



# The BUZZ

*A Quarterly Newsletter*

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

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## New Leadership within the USACE Office of Homeland Security

The U.S. Army Corps of Engineers (USACE) Office of Homeland Security is pleased to welcome Mr. Mark Roupas as the Acting Deputy Chief, replacing Mr. Ray Alexander.

In this role, Mr. Roupas will oversee matters that are related to Flood Risk Management, Emergency Management, and Critical Infrastructure Protection and Resilience.

His last assignment was as a Senior Policy Advisor and the USACE Liaison Officer within the Office of the Assistant Secretary of Defense for Homeland Defense and America's Security Affairs.

In this position, Mr. Roupas advised the Assistant Secretary of Defense and other senior Defense Department civilian and military leaders on USACE emergency response activities and actions under Emergency Support Function Three

of the National Response Framework, the National Disaster Recovery Framework, and Public Law 84-99, Flood Control and Coastal Emergencies.

In addition, he was instrumental in the development of the National Mitigation Framework and several related Federal Interagency Operational Planning efforts.

Mr. Roupas served twenty years in the United States Army, with troop assignments at every operational level.

He first became associated with USACE when he was assigned to the 18th Engineer Brigade in Karlsruhe, Germany.

His Army career culminated with his assignment as a Policy Officer in the Office of the Deputy Chief of Staff, Personnel, United States Army.



Mr. Roupas began his civilian career with USACE in 2001 as the Chief of Military Personnel. He received a Bachelor of Science in Political Science from East Tennessee State University and a Master of Science in Engineering Management from George Washington University.

He is committed to continuing to build on the Divisions' and Districts' successes in the National Flood Risk Management Program and the states' Silver Jackets teams nationwide to mitigate against future flood losses.

## California Joins the National Silver Jackets Program as the 41st State

*1 in 5 Californians lives in a floodplain so there is risk throughout the state.*

*Silver Jackets expresses the cooperation and resourcefulness of agencies working together to promote recovery.*

The California Department of Water Resources and the USACE Sacramento District marked the beginning of California's Silver Jackets program in a signing ceremony in November at the state-federal flood operations center in Sacramento.

"One in five Californians lives in a floodplain so there is risk throughout the state," Gary Bardini, Deputy Director of Integrated Water Management said.

"The state has been earnestly trying to work better on our own to respond to flood events and to recover. Silver Jackets is really what expresses the cooperation and the resourcefulness of agencies working together to promote recovery after a crisis occurs," he added.

The Department of Water Resources will be the lead coordinating agency for the state of California. Other participating agencies include the Federal Emergency Management Agency, National Weather Service, California Office of Emergency Services, U.S. Bureau of Reclamation, Natural Resources Conservation Service, and the Central Valley Flood Protection Board.

"Silver Jackets is about each state and other agencies starting discussions before disasters, building relationships, and

improving communication, coordination, and collaboration so that we can more effectively respond in an emergency and help recover faster afterward," Sacramento District Deputy Commander Lt. Col. Braden LeMaster said.

The signing also marked the beginning of an annual California Flood

Preparedness Week that was created to improve awareness of flood risk and community preparedness for flood emergencies.

The week featured community events throughout the state, including the unveiling of high water mark signs in Sacramento and Roseville.



Program leaders for California's new Silver Jackets team Terri Wegener (left), with the Department of Water Resources, and Judy Soutiere (right), with the USACE Sacramento District, pose with DWR Deputy Director of Integrated Water Management, Gary Bardini and Sacramento District Deputy Commander Lt. Col. Braden LeMaster after a ceremony celebrating the new team in Sacramento, Calif., Nov. 4, 2013. (Photo courtesy of the California Department of Water Resources/Released)

## Virginia Partners with North Carolina to Host a Flood Risk Information System

By Michelle Hamor, USACE Norfolk District

Building on a Memorandum of Agreement between the Division of Emergency Management within the North Carolina Department of Public Safety and the Dam Safety and Floodplain Management Division within the Virginia Department of Conservation and Recreation, the Virginia Silver Jackets funded the expansion of the North Carolina [Flood Risk Information System \(FRIS\) website](#) to host Virginia flood hazard data.

