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# The BUZZ

A Quarterly Newsletter

July 2013

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

## Mark Your Calendars for Silver Jackets Webinar Week



The USACE, recognizing the importance of encouraging partnerships and sharing information to improve flood risk management, will host a "Flood Risk Management & Silver Jackets Webinar Week" in August 2013.

Webinar Week will be offered starting Tuesday August 20, through Thursday, August 22, with additional training sessions offered on Friday, August 23.

Webinar sessions will be held between 1p.m. and 5p.m. EST to accommodate all time zones. Among the many topics to be included in

webinar sessions are flood risk communication training and application examples, dam and levee safety topics, nonstructural flood risk management alternatives, and use of green infrastructure to reduce and manage flood risk.

Webinar Week provides a means for maintaining connections and encouraging exchanges while the USACE prepares for the next face-to-face Flood Risk Management and Silver Jackets Workshop. Webinar Week offers an opportunity to reach a larger

number of participants while exploring advantages and limitations of virtual interchange.

For planning purposes, please register now at [www.nfrmp.us/frmpw/2013webinarweek/](http://www.nfrmp.us/frmpw/2013webinarweek/). As the agenda and materials for Webinar Week are finalized, updates will be posted to the website. For any questions, please contact Stephanie Bray ([Stephanie.N.Bray@usace.army.mil](mailto:Stephanie.N.Bray@usace.army.mil)) or Jennifer Dunn ([Jennifer.K.Dunn@usace.army.mil](mailto:Jennifer.K.Dunn@usace.army.mil)).



*There are gains to be made by keeping these relationships kindled throughout the year, and not just during spring break-up.*

## Spotlight: Newly Formed Alaska Team Kindles Relationships Past Seasonal Operations

By Jason Norris, USACE Alaska District

Alaska contains 663,000 square miles of land and water, an area the size of Texas, California, Montana, and Minnesota combined. The state has 6,650 miles of coastline, over 3 million lakes making up 33,904 miles of shoreline, and over 3,000 rivers. In such a water-rich state, flooding is an annual issue. This is especially true during the spring thaw, known locally as the spring "break-up."

Each spring, the state of Alaska activates its Emergency Operations Center to conduct "River Watch," which monitors river conditions around the state and focuses mainly on the state's two largest rivers, the Yukon and Kuskokwim Rivers. This action brings a number of state and federal agencies together to monitor a dangerous time of year when ice jams can send house-sized pieces of ice into riverine villages, causing massive damage and threatening a subsistence way of life that has existed for thousands of years. Throughout the spring break-up, the team works together, then deactivates until such a time when they are needed again.

However, it has become apparent there could be some gains to be made by keeping these relationships kindled

throughout the year and not just during spring break-up. With this idea in mind, Jason Norris and Lance Overstreet from the USACE Alaska District approached Ann Gravier, Alaska's State Hazard Mitigation Officer at the Department of Homeland Security and Emergency Management, to gauge the state's interest in forming a Silver Jackets team.

It was apparent that Alaska's Department of Commerce, Community, and Economic Development needed to be heavily involved in the team since the organization coordinates the state's floodplain management activities. Since one of Overstreet's duties is acting as the USACE Alaska District's floodplain manager, he was able to build upon a previously established relationship with Taunnie Boothby, the state's floodplain management and flood mitigation programs coordinator.

Through many conversations and e-mails, the team began to draft a charter. The Idaho Silver Jackets team generously offered their charter as a template, and much of it worked well for the Alaska team. On May 7th, the charter was finalized with the signature of Col.



Christopher Lestochi, Alaska District Commander.

The team held their first meeting on May 29th. They laid the ground rules for meetings, discussed the ongoing flooding on the Yukon River, and began to discuss each other's programs. The team's current priorities are coastal flood risks in Seward and riverine flood risks in the Matanuska-Susitna and Yukon river valleys. During the current Galena Federal Disaster, the team has an opportunity to share their resources and expertise to coordinate floodplain management technical assistance and provide high water mark and levee reconnaissance.

The Alaska District would like to thank their partners at the State of Alaska for their unending patience and tireless work in the charter drafting process and is looking forward to partnering with them in this new endeavor.

## West Virginia Formalizes Silver Jackets Team

West Virginia completed the signing of a Silver Jackets Team Charter in June 2013. The core agencies that committed to the vision to support sustainable actions and reduce the level of risk from flooding within the state include WV Division of Homeland Security and Emergency Management, the Federal Emergency Management Agency Region III, and the USACE Huntington, Pittsburgh, and Baltimore Districts.

The charter formalizes the establishment of a Silver Jackets team in West Virginia and provides a framework to guide team members for the implementation of eleven goals identified in the charter. Some of the goals include identifying actions and strategies to reduce the consequences of flooding, leveraging resources, collaboration on outreach, incorporating mitigation in the recovery process, and increasing the number of charter signees.

As the team evolves, other entities may choose to participate; however, the core agencies have committed to working with the team. Kevin Sneed, the WV National Flood Insurance Program Coordinator, and Kurt Buchanan from USACE Huntington District are working to strengthen the team.

