



# FLOODSTAGE

MARCH 2017

Colorado Water Conservation Board

## NATIONAL FLOOD SAFETY AWARENESS WEEK

March 12-18, 2017

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.

# FLOODING

is the most frequent severe weather threat and the costliest natural disaster facing the nation. Ninety percent of all natural disasters in the U.S. involve flooding. High-risk flood areas are not the only ones at risk: about 20 percent of flood insurance claims come from moderate-to low-risk areas.

## Causes of Flooding

### Spring Thaw

During the spring, frozen land prevents melting snow or rainfall from seeping into the ground. When the snow does melt, it can overflow streams, rivers and lakes. Add spring storms, and the result is often severe spring flooding. Steamboat Springs experienced flooding after record snowpack began to melt in the Spring of 2011.



### Heavy Rains

All areas of the country are at heightened risk for flooding due to heavy rains. This excessive rainfall can happen during any season, putting property at risk year round. In September 2013, heavy rains over Colorado's Front Range dropped as much as 9 inches over 24 hours in areas of Boulder County. 10 deaths resulted, while more than 11,000 people were evacuated.



### Levees & Dams

The US has thousands of miles of levees and dams that are designed to protect against a certain level of flooding. These structures can erode and weaken over time, and they can also be overtopped – or even fail – during large flood events. In 1982, Lawn Lake Dam in Estes Park broke sending a 30-foot wall of water down Roaring River, destroying bridges and leaving 5 feet of water in the streets.



### Flash Floods

Flash flooding is the #1 weather-related killer in the US. A flash flood is a phenomenon that occurs within 6 hours of an event that generates significant flood waters, such as a thunderstorm, the collapse of a man made structure or an ice break. In July 2011, after 2 inches of rain fell in less than an hour in the Fourmile Fire burn area, a 4-foot surge of water rushed down Boulder Creek. At least one home was damaged and debris was deposited on many roads.



# Are You Ready For Spring Flooding?

Purchasing flood insurance is one of the easiest things you can do get ready for flood season as most homeowner's policies do not cover flood damage. The time to act is now because there is a 30 day wait before coverage takes effect. Talk to your insurance agent about pricing and coverage or visit [www.floodsmart.gov](http://www.floodsmart.gov) but don't wait until it is too late!



## Tools to Help You Prepare for Spring Flooding

- With the onset of warmer weather and reports of early spring flooding, FEMA Region VIII has made available an online preparedness outreach kit for media and the general public. The kit includes information to help residents and businesses prepare for flood threats.

Check out the kit here!

[www.fema.gov/r8flood](http://www.fema.gov/r8flood)

- The CWCB updates the Colorado Flood Threat Bulletin before 11:00 am daily. This tool identifies areas of the state that are at risk of flooding.

Visit the bulletin here:

<http://www.coloradofloodthreat.com/>

- Access the National Center for Atmospheric Research's Real-Time Weather Data here:

<http://weather.rap.ucar.edu/>

- The National Weather Service and the National Oceanic and Atmospheric Administration provide information to take action before, during and after a flood to increase chances of survival:

<http://www.floodsafety.noaa.gov/>



## After getting flood insurance there are several things you can do to minimize losses in your home and ensure your family's safety.

### 1. Safeguard your possessions.

Create a personal flood file containing information about all your possessions and keep it in a secure place, such as a safe deposit box or waterproof container. This file should have:

- A copy of your insurance policies with your agent's contact information.
- Conduct a household inventory:

For insurance purposes, be sure to keep a written and visual (i.e., video or photos) record of all major household items and valuables, even those stored in basements, attics, or garages. Create files that include serial numbers and store receipts for major appliances and electronics. Have jewelry and artwork appraised. These documents are critically important when filing insurance claims.

- Copies of all other critical documents, including finance records or receipts of major purchases.

### 2. Prepare your house.

- First make sure your sump pump is working and then install a battery-operated backup, in case of a power failure. Installing a water alarm will also let you know if water is accumulating in your basement.

- Clear debris from gutters and downspouts.

- Anchor any fuel tanks. See: <https://www.fema.gov/media-library> for more information.