This Silver Jackets pilot project was needed since the Commonwealth of Virginia did not have a state-wide system for displaying Flood Insurance Rate Maps (FIRM). Businesses and residents relied heavily on communities to help them identify flood risks, and each community varied widely on the extent of the effectiveness of outreach. FEMA's Cooperating Technical State program, which Virginia participates in, also supported this project.

The primary purpose of participating in the Flood Risk Information System is to improve the display and dissemination of Virginia flood hazard maps and risk data along with the supporting models through a free, publicly accessible, geo-spatial web application.

Citizens are now able to enter an address to view where the property lies within the FIRM. Business leaders are better able to understand and prepare for flood risk, and homebuyers can readily research a property's flood risk before purchasing or building a home by using the tool.

This tool will greatly improve public awareness and outreach and efficiently disseminate important information. There was an evident need for more outreach, which became particularly obvious during a National Flood Insurance Program Open House when several citizens reported they did not know they were in a floodplain until they were signing closing documents.

Like many states, flooding is Virginia's most catastrophic and costly natural disaster, as Governor McDonnell noted in a February 2012 news release. The partnership is also viewed to be economically beneficial since Virginia and North Carolina share 400 miles of river basins and watersheds. After the framework was laid, funding was needed only for expansion.

As data becomes available, future goals include allowing users to estimate flood damage and costs to properties on an individual and community-basis.



The data could also be used to support and prioritize mitigation actions and increase education about flood hazard mitigation options.



*This tool will greatly improve public awareness and outreach and efficiently disseminate important information.*

## Idaho to Hold National Flood Safety Awareness Week in March

By Susan Cleverley, Idaho Bureau of Homeland Security, and Ellen Berggren, USACE Walla Walla District

*Idaho Silver Jackets recognized National Flood Safety Awareness Week by supporting a weather merit badge workshop.*

Since 2010, the Idaho Silver Jackets team has celebrated the National Flood Safety Awareness Week by hosting outreach activities, each year targeting a different audience. Previous years' activities have included daily public service announcements issued by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service, U.S. Geological Survey, and USACE Walla Walla District.

Idaho Silver Jackets agencies also hosted booths at the Idaho State Capitol with representatives available to answer

questions about programs and assistance available for state and local governments to plan for, respond to, recover from, and mitigate against future flood events. Exhibits included information about the National Flood Insurance Program, Idaho's State Hazard Mitigation Plan, levee safety, and emergency response.

In previous years, the team prepared and distributed outreach materials during the week, including an Idaho-specific flood awareness guide entitled Idaho Floods!

Each year, the Idaho Governor signs a proclamation recognizing Flood Safety Awareness Week and the Idaho Silver Jackets team while acknowledging the importance of preparing for and mitigating flood risks.

National Flood Safety Awareness Week, celebrated in mid-March, is an annual campaign promoted by the NOAA National Weather Service and other agencies to highlight some of the many ways floods can occur, the hazards associated with floods, and what people can do to save lives and property.

In 2013, the Idaho Silver Jackets recognized National Flood Safety Awareness Week by supporting a weather merit

badge workshop for local Boy Scouts at the Boise WaterShed Environmental Education Center in Boise, Idaho. The workshop included multiple work stations staffed by team members that provided information and facilitated hands-on activities. Groups of Boy Scouts and Cub Scouts and their parents and leaders rotated through the workstations before reconvening for a water cycle presentation and outdoor activity.

The workshop included the following workstations:

Troy Lindquist, Senior Hydrologist with NOAA National Weather Service, hosted Weather Jeopardy, incorporating merit badge requirements into the game. Participants learned about meteorology, climates, and weather forecasts. The activities provided information about the differences between severe weather watches and warnings; weather safety rules; high and low pressure systems; cold and warm fronts; cloud types; and explanations of how wind, rain, lightning, and hail are formed.

Phil Morrisey with the Natural Resources Conservation Service's Snow Survey demonstrated Sno-Tel equip-



Molly Wood from USGS works with scouts on rain gages.

ment, explaining snow measurement, data interpretation, and how it relates to spring runoff. The presentation included information about career responsibilities, training, and educational requirements.

Malissa Bowman, Logistics Coordinator with the American Red Cross of Greater Idaho, facilitated a scavenger hunt related to items found in a 72-hour emergency kit. The scouts were briefed on the importance of disaster preparation, safety precautions, and given a list of items that should be included in a 72-hour kit. Samples of dehydrated food, flashlights, and first aid kits were provided to enhance home emergency kits.