## Federal Initiative Helps Communities Showcase Local Flood Risk

Nearly every community in the United States is at risk for flooding, but most Americans do not believe they are at risk.

To provide a frequent reminder of local flood risk and motivate people to take steps to reduce their flood risk, the Federal Emergency Management Agency (FEMA) worked with seven other federal agencies to develop the “Know Your Line: Be Flood Aware” high water mark initiative.

The “Know Your Line” initiative helps communities showcase their local flooding history and motivate their residents to take action by posting high water mark signs in prominent places to show how high flood waters have risen in the past.

Communities are encouraged to hold a high profile event to announce the initiative and to follow up with a wide range of supporting activities to remind residents of their flood risk over time and prompt them to take steps to reduce it.

To inform the initiative, FEMA and its partners are working with communities nationwide to conduct pilot projects.

The pilots will help refine the initiative’s materials, messages, and create new materials that communities may need to better communicate about their flood risk. To date, three pilot projects have been launched in Frankfort and Franklin County, KY, Harrisburg, PA, and Nashville, TN, with two additional pilots planned for Orange Beach, AL and Columbus, OH.

A national rollout of the initiative is planned for fall 2013, which will open enrollment to all interested communities nationwide.

As communities will be working with several of their federal agency counterparts to implement this initiative, FEMA will keep state Silver Jackets aware of new initiatives launching within their states.

Silver Jacket representatives are also encouraged to participate to the extent possible in initiatives within their states and to nominate interested (or potentially interested) communities by sending an email to Vincent Brown at FEMA at [vincent.brown@fema.dhs.gov](mailto:vincent.brown@fema.dhs.gov). To learn more about the “Know Your Line: Be Flood Aware” initiative, please visit [www.fema.gov/knowyourline](http://www.fema.gov/knowyourline).



**“Know Your Line” initiative helps motivate residents to take action.**

*No single agency has the full responsibility of flood risk management.*

## Flood Risk Communication: Nebraska Silver Jackets Team Merges Key Messages

By Crystal K. Lesmeister, Nebraska DNR, and Tony D. Krause, USACE Omaha District

As part of the Nebraska Silver Jackets initiative, flood risk communication was identified as a priority concern. With so many agencies involved with flood risk management, emergency response, and water resources, the number of flood risk messages available to the public can be overwhelming.

No single agency has the full responsibility of flood risk management, and not surprisingly, no single website provides the public with a full understanding of flood risk management or flood response.

To address this need, the team developed the [Flood Risk and Floodplain Management Website](#). The website aims to merge key flood risk messages by presenting information from existing websites in an understandable format with the intention of helping the general public make informed flood risk decisions.

The idea began in 2011 when the Director of the Nebraska Department of Natural Resources (NDNR), Brian Dunnigan, noted a need for handouts that emergency responders could provide to the public during flood emergencies.

The handout would contain key informa-

tion to help quickly direct people to the person or agency capable of answering their questions. However, narrowing the list of key contacts down to one page proved to be difficult.

Instead, the Silver Jackets team took the idea, converted it to a digital resource, and incorporated the aspect of flood risk management.

To address the need for a handout, the team produced a one-page flier that directs the public to the website and provides a framework for its content. This handout, complete with a Quick Response (QR) code, can be provided at community outreach meetings and/or during emergency response situations.

The website was developed collaboratively by the Nebraska Silver Jackets team and is hosted by NDNR. Material for the website was provided by a number of agencies, and the content continues to be updated as new information becomes available.

In organizing the vast amount of material, two information tracks were



The QR code is a barcode that links to the website when scanned with a smartphone.

created:

**Flood Risk** to understand and mitigate against the potential consequences of flooding.

**Flood Response** to understand and respond to an ongoing eminent threat of flooding.

A key message in the first track, Flood Risk, reinforces the idea that risk is a combination of exposure and consequences and that mitigation is the result of risk-informed decision making.

The numerous publications, handouts, websites, videos, and other resources referenced in this track are organized in the following manner:

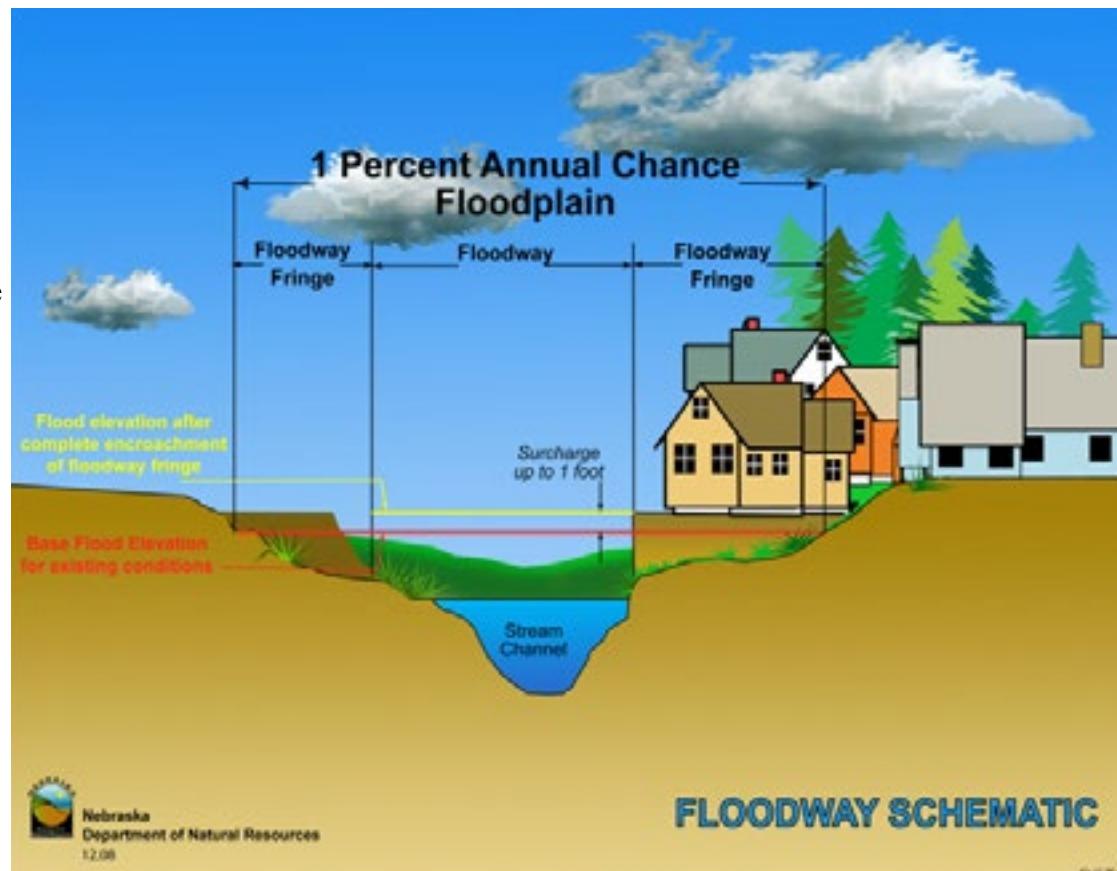
- Recognizing your flood risks.
- Understanding your risks, including flood exposure, consequences, and levee safety.
- Mitigating your risk.

The second track, Flood Response, covers flood response and brings together information from many agencies to provide a clear vision for emergency responders and the public on the activities and resources available during the following phases of an emergency:

- Preparing for a pending flood,
- Taking action during a flood, and
- Rebuilding after a flood.

Accessing the site is simple, and the structure makes the website easy to use and understand. Many Silver Jackets team members' websites provide a link to the site. It can also be accessed by mobile devices, such as smartphones, using a QR code.

The QR code can be printed on business cards, fliers, and other materials for dis-



tribution to the public. In the field, U.S. Army Corps of Engineers (USACE) staff and others are already utilizing business cards with the QR code to help answer questions and direct citizens to flood risk information.

The Flood Risk and Floodplain Management Website provides a collaborative, multi-agency approach by presenting

flood information and key messages from multiple sources in a clear and comprehensive format.

The series of webpages helps direct the general public by providing a single starting point for all types of flood-related information by organizing it in a linear manner and allowing the public to self-educate and ultimately better understand and respond to flood risk.

New  
website  
features  
key flood  
risk and  
flood  
response  
messages.

*Silver  
Jackets  
respond to  
June 2012  
flood event,  
the most  
damaging  
flood in  
Duluth's  
history.*

## Silver Jackets Team Supports Documentation of June 2012 Northeastern Minnesota Flood

By Terry Zien, USACE St. Paul District, and Christiana Czuba, USGS

Given the severity of the June 2012 flooding in northeastern Minnesota, the U.S. Geological Survey (USGS), in cooperation with the Federal Emergency Management Agency (FEMA), led a study to document the meteorological and hydrologic conditions leading to the flood and to compile flood-peak gage heights, streamflows, and annual exceedance probabilities at USGS streamgages. The study also provided data to construct flood profiles and flood-peak

inundation maps.

USGS and FEMA collaborated and consulted extensively with Silver Jackets team members in determining the scope of the study and locations needing flood documentation. Selected results of the study are included in this article; full results of the study are available in USGS Scientific Investigations Report 2012-5283 available at <http://pubs.usgs.gov/sir/2012/5283/>.

Heavy rains on June 19–20, 2012, with as much as 10 inches in some areas, caused severe flooding in northeastern Minnesota and prompted the National Weather Service (NWS) to issue area flood, flash-flood, and river flood warnings. The flood peaks were exacerbated by a relatively rainy spring, including one of the wettest Mays on record. During the June 2012 flood, evacuations, water rescues, and road closures were common in communities affected by the flooding.

Damages from flooding were extensive and included major transportation disruptions and damages to homes and businesses, dams and flood-control structures, and parks and recreation areas. Damage caused by the flooding



View of home flooded by St. Louis River in Fond du Lac neighborhood of Duluth, MN, taken from helicopter on June 21, 2012 (photo provided by Walter Leu, MnDOT).

resulted in a Presidential Disaster Declaration on July 6, 2012, for nine counties in northeastern Minnesota, as well as six counties in central Minnesota that had been impacted by a separate event.