- Raise your electrical components (switches, sockets, circuit breakers, and wiring) at least 12 inches above your home's projected flood elevation.

- Move furniture, valuables, and important documents to a safe place.

### 3. Develop a family emergency plan

- Create a safety kit with drinking water, canned food, first aid, blankets, a radio, and a flashlight.

- Save emergency telephone numbers in your cell phone contacts and teach your children how to dial 911.

- Plan and practice a flood evacuation route with your family. Know safe routes from home, work, and school that are on higher ground.

- Ask an out-of-state relative or friend to be your emergency family contact.

- Have a plan to protect your pets.

For more information on emergency preparation, talk to your insurance agent or visit [www.ready.gov/](http://www.ready.gov/)





## Federal Level

FEMA administers the National Flood Insurance Program (NFIP), which has existed for more than 40 years. This program allows anyone in a participating community to purchase federally-backed flood insurance, including



subsidized insurance for older properties in place before the hazards were identified.

**Special note should be made of the 30-day**

**waiting period before insurance becomes effective.**

If significant flood does occur and a federal disaster is declared, FEMA will set up a Joint Field Office, and will make financial assistance available for recovery efforts. The CWCB would be actively involved with the management of this process if it were to occur.

## State Level

The CWCB is the state agency in charge of managing flood threats- before, during, and after flood events. The CWCB actively monitors potential flooding, with special attention paid to available snowpack data and seasonal climate forecasts. Specific activities already underway that are being performed by the CWCB include:

- Development of maps portraying snowpack and locations where potential flood threats exist. These maps show both snow-water equivalent in absolute terms (i.e. SWE in inches) and percentage measurements from [SNOTEL](#) sites. These maps are very useful for zeroing in on specific watersheds and communities that have the highest flood potential from snowmelt.
- The CWCB continues to operate the CAP-SSSE partnership with FEMA. This program encourages responsible development in floodprone communities, encourages the purchase of flood insurance, and is a mechanism for the State to maintain contact with communities regarding flood threats and other relevant issues.
- The CWCB continues to operate the Cooperating Technical Partners Program with FEMA. The program maintains up-to-date flood hazard maps and other flood hazard information, helping communities to make risk informed decisions.
- For those who wish to receive email and news updates from the CWCB, there is an option to self-subscribe to the CWCB Confluence Newsletter on the [CWCB homepage](#).
- The CWCB is involved in the Colorado Flood Task Force, which works to identify flood threats, assist affected jurisdictions, and cooperate with relevant agencies.
- The CWCB is working to increase participation in the Community Rating System, which is a voluntary incentive program recognizing communities implementing floodplain management practices exceeding the minimum requirements of the NFIP to



**COLORADO**  
Colorado Water  
Conservation Board  
Department of Natural Resources

# HOW DO WE PREPARE FOR FLOOD THREATS?

Actions should be taken at many levels of government to address potential flood threats. The following includes a summary of actions that may be taken at the Federal, State and Local levels in preparation for the flood season.

provide protection from flooding. A new website focused on the [CRS in Colorado](#) has been created to serve as a “one-stop-shop” aiding communities interested in or already a part of the program.

## Local Level

It is not entirely possible to make general statements regarding all local actions since the stages of risk and preparedness vary throughout the State every year. However, local communities should generally consider the following:

- Participate in the NFIP. Participation makes federally-backed flood insurance available to residents.
- Promote the purchase of flood insurance for those at risk. It is critical to convey the fact that a 30-day waiting period is required for flood insurance. It is impossible to time or fully predict the occurrence of a flood, so the purchase of flood insurance policies is recommended as soon as possible, especially for those located in high risk areas.
- Be aware of flood threats. The most basic level of awareness is familiarity with the floodplain maps supplied by FEMA, the CWCB, or other sources. However, because a stream is not shown on a floodplain map does not mean that a flood threat does not exist. Flood threats should be evaluated based on all known local conditions, whether or not they correspond precisely with a regulatory flood map. Communities are also encouraged to remind their residents that floodplain maps generally portray a 1% chance flood, which can be exceeded.
- Develop an emergency action plan. Snowmelt flooding allows for some amount of warning time. This allows for some level or preparation activities to take place. It should be clearly stated in this emergency plan what the specific roles and responsibilities are, and what protocol is used for communications. It is also recommended that activities identified in this plan be exercised and practiced prior to the actual event. If supplies are needed, such as sandbags, these should be stockpiled well before the event occurs.
- Maintain contact with the CWCB, FEMA, USGS, CDHSEM, and other agencies that are monitoring the flood threat so that current information can be obtained.
- Evaluate the effectiveness of infrastructure that is specifically designed to enhance flood conveyance and/or protect lives and property. For example, a maintenance plan for clearing debris from bridges and culverts should be identified. Other possible actions include thinning heavy vegetation from waterways and evaluating the condition of levees, flumes, and other facilities. Be aware of the level of protection that is theoretically provided by flood protection infrastructure in your community, and keep in mind that there is always the potential for overtopping or failure of those structures as has been demonstrated in the past throughout the nation.



# How do we recover from and mitigate future risk?

Through collaborative State, Federal and Local efforts, resilient actions are being taken to make Colorado safer and stronger.

## Watershed Coalitions:

After the 2013 floods, Colorado agencies worked together to support watershed coalitions in flood impacted areas and the creation of 11 master plans. Through community engagement, [coalitions](#) worked to create plans focused on recovery and resilience. Plans identify and prioritize watershed needs, and work to develop implementation projects.

## Watershed Resiliency Pilot Program:

The [program](#) is focused on holistic watershed restoration and risk mitigation to restore waterways impacted by the 2013 floods. The program goals include collaborative, multi jurisdictional, coalition-or-partners approaches that also benefit community and economic development. Grants are administered by the Department of Local Affairs (DOLA) in partnership with the CWCB. Funding for these projects comes from the U.S. Department of Housing and Urban Development's Community Development Block Grant – Disaster Recovery funding. Projects are currently underway in 10 flood-impacted watersheds

## Emergency Watershed Protection (EWP) Program:

[EWP](#) projects are being implemented throughout 2013 flood impacted communities through a partnership between the CWCB and the USDA NRCS. The program provides financial and technical assistance to local project sponsors to reduce erosion and threats from future flooding, protect streambanks, repair conservation practices, remove debris, and more. The program is geared towards implementing watershed recovery projects that reduce risk to life and property, enhance riparian ecosystems, and generate long-term stream system resilience through a collaborative, watershed-based approach that incorporates diverse stakeholder needs. Projects are currently underway.





### Colorado Hazard Mapping Program:

In 2015, the Colorado Legislature provided funding for the remapping of 2013 flood impacted floodplains, in addition to erosion and debris flow hazard mapping. The CWCB and the Colorado Geological Survey are leading these efforts. The [program](#) aims to provide mitigation and land use frameworks in areas likely to be affected by future flooding, erosion and debris flow events. Projects are currently underway.

### Roadway Projects:

The Colorado Department of Transportation in partnership with Central Federal Lands and the CWCB continues to work collaboratively to incorporate river systems into roadway repairs. This coordinated approach leverages funding and makes floodplains and roadways more resilient and resistant to future hazards.

### Updated Hydrology:

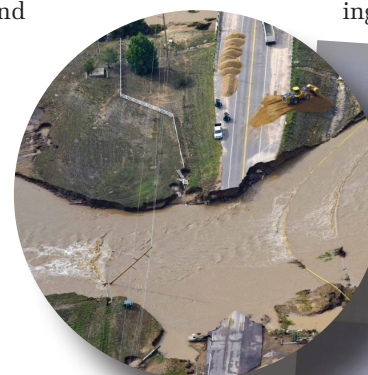
In 2014, CDOT and CWCB worked to produce a post-flood hydrology study update. The analysis included almost 2000 square miles of watershed area. In partnership with FEMA, the studies have been accepted as “Best-Available Data.” The [updated hydrology](#) is being used through recovery efforts to inform designs and repairs.

### The Colorado Resiliency and Recovery Office:

The Colorado Resiliency and Recovery Office was created after the 2013 floods to coordinate recovery efforts. [CRRO](#) has played a critical role in the creation of the Colorado Resiliency Framework and the Colorado Resiliency Working Group, and continues to play a role in advocating for recovery funding and building partnerships across public and private organizations.