Molly Wood, Surface Water Specialist with the U.S. Geological Survey, built a rain gauge with the scouts using sand, a ruler, and a 2-liter pop bottle. Participants learned how to measure and record rainfall with a daily log and how precipitation monitoring is used to predict weather, warnings, and flood response.

Jacob Wolf, Air Quality Meteorologist with the Idaho Department of Environmental Quality, gave a presentation on pollution. He explained how acid rain



Workshop attendees participate in an outdoor game to reinforce the water cycle elements.

forms and described its effects on communities and the environment, including waterways, fish, and buildings. The boys conducted a hands-on test sample.

Cindy Busche, Environmental Education Coordinator with the Boise Watershed Environmental Education Center, provided instruction on the water cycle incorporating precipitation, streamflows, and groundwater storage. She explained the mission of the Watershed Center and described how wastewater is treated and returned to the environment.

Participants drew a water cycle diagram and participated in an outdoor game to reinforce the water cycle elements.

Susan Cleverley, Senior Mitigation Planner with the Idaho Bureau of Homeland Security, provided information on hazards and mitigation efforts in Idaho. She also distributed surveys to collect public input for the update to the State Hazards Mitigation Plan.

The 2014's National Flood Safety Awareness Week will occur March 16th through the 22nd.

**2014's  
National  
Flood  
Safety  
Awareness  
Week  
March  
16 - 22**

## Let FloodSmart Help with Your Upcoming Winter Flood Communications

*FloodSmart tools can help communities prepare for the winter rainy season.*

### Winter Rainy Season Flood Risks

Flooding can happen at any time of the year. But for some parts of the country, winter is an especially risky time.

From late October through March, for example, the West Coast receives the majority of its annual rainfall, making it more susceptible to flooding.

Residents and businesses in these areas might be subject to riverine and coastal flooding as well as alluvial fan, deep floodplain, and debris flow flooding. In addition, last summer's wildfires left the ground charred, barren, and unable to



absorb water, creating conditions ripe for flash flooding and mudflow.

On the other side of the country, the East Coast generally experiences at least one Nor'easter per year. These storms can bring heavy snow and rain, as well as gale-force winds that cause rough seas and coastal flooding. Another flood risk, especially in the Mid-Atlantic, is heavy snow followed by heavy rain. The snowpack is unable to absorb the excess moisture and flooding can result since the ground is frozen.

Community leaders can ensure that everyone understands the risk of flooding and promote the sale of flood insurance. Residential coverage starts as low as \$129 a year for a Preferred Risk Policy, which is available in moderate- to low-risk areas.

### Community Resources

FloodSmart.gov offers a variety of tools and resources to help community officials communicate flood risk to their community. They can visit the FloodSmart [Community Resources](#) page for tips on talking to residents and businesses in their community.

There is a dedicated section of the

FloodSmart website that provides information on [Heavy Rains](#) flood risk. On it, visitors can learn more about the kinds of flood risks this time of year brings and how to prepare for them. There is also a link to download a [fact sheet](#) to help communicate these risks.

FloodSmart's [Cost of Flooding](#) tool helps people visualize the amount of damage flood water can cause. Just a few inches of water can cost tens of thousands of dollars in damage. Another tool is the [Flood Risk Scenarios](#), which helps people see the different ways flooding could affect them.

At [FloodSmart.gov/toolkits](#), resources are identified to promote flood insurance, discuss changes in flood risk due to map changes, and address levee issues. The mapping and levee toolkits contain templates for outreach materials and letters that can be customized for use in local outreach. There is also a Spanish language toolkit for communities with Spanish-speaking populations.

These tools will help communities prepare for winter rainy season, and flood insurance will provide financial assistance if purchased at least 30 days in advance of a flood.

## Sacramento and Roseville Post High Water Mark Signs

The USACE Sacramento District and elected officials from the Cities of Roseville and Sacramento along with representatives from state and federal agencies celebrated the end of the second annual California Flood Preparedness Week by unveiling a high water mark sign in Garcia Bend Park in November, 2013.

Congresswoman Doris Matsui, Councilmember Darrell Fong, and representatives from the California Department of Water Resources, the Central Valley Flood Protection Board, the Federal Emergency Management Agency (FEMA), and the USACE spoke on the importance of flood risk awareness and preparedness during the commemorative event.