Flood information was needed by federal, state, and local agencies to make informed decisions in meeting mission requirements related to flood hazard mitigation, planning, and response. Timely information on the magnitude and frequency of floods was important to help respond to flood damage, enhance emergency response management, protect infrastructure, provide recovery guidance from the National Flood Insurance Program and State regulatory programs, and plan for future flood events.

Agencies that are dependent on this information include FEMA, U.S. Army Corps of Engineers (USACE), NWS, the Minnesota Department of Natural Resources (MDNR), the Minnesota Department of Public Safety (MDPS), and the Division of Homeland Security and Emergency Management (MHSEM). Many of these same agencies requesting post-flood information to make informed decisions are members of a State Hazard Mitigation Team, commonly referred to as Silver Jackets.

The severity of flooding was put into regional context by computing flood-peak magnitudes and annual exceedance probabilities at 35 USGS streamgages. This June 2012 flood event was the most damaging flood in Duluth's history, so it was no surprise to find that record streamflows were recorded at 13 of these streamgages. The analyses showed that five streamgages had annual exceedance probabilities estimated to be less than 0.002 (0.2 percent; recurrence interval greater than 500 years), and another four streamgages had annual exceedance probabilities between 0.002 and 0.01 (1 percent; recurrence interval greater than 100 years).

A flood-peak inundation map was generated for six communities showing the maximum extent and depth of floodwaters in and around the communities. Inundation maps contain locations and elevations of the high-water marks that were surveyed soon after the floods occurred. The high-water marks were checked for mathematical or other errors, and the maps were reviewed by USGS field personnel.

Anecdotal information from local residents was used to interpret the water-surface profile between high-water marks and to extrapolate the area of

inundation beyond the surveyed area as necessary. The maps also were visually compared to photographs and videos of flooding available online and from local residents, as well as to aerial photographs taken by Minnesota Department of Transportation (MnDOT) personnel from a helicopter during the flooding. In one case, these aerial photographs were used to extrapolate the maps beyond the extent of surveyed high-water marks.

This USGS report represents a significant Silver Jackets success story with respect to coordination, collaboration, meaningful and timely action, and follow-through. FEMA Region V provided funding for the USGS to take the lead and compile the report; however, NWS, MHSEM, and other Silver Jackets agencies also contributed during the course of the study. For example, the city of Duluth, USACE Detroit District, and USACE St. Paul District assisted in collecting high-water-mark data. The Minnesota Silver Jackets team was highly effective in leveraging limited agency funds to assist in this multi-agency study. The fact that the Silver Jackets team was already in place before the event laid the groundwork for effective



An inundation map showing approximate flood-peak extents and depths for June 2012 on St. Louis River in Duluth, MN. (Map prepared by C. Czuba, USGS, Nov 2012. Map based from 2010 National Agricultural Imagery program.)

coordination and timely action.

The demonstrated teamwork provided an assurance to community officials and residents that they were receiving comprehensive customer service through a broad range of government programs. Having several agencies attend damage assessment meetings presented a unified message and introduced the counties to helpful programs. This approach goes a long way to promote good will and potential holistic solutions. Terry Zien from the USACE St. Paul District noted that by attending joint public meetings with other agencies, he gained not only knowledge, but also a broader perspective.

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*After two years, Pennsylvania communities are still recovering from Irene and Tropical Storm Lee.*

## Non-Structural Flood Proofing Workshops Assist Hard Hit Pennsylvania Communities Rebuild

By Marisa Lewis, USACE Baltimore District

Hurricane Irene tore through central Pennsylvania on August 27, 2011 and was followed within weeks by Tropical Storm Lee. Though these fall storms were not the most damaging to ever hit the state, their “one-two punch” had devastating effects.

These events resulted in two separate Presidential Disaster Declarations and opened the door to mitigation grants to build back stronger. Now, almost two

years later, the area is still rebuilding, and communities and residents continue to need technical assistance and guidance throughout the process of applying for grants and rebuilding.

Recognizing this need, the Pennsylvania Silver Jackets team hosted non-structural mitigation workshops in three hard hit communities in central Pennsylvania on May 7-9.

In each community, a three hour work-

shop was held for community officials and was followed by an evening session for residents and businesses.

A multi-agency group consisting of representatives from USACE, the Pennsylvania Emergency Management Agency (PEMA), and the PA Department of Community and Economic Development (PA DCED) paneled both sessions. Representatives from the three presenting agencies, as well as FEMA, the PA Department of Environmental Protection (PA DEP),



Molly Kaput (FEMA), Michelle Harel (FEMA), and Tom Hughes (PEMA) speaking with West Pittston, PA residents.

and the Pennsylvania Association of Floodplain Managers (PAFPM) were available at informational booths after each evening session to provide further information and answer individual questions.

The workshops were structured in two parts. During the first part, members of the USACE National Non-structural Flood Proofing Committee (NFPC) provided descriptions and explanations of various non-structural flood proofing options, including structural elevation, relocation, buyouts, wet and dry flood proofing, ring levees, flood warning systems, and emergency preparedness plans.

