to stakeholders.

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

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Bulletin Board

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Register for Transportation Resilience 2019

In November, the Transportation Research Board (TRB) of the National Academies of Sciences, Engineering, and Medicine will host the Second International Conference on Resilience to Natural Hazards and Extreme Weather Events. The TRB is organizing this conference with support from the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials. This conference builds on the successes of the first conference held in 2015 and the 2018 Transportation Resilience Innovations Summit and Exchange.

Share your successes and challenges to build more resilient multimodal transportation networks at the conference. It will feature case studies, applied research, and innovative approaches. The target audience is transportation agency practitioners, researchers, consultants, and project managers from around the world. The conference will provide practical information on emerging best practices and state-of-the-art research results used by planners, policy makers, and designers along the following three themes: Proactive Adaptation, Resilient Recovery, and Transformative Resilience.

Upcoming Events

June 10, at US Patent and Trade Office, Alexandria, VA. Course: Facilitation Basics for Coastal Managers, NOAA Office of Coastal Management. For additional information or to register, e-mail jon.abboud@uspto.gov.

June 12 at 2:00 pm EDT. Silver Jackets Webinar: Adapting Stormwater Management for Coastal Floods, with Josh Murphy, National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management. Contact IWR.SilverJackets@usace.army.mil for additional webinar information.

June 17-18, Toronto, ON. International Conference on Flood Risk Management and Climate Change. Register here.

June 17-20, Emmitsburg, MD. Course: HAZUS-MH for Flood, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

June 17-20, Emmitsburg, MD. Course: Managing Floodplain Development through the NFIP, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

June 19 or 20, at Northeast Fisheries Science Center, Woods Hole, MA. Course: Facilitation Basics for Coastal Managers, NOAA Office of Coastal Management. For additional information or to register, e-mail amanda.mccarty@noaa.gov.

June 25, Davis, CA. California Extreme Precipitation Symposium: The Impacts of Global Warming on California -- A 30-Year Retrospective and Future Projections. Register here or contact Gary Estes at gary@cepsym.org.

July 15-18, Emmitsburg, MD. Course: Advanced Floodplain Management Concepts II, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

July 17 at 1:00 pm EDT. Webinar: Community Rating System Activity 610: Flood Warning & Response. Registration is required but free. Register and check out additional CRS webinars at https://crsresources.org/training/.

July 29-August 1, Emmitsburg, MD. Course: Unified Hazard Mitigation Assistance Project Implementation & Programmatic Closeout, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

July 29-August 1, Emmitsburg, MD. Course: Unified Hazard Mitigation Assistance (HMA) Application Review and Evaluation, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

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Upcoming Events Continued from page 18.

August 26-29, Emmitsburg, MD. Course: Managing Floodplain Development thru the NFIP, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

August 27-28, Tucson, AZ. Course: Introduction to Environmental Collaboration and Conflict Resolution, U.S. Institute for Environmental Conflict Resolution. Register here or contact training@udall.gov.

September 3-6, San Diego, CA. Floodplain Management Association Annual Conference: Knowledge is Power: Keeping the Lights on Floodplains, Resilience Planning and Risk Reduction. Register here or contact Elizabeth Cardwell at elizabeth@floodplain.org.

September 23-26, Emmitsburg, MD. Course: Fundamentals of Building Science, FEMA Emergency Management Institute. Admissions: 301-447-1000, netcadmissions@fema.dhs.gov.

September 24-27, Boise, ID. Northwest Regional Floodplain Management Association annual conference: Fires, Floods, Mud & More: Integrated Processes. Abstracts are due by June 15. Register here.

October 10-11. Chicago, IL. International Conference on Flood Recovery, Innovation and Response. Register here.

October 10-11. Chicago, IL. International Conference on Risk Analysis and Hazard Mitigation. Register here.

November 5-6, San Francisco, CA. International Conference on Flood Risk Management and Sustainable Drainage. Register here.

November 13-15, Marshall, MN. Minnesota Association of Floodplain Managers annual conference. Abstracts due by July 26. For more information, contact info@mnafpm.org.

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