Although USACE does build infrastructure that reduces risk, “just as important, actually probably more important than what we build, is how the community understands and prepares to deal with floods,” Tambour Eller, the Deputy District Director for Programs and Project Management at the USACE Sacramento District, noted.

The “[Know Your Line: Be Flood Aware](#)” High Water Mark initiative, created by FEMA and seven other

federal agencies, helps communities remind residents of major local floods and encourages them to prepare for the next one.

Participating communities post high water mark signs in prominent places and conduct ongoing education to build local awareness of flood risk and motivate people to take action.

The sign at Garcia Bend Park, a neighborhood adjacent to the Sacramento River in one of the city’s most flood-risk prone areas, marks the height of water on the Sacramento River side of the levee during the 1986 flood. It is one of seven areas in the City of Sacramento that will receive the high water mark signs.

Four more signs will mark the water height in Roseville, which saw significant flooding in 1986 and 1997. Vice Mayor Carol Garcia, one of the speakers at the event, recalled her own personal experience as a victim of the flooding that year.

“We had a two year old daughter, and I was actually six months pregnant at the time when the flood hit our house unexpectedly that day. It was devastating to our family. I am a lifelong resident of

Roseville, and I have never seen anything quite like it in our city,” Vice Mayor Carol Garcia said. Roseville suffered damage to 200 homes and water up to five feet above floor levels in the flood according to Garcia.

The high water mark event occurred during California Flood Preparedness Week, which was designed to increase flood risk awareness, encourage flood preparedness, and ultimately to encourage the public to take action to reduce flood risk.

*How the community understands and prepares for floods can be more important than the infrastructure we build.*



From left: Bill Edgar, Central Valley Flood Protection Board; Councilmember Darrell Fong; Keith Swanson, California Department of Water Resources; Congresswoman Doris Matsui; Nancy Ward, FEMA Region 9; Tambour Eller, USACE Sacramento District; Vice Mayor Carol Garcia, City of Roseville

*Atmospheric Rivers account for 30-50 percent of California's total rainfall and snowfall.*

## Planning for the Atmospheric River Threat

By Michael Dettinger, USGS/Scripps and Dale A. Cox, USGS SAFRR

The ARkStorm is a detailed scenario describing a very severe winter storm sequence that impacts both northern and southern California over a 23-day period. The scenario was designed by the U.S. Geological Survey (USGS) Multi Hazards Demonstration Project with inputs from experts at the National Oceanic and Atmospheric Administration (NOAA), USGS, Scripps Institution of Oceanography, the State of California, California Geological Survey, the University of Colorado, Federal Emergency Management Agency (FEMA), the National Center for Atmospheric Research (NCAR), California Department of Water Resources, California Emergency

Management Agency (CalEMA), and other organizations.

It was constructed as a basis for emergency-preparedness exercises and disaster planning by agencies and communities all over the state. The scenario is broadly patterned after an extraordinary set of historical storms during the winter of 1861–62, but was populated by modern modeling methods and with data from large storms in 1969 and 1986.

The ARkStorm draws heat and moisture from the tropical Pacific, through a series of Atmospheric Rivers that approach the ferocity of hurricanes and then slam into the U.S. West Coast over several weeks. The “AR” stands for “Atmospheric River”, the “k” for 1,000 (as the storm intensities, in some locale, might reach 1-in-1000 year levels), and, of course, “ARkStorm” is meant to summon visions of biblical-scale deluge, similar to the great flood of 1862.

“Atmospheric Rivers” is a term coined in the 1990s to describe plumes of moisture that rise up out of the subtropics into the mid-latitudes in advance

of strong cold fronts. Traditional water vapor satellite imagery does not show these plumes well, and it was only when microwave satellite imagery from polar orbiting satellites became available in the late 1990s that the full importance of these Atmospheric Rivers was revealed.

Although they are not numerous, Atmospheric Rivers account for 30-50 percent of California's total rainfall and snowfall. Over the last 1,800 years, the geologic record shows at least six storms have occurred that were worse than the 1861-1862 storms in California. If the planet continues to warm, as expected, the odds of such an event will increase significantly by 2100 due to the extra moisture in the air from the increased, oceans' evaporation. (Pictures and video are available [online](#).)