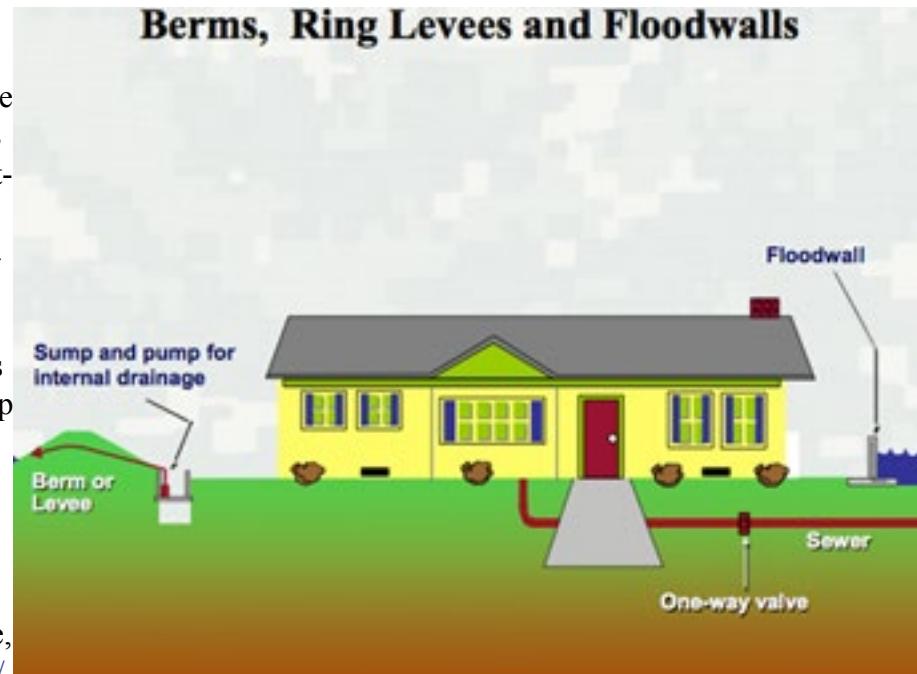
The information provided was general in nature and intended to provide community officials, residents, and businesses with some tools to help make their communities less prone to future flood damages.

The second part of the workshop provided a comprehensive overview of mitigation programs and funding that are administered by USACE, PEMA, and PA DCED to assist flood prone communities.

It also covered the National Flood Insurance Program that is available directly to residents and businesses. The detailed presentations from both parts of the workshop can be viewed by accessing the Pennsylvania section of the Silver Jackets website, [www.nfrmp.us/state/factPennsylvania.cfm](http://www.nfrmp.us/state/factPennsylvania.cfm).

It was obvious to panel members that the workshops were an outreach success in that they generated good conversation on mitigation measures and requests for assistance on a way forward. It was also apparent that the participants were grateful to get answers and contact information.

The PA Silver Jackets team is considering more workshops within the state because of the high level of interest from



the participants and other communities.

If your Silver Jackets team would like to host non-structural flood prevention workshops, contact the National Non-Structural Flood Proofing Committee at [dll-cenwo-nfpc@usace.army.mil](mailto:dll-cenwo-nfpc@usace.army.mil). Your request will be evaluated based on travel funds and available resources.

If you have any questions or would like to learn more about the PA Silver Jackets workshops, please contact Marisa Lewis at [marisa.n.lewis@usace.army.mil](mailto:marisa.n.lewis@usace.army.mil).

**Workshop provides residents and businesses with tools to help make their communities less prone to future flood damages**

**Communication  
is key  
to better  
joint efforts  
to reduce  
risks  
from  
natural  
hazards.**

## Missouri Gets One-Door-To-Corps Report

By Brian Rast, USACE Kansas District

Understanding the responsibilities shared by multiple state and federal agencies for mitigating against natural hazards, particularly flooding, can be a challenge. This is especially true in a state such as Missouri that borders eight other states, tying Tennessee for the most in the nation. Complexities arise due to the fact that there are two USACE division offices and six district offices overlapping within the state, and also that within each district there are a number of communities of practice, each with a different program emphasis.

Obviously, communication is key to better joint efforts to reduce risks from natural hazards. Responding to this communication challenge, the USACE Kansas District took the lead in collaboration with the Missouri Silver Jackets team in the development of a special report to better inform the state on valuable USACE resources and programs as the state updates the statewide mitigation plan.

The recently completed report, entitled “USACE Hazard Mitigation Action in Relation to the State Hazard Mitigation Plan in Kansas and Missouri 2013,” will assist Missouri’s State Risk Man-

agement Team (SRMT) in updating the state plan to meet the three-year revision requirement. The USACE Silver Jackets team members and representatives from the different USACE communities of practice were asked to provide input for the report.