### LiDAR Acquisitions:

The CWCB in partnership with FEMA, the Colorado Office of Information Technology and the Colorado Geological Survey is conducting Light Detection and Ranging (LiDAR) acquisitions to update topography data in various areas throughout the State. Obtaining high quality elevation data provides more accurate floodplain information and can be used to improve the quality of flood maps.



### Enhanced State Hazard Mitigation Plan (E-SHMP):

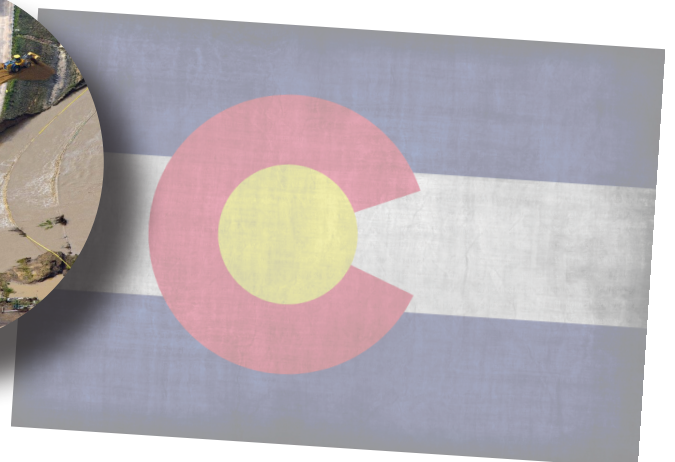
The Colorado Division of Homeland Security and Emergency Management ([DHSEM](#)) is working to update Colorado’s State Hazard Mitigation Plan to gain enhanced plan status. FEMA’s enhanced plan elements demonstrate a commitment to mitigation and makes Colorado eligible to receive increased funds under the Hazard Mitigation Grant Program (HMGP) following a disaster declaration. To receive FEMA approval of an enhanced plan, the State must develop a comprehensive mitigation program, and be capable of managing increased funding to achieve its mitigation goals as a part of the ongoing requirements to maintain enhanced plan status.

### Flood Mitigation Assistance Grant Program:

This FEMA [program](#) provides States, Territories, federally-recognized tribes and local communities funding for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP.

### Pre-Disaster Mitigation Grant Program:

This FEMA [program](#) provides States, Territories, federally-recognized tribes and local communities implementing a sustained pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters.



# High Water Mark Campaign

Front Range Communities in partnership with FEMA are working to create educational signage, depicting high water mark levels from historic floods in their communities. Most communities will be debuting signs for the 4th anniversary of the 2013 Colorado Floods in September 2017, with accompanying outreach, marketing, public relations and Hazard Risk Communication events statewide. Contact Tony Mendes with FEMA Region 8 for more information: [tony.mendes@fema.dhs.gov](mailto:tony.mendes@fema.dhs.gov)



## How Do YOU Prepare for Flood Threats?

If you are a floodplain manager or emergency manager, do you know your counterpart? If so, please continue working together and strengthening your relationship to safeguard your community. If you do not know your colleague, or feel you should know them more, please make it a priority to visit with them and share how each of you are responsible for keeping your community safe from floods and explore partnership opportunities.

To find contact information for your local emergency manager, please visit [coemergency.com](http://coemergency.com) and click the Local Info Sources tab.

For local floodplain manager contact information, please contact Stephanie DiBetitto with the Colorado Water Conservation Board.

Please feel free to contact the following personnel for questions, comments, or additional information:

### Floodplain Management and National



**FEMA**

### Flood Insurance Program Contacts:

**Stephanie DiBetitto**, Community Assistance Program Coordinator, Colorado Water Conservation Board, (303)866-3441 ext. 3221, [stephanie.dibetitto@state.co.us](mailto:stephanie.dibetitto@state.co.us)

**Matthew Buddie**, National Flood Insurance Specialist, (303)235-4730, [matthew.buddie@fema.dhs.gov](mailto:matthew.buddie@fema.dhs.gov)