The ARkStorm project engages emergency planners, businesses, universities, government agencies, and others in preparing for major natural disasters. The project also helps to set research goals and provides decision-making information to emergency responders, resource managers, and the public. Recent studies and emergency-preparedness exercises have been conducted in California, based on the ARkStorm scenario.





On the basis of a dozen expert panels convened as part of the project, the scenario was calculated to have the potential to cause short- and long-term economic costs greater than \$700 billion. The scenario has been the basis for emergency preparedness exercises by the Navy, NASA, Ventura County, San Diego County, and the State of California through the California Emergency Management Agency.

Now, a new exercise is underway, dubbed ARkStorm@Tahoe. This effort is using the ARkStorm scenario to explore potential impacts of a megastorm in the Sierra Nevada, with an initial focus on the Tahoe basin and overspilling impacts reaching as far as Reno, Sparks, and Carson City.

The exercise will add considerably to previous applications of the scenario because of the following:

- (i) It is the first exploration of the scenario in a mountain setting with steep terrains, snowpack issues, and wild lands.
- (ii) It is the first to address impacts on ecosystems along with the societal impacts that have been primary foci of previous exercises.
- (iii) By the nature of the ecosystems

and landscape at Tahoe, many storm impacts (including those on the lake and its clarity, on erosion, and on forests and meadows) will only play out over subsequent months and even years, rather than being more or less limited to during-storm impacts.

Thus, ARkStorm@Tahoe is providing emergency, resource, and environmental managers with useful information to better manage and prepare for the hazards of extreme events, including those likely under climate change.

The exercise has involved linking models (mostly existing) of a range of processes in the basin and lake, as well as drawing on the judgment and experiences of a wide variety of local area and sectoral experts. In the long-term, it is intended to provide a shared experience upon which the scientific community can draw in planning for new, integrated predictive tools to support many forms of mitigation and preparedness for extreme events. The USGS is working with the Tahoe Science Consortium, through the University of Nevada at Reno, to complete the following:

1. Host six or more panel discussions of relevant emergency, environmental and resource managers, experts, and institutions to determine impacts and interde-

pendencies.

2. Design injects or scenario communiques for a regional emergency-response, table-top exercise in March 2014.

3. Eventually host a large summit of relevant experts, managers and institutions, and the broader community to present results, foster discussions, and generate real-world action for ameliorating potential risks with summary reports and scientific articles to follow thereafter.

Perhaps the most striking finding from the ARkStorm@Tahoe explorations thus far has been the strong and positive response from agencies and communities all over the Tahoe, Reno, and Carson City area. The ARkStorm discussions have tapped into deep-seated and immediate concerns in these communities more widely and personally than has been the case in most other communities where it has been presented previously.

The reasons for this unique response remain unclear but probably relate to still-vivid memories of floods in 1997 and the often precarious relations between these communities and their natural environments, particularly in terms of natural hazards.



*New exercise scenario will explore potential impacts of a megastorm in the Sierra Nevada.*

*Governments can evaluate their hazard preparedness based on current efforts with new tool.*

## New Tool Helps Maryland Communities Assess Vulnerability and Plan for the Effects of Climate Change

The State of Maryland is offering [CoastSmart Communities grants](#) to help local governments improve their ability to respond to coastal threats, such as storm surge, flooding, and sea level rise.

To further assist communities in this effort, the Maryland Department of Natural Resources (DNR) has launched the CoastSmart Communities Scorecard, a new tool through which governments can evaluate their hazard preparedness based on current efforts.

The Scorecard is designed to be completed by local officials in a group setting to prompt discussion on risk, planning, response strategies, and opportunities through a series of yes or no questions.