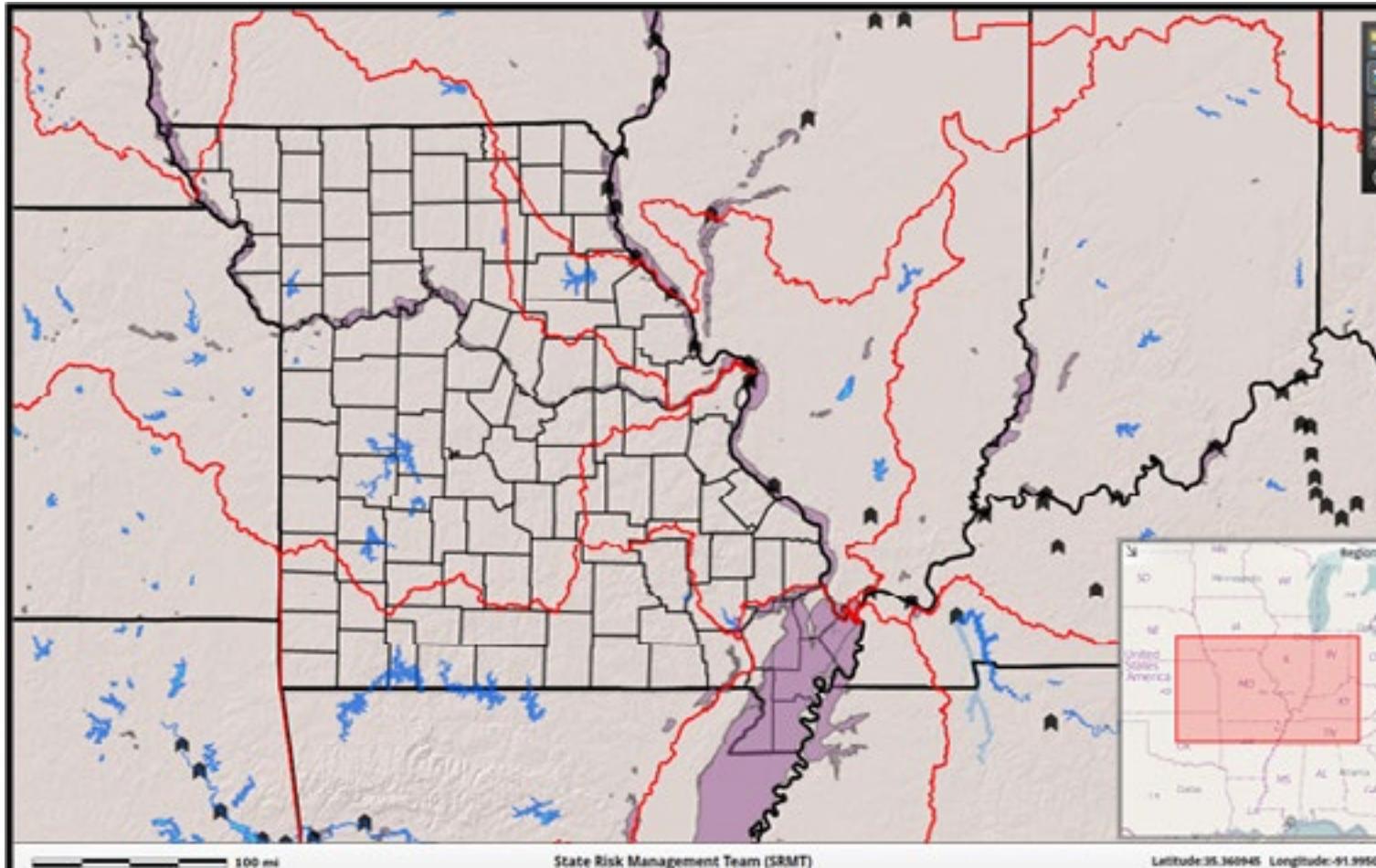
The report acts as a concise description of USACE hazard mitigation work in the state and provides “one door to the Corps” where the USACE districts are unified in one communication effort. The document covers ongoing and planned flood risk studies, dam safety activities, emergency action plans, levee safety measures, and Silver Jackets projects among others. Most notably, it includes interim risk reduction measures (IRRMs) related to the USACE Dam and Levee Safety programs.

These IRRMs are temporary actions taken to reduce inundation risks posed by dams and levees while long-term solutions are planned and implemented. This information will augment the state’s comprehensive strategic mitigation planning, assist in project prioritizing, and most importantly, increase the chances of justifying collaborative projects in state budget cycles. The result is more

efficient use of state and federal money for mitigating flood hazards.

The report begins with a summary map, similar to the one shown above, using USACE SimSuite as a tool that presents an overview of all the USACE dams and levees in the state. To serve as an interagency communication directory, the first few pages provide summary tables for whom to contact in each USACE district. Tables list the districts’ Flood Risk Management Program Manager (PM), Dam and Levee Safety PMs, Emergency Management chiefs, Silver Jackets Coordinators, and Flood Plain Management Service PMs. Because state hazard mitigation includes many natural hazards, the report also presents actions USACE may take during droughts. Prime examples of what was shared included each USACE dam, any current major repairs in the long term, and the interim risk reduction measures being done in the short term.

A listing of who receives USACE emergency action plans was included with details about new enhanced dam break inundation maps from USACE’s Modeling Mapping and Consequence



The communication challenge can be complicated when many districts overlap a state.

Center. Major data that develops with levee sponsors over the next three years will be added to a similar summary report in 2016 in advance of the next statewide mitigation plan revision.