### Emergency Management Contacts:

**Scott Baldwin**, Mitigation Team Supervisor, Colorado Division of Homeland Security & Emergency Management (DHSEM), (720)852-6696, [scott.baldwin@state.co.us](mailto:scott.baldwin@state.co.us)

**Matt Arsenault**, Mitigation Project Specialist (Northeast Colorado), DHSEM, (720)708-8358, [matt.arsenault@state.co.us](mailto:matt.arsenault@state.co.us)

**Vanessa Castillo**, Mitigation Project Specialist (Southern Colorado), DHSEM, (303)519-0999, [vanessa.castillo@state.co.us](mailto:vanessa.castillo@state.co.us)

**Deanna Butterbaugh**, Mitigation Project Specialist (Northwest Colorado), DHSEM, (720)512-0275, [deanna.butterbaugh@state.co.us](mailto:deanna.butterbaugh@state.co.us)

**Patricia Gavelda**, State & Local Hazard Mitigation Planning Program Manager, DHSEM, (970)749-8280, [patricia.gavelda@state.co.us](mailto:patricia.gavelda@state.co.us)

**Mark Thompson**, Mitigation Planning Specialist (Local), DHSEM, (720)749-8280, [markw.thompson@state.co.us](mailto:markw.thompson@state.co.us)

**Gail Leek**, Mitigation Planning Specialist (State), DHSEM, [gail.leek@state.co.us](mailto:gail.leek@state.co.us)

For more information about Colorado Mitigation Specialists by Region visit [CDHSEM's Mitigation page](#).



### COLORADO

Division of Homeland Security & Emergency Management

Department of Public Safety







## CWCB

Watershed & Flood Protection Section  
1313 Sherman St., Suite 721  
Denver, CO 80203

### *Watershed & Flood Protection Section*



**Kevin Houck – (303) 866-3441 ext 3219**

Section Chief, Oversees all program areas including: flood risk identification, designation of floodplains, flood risk reduction and mitigation, response and recovery, watershed restoration, and weather modification.



**Joe Busto - (303) 866-3441 ext 3209**

Weather Modification, Permitting, compliance, and grants; South Platte flood channel management; snow science; and applied research projects.



**Thuy Patton – (303) 866-3441 ext 3230**

Floodplain Mapping Coordinator, manages the FEMA Floodplain Map Modernization and the Risk Map Program for the State, development of scopes of work, acts as liaison between FEMA and local governments.



**Chris Sturm – (303) 866-3441 ext 3236**

Stream Restoration Coordinator, responsible for implementing the goals and objectives of the Watershed Protection Program. Duties include leading department in watershed health planning and implementation.



**Stephanie DiBetitto – (303) 866-3441 ext 3221**

Community Assistance Program Coordinator for the NFIP, performs community assistance visits, conducts public outreach and training, coordinates with FEMA and other State Programs, and provides technical assistance to communities.



**Corey Elliott – (303) 866-3441 ext 3215**

Colorado Hazard Mapping Program Coordinator, assists in managing the Hazard Mapping Program as well as other Risk Map projects and coordinates the leveraging of funding for acquisitions of remote sensing technologies for mapping products.



**Jeff Conboy – (303) 866-3441 ext 3245**

Contract Specialist, manages the contracting initiatives for the Emergency Watershed Program (EWP), funded by the Natural Resources Conservation Service (NRCS), a program for administration of federal and state funded grants to local entities for the purpose of stream restoration and stabilization.



**FEMA**



**COLORADO**

Colorado Water  
Conservation Board

Department of Natural Resources

## OUR MISSION:

To Conserve, Develop, Protect and  
Manage Colorado Water for Present  
and Future Generations.

**Stephanie DiBetitto**, Community Assistance  
Program Coordinator, Colorado Water  
Conservation Board, (303)866-3441 ext. 3221  
[stephanie.dibetitto@state.co.us](mailto:stephanie.dibetitto@state.co.us)

**Matthew Buddie**, National Flood Insurance  
Specialist, (303)235-4730  
[matthew.buddie@fema.dhs.gov](mailto:matthew.buddie@fema.dhs.gov)

[cwcb.state.co.us](http://cwcb.state.co.us)