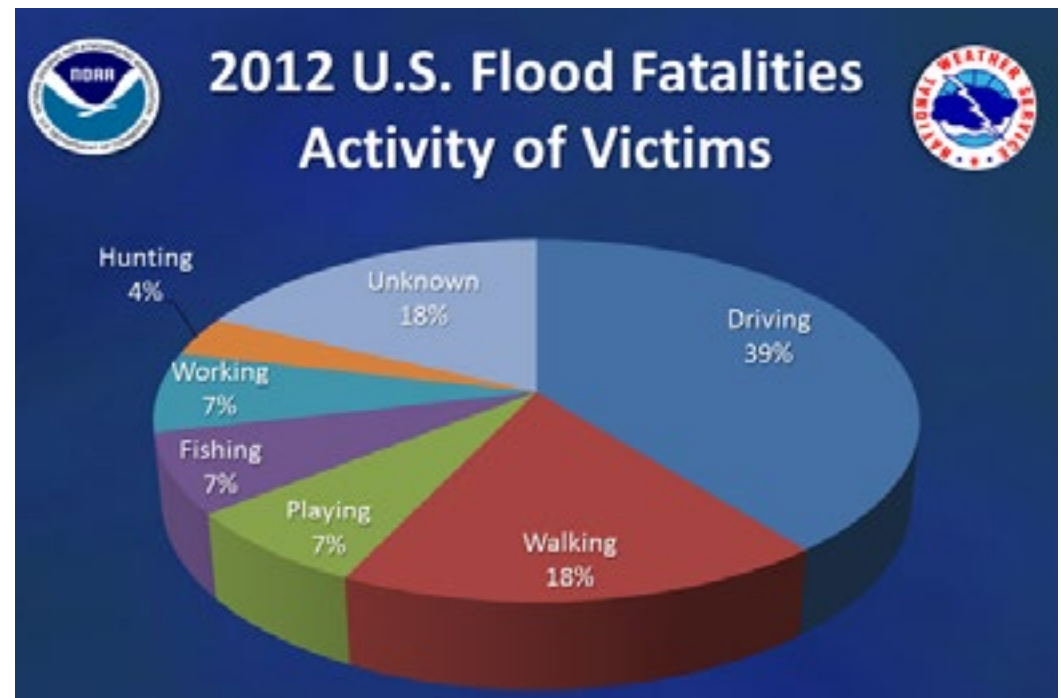
While the results will not be used to rank or compare communities, they will help direct officials to recommendations, tools, and resources and may be used to inform future project proposals to the CoastSmart Communities Grant and other funding programs. DNR will provide staff to facilitate an in-person Scorecard exercise upon request. More information

on the Scorecard is available [online](#).

Projects eligible for consideration under this round of grants include but are not limited to: developing climate change adaptation plans, strategies or guidance; integrating hazard mitigation into comprehensive plans; and updating building codes, critical area plans, and floodplain and zoning ordinances. Applications are due by February 28, 2014.

## Flood Safety Awareness Week

Flooding is a coast-to-coast threat to the United States and its territories in all months of the year. National Flood Safety Awareness Week, March 17-21, is intended to highlight some of the many ways floods can occur, the hazards associated with floods, and what you can do to save life and property. More information, as well as supporting videos, can be found on the NOAA website.





## Upcoming Events

### February

FEMA Partners in Mitigation Workshop, Atlanta, GA, February 10-14

[Minnesota Homeland Security and Emergency Management Governors Conference](#), Brooklyn Center, MN, February 11-13

Mississippi River Valley Interagency Regional Flood Risk Management Team Annual Flood Preparedness Workshop Webinar, 9:00-11:00 CST, February 14

[NOAA Social Coast Forum](#), "Exploring the Values of the Coast," Charleston, SC, February 18-20



Aerial view of the U.S. Army Corps of Engineer's Everett Dam, U.S. Army Corps of Engineers photo.

### March

[8th Annual Iowa Water Conference](#), "Making Connections - Solving Problems: Water strategies for success in a changing world," Iowa State University, Ames, IA, March 3-4

Iowa Floodplain and Stormwater Management Association will hold its annual board and membership meetings in conjunction with the Iowa Water Conference, March 3

[Michigan Stormwater Floodplain Association Conference](#), Battle Creek, MI, March 5-7

[South Carolina Environmental Conference](#), "Where Waters Meet," Myrtle Beach, SC, March 9-12

[Virginia Water Conference](#), Richmond, VA, March 9-11

[South Carolina Association of Hazard Mitigation Annual Conference](#), Greenville, SC, March 11-13

### March - April

[TUgis](#), Maryland Geospatial Conference, Towson University, March 18

[FEMA L273 Course: Managing Floodplain Development through the National Flood Insurance Program](#), State College, PA, March 24-27

FEMA L273 Course with CFM exam, Abingdon, VA, March 24-28.

[Carolinas Climate Resilience Conference](#), Charlotte, NC, April 28-29



U.S. Army Corps of Engineers Engineer Research and Development Center Snow Interest Group photo.



US Army Corps  
of Engineers