The current report was presented at a regular SRMT team meeting in March. In April, the report was shared with

local and county floodplain managers at the state's floodplain manager conference. The state and conference managers coordinated an official SRMT meeting for those agencies that want to focus on flood hazards. During the meeting, USACE planner and lead Silver Jackets Coordinator, Brian Rast,

PE, CFM, also explained opportunities with pilot projects and described several success stories. The USACE Dam and Levee Safety Programs were a major part of the brief, as SRMT and the USACE districts in Missouri seek to enhance coordination opportunities with community floodplain managers.

*Report acts as concise description of USACE hazard mitigation work in the state, providing “one door to the Corps.”*

**Global tools intended to support decisions from local land use planning to influence global policy on disaster risk reduction.**

## Engaging Communities to Address Natural, Climate-Related Hazard Mitigation through Hazard Visualization

By Zach Ferdaña and Chris Zganjar, The Nature Conservancy

At the recent Association of State Floodplain Managers (ASFPM) annual conference in Hartford, Connecticut, The Nature Conservancy (TNC) demonstrated the use of two decision support tools, Coastal Resilience and the Climate Wizard, that provide easy to use, Internet-based approaches for visualizing hazards globally, regionally, and locally.

Floodplain and emergency managers need better tools to assess the effects of hazards on communities.

Coastal Resilience is a partner coalition led by TNC that includes the Natural Capital Project, NOAA, USGS, the University of Southern Mississippi, the United Nations University, and the ASFPM.

It is an approach that includes planning methods and web mapping tools for adaptation planning and post-storm redevelopment decisions with a focus on applying nature-based solutions to disaster risk reduction (DRR).

This suite of local to global tools is

intended to support decisions from local land use planning to influence global policy on DRR.

The approach is a four-step process:

1. Assess risk and vulnerability.
2. Identify adaptation solutions using built and nature-based defenses.
3. Implement the right solutions.
4. Measure effectiveness.

Tailored risk and solution assessments and integrated databases on social, economic, and ecological resources are provided in easy to use tools that address specific coastal issues such as flooding and sea level rise, future land cover, natural coastal defenses, community planning, risk reduction, and habitat restoration.

A new platform of tools for Coastal Resilience is set to launch this August and features ten different geographies around the world, including a global application.

Complementary to Coastal Resilience, the Climate Wizard is a web-based

analysis tool that uses state of the art climate models and advanced statistical analysis to examine both the current and future climate conditions of any place on earth.

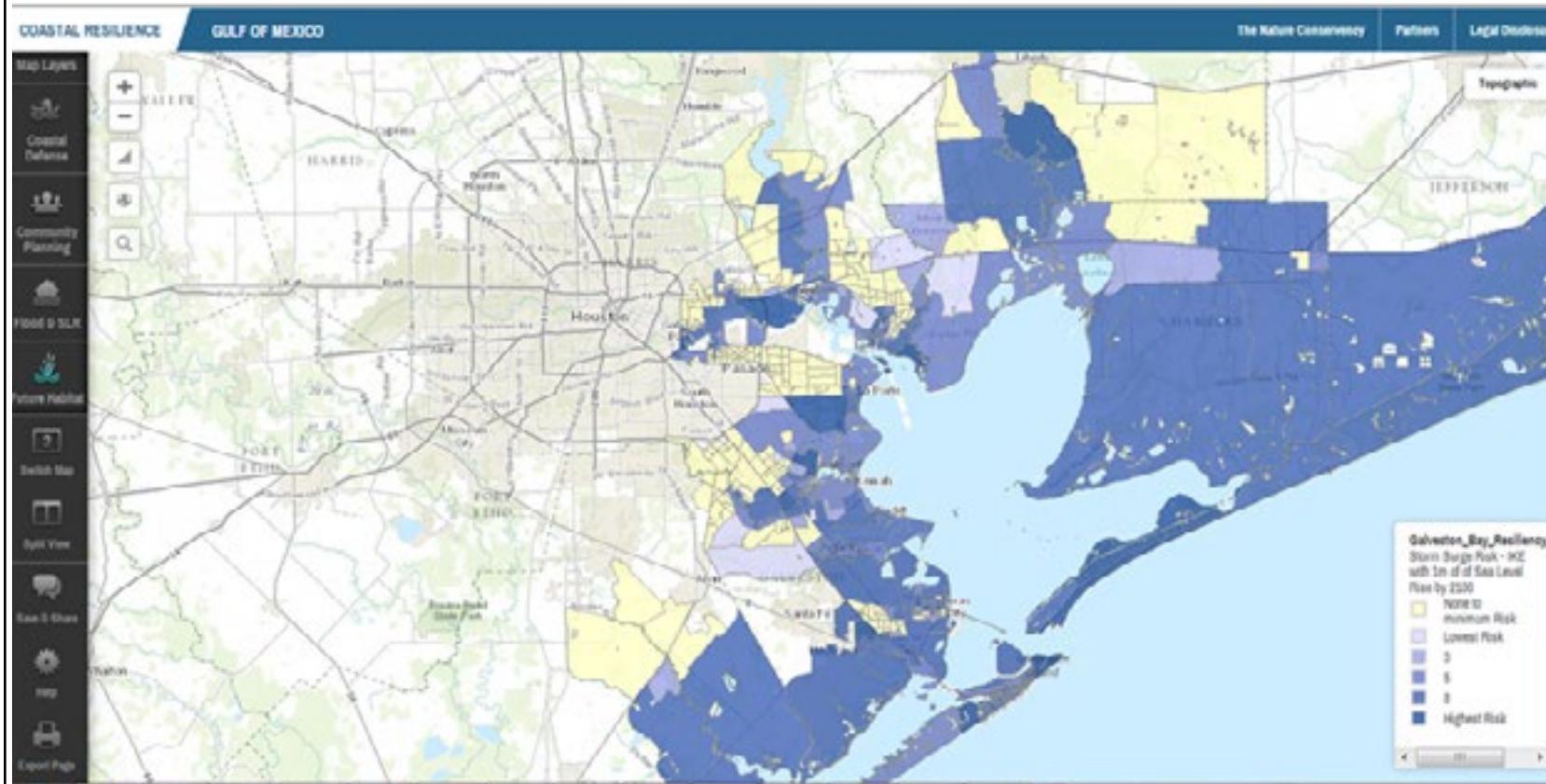
Pre-calculated map products are viewable through a map interface in which the user can easily toggle between a variety of climate conditions related to different greenhouse gas emission scenarios for two future time periods.

Additionally, the user has the ability to examine the statistical variations of 16 different general circulation models used to generate these future climate projections by displaying individual model results or selected model combinations.

A recent addition to the Climate Wizard impacts analysis framework is a new tool called Climate Wizard Custom Analysis.

This custom analysis version of the Climate Wizard is a web application that allows users to define unique climate analyses for specific areas.

A visitor to the website can perform historical and future climate analyses using



An analysis using a coastal resilience decision support tool in the Gulf of Mexico shows at risk communities to a storm surge scenario similar to Hurricane Ike with 1 m of sea level rise. "High" risk communities are those that have higher social vulnerability and exposure to rising sea levels.

information from 96 climate models that project the future rainfall, temperature, and moisture conditions from anywhere around the world.

Since the large climate datasets are stored and analyzed remotely on powerful computers, users of the tool do not

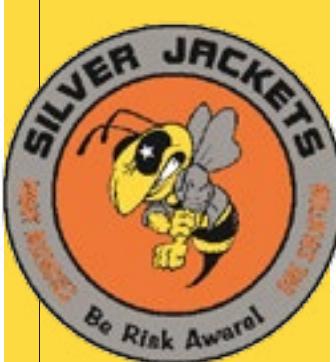
need to have fast computers or expensive software, but simply need access to the internet.

Using web technologies to develop and deliver tools such as Coastal Resilience and the Climate Wizard enables scientists, managers, and policy makers

to better assess the impacts of natural hazards and help guide decisions that address real issues for climate adaptation and disaster risk reduction.

If you would like more information on these tools, please contact Zach at [zferdana@tnc.org](mailto:zferdana@tnc.org), or Chris at [crganjar@tnc.org](mailto:crganjar@tnc.org).

*Using  
web  
technologies  
can help  
guide  
decisions  
that  
address real  
issues for  
climate  
adaptation  
and  
disaster  
risk  
reduction.*



## Tool Box

Everything you wanted to know about the U.S. Department of Housing and Urban Development's (HUD) programs is at your finger tips, including major mortgage, grant, assistance, and regulatory programs.

The recently compiled 135 page booklet detailing HUD's programs is now posted in the "[Tool Box](#)" section of the Silver Jackets website.



## Upcoming Events

|   |  |  |
|---|--|--|
| <p><b>July</b></p> <p><a href="#"><u>Tennessee Association of Floodplain Management Conference</u></a><br/>Gatlinburg, Tennessee<br/>July 30-August 2</p>   | <p><b>August</b></p> <p><a href="#"><u>Flood Risk Management and Silver Jackets Webinar Week</u></a><br/>August 20-22</p>                              | <p><b>September</b></p> <p><a href="#"><u>California/Nevada/Hawaii Floodplain Management Association's Annual Conference</u></a>, Anaheim, CA, Sept. 3-6</p> <p><a href="#"><u>Indiana Association of Floodplain and Stormwater Management Annual Conference</u></a>, Pokagon State Park Angola, IN, Sept. 11-13</p> |
| <p><b>October</b></p> <p><a href="#"><u>Wisconsin Association for Floodplain, Stormwater, and Coastal Mangement Annual Conference</u></a><br/>“Making Waves! Our 10-Year Event”<br/>Madison, WI<br/>October 10-12</p> | <p><b>November</b></p> <p><a href="#"><u>Minnesota Association of Flood Plain Managers Annual Conference</u></a><br/>Austin, MN<br/>November 20-22</p> | <p><b>December</b></p> <p><a href="#"><u>National Association of Flood and Stormwater Management Agenies 2013 Annual Conference and Expo</u></a><br/>San Francisco, CA<br/>December 9-11</p>   |



**US Army Corps  
of Engineers**