

Flood

GRAND COUNTY, COLORADO

READY

An Emergency Preparedness Guide provided
by the Office of Emergency Management

Stay informed and register
to receive Emergency Alerts
at www.GCEmergency.com

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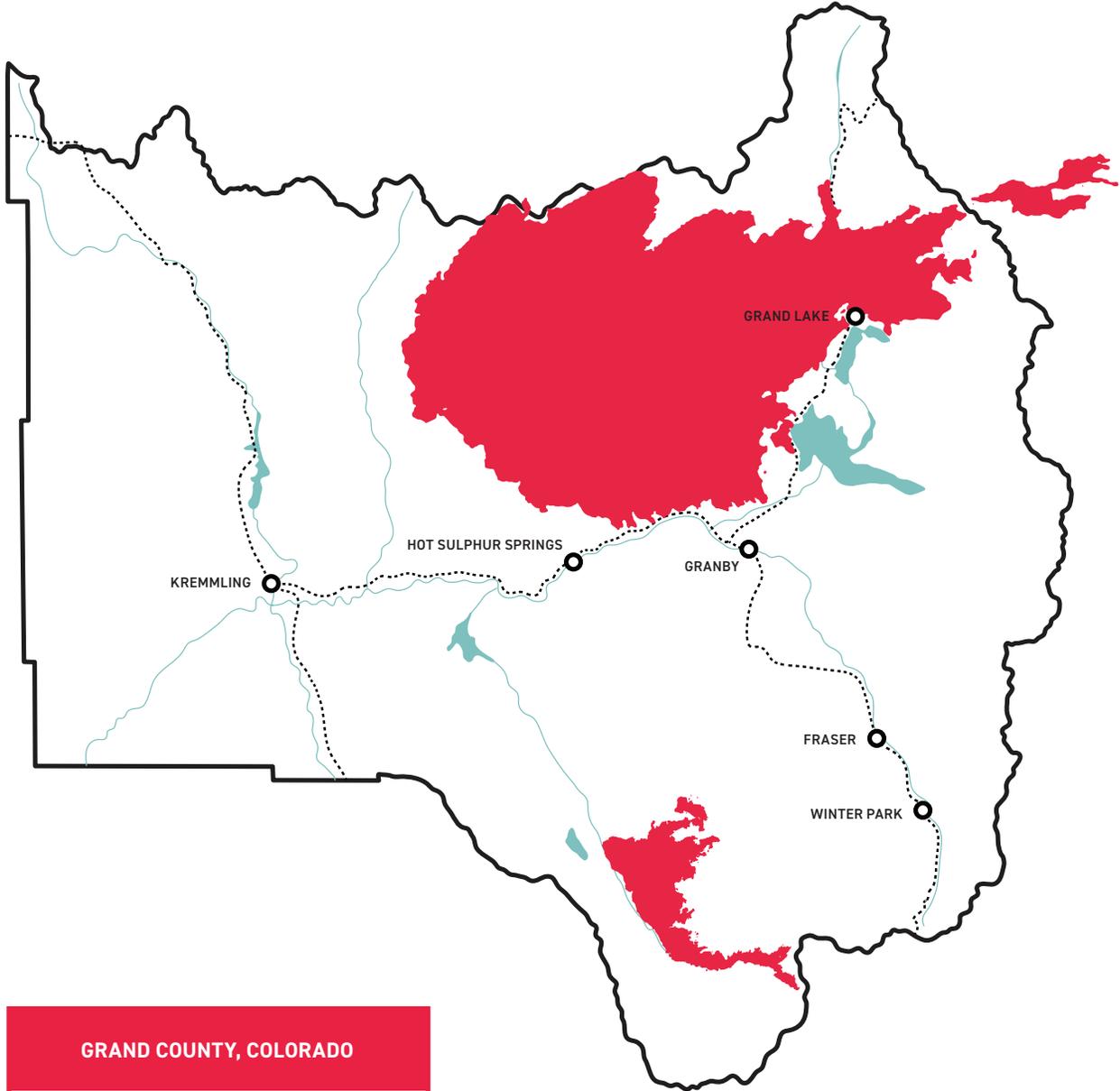
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GRAND COUNTY, COLORADO

- HIGHWAY
- RIVER/CREEK
- COUNTY BOUNDARY
- BURN SCAR
- RESERVOIR/LAKE

A LETTER TO THE COMMUNITY

It is up to each of us to take steps toward ensuring that flood after fire is not the second disaster we face.

In the Fall of 2020, Grand County experienced an unprecedented wildfire season with both the Williams Fork Fire and the East Troublesome Fire. Subsequently, Grand County was left with over 200,000 acres of scorched land, or what many refer to as a burn scar.

In the aftermath of wildfires, burn scars are left without the vegetation that helps absorb rainfall. In addition, the soil itself can be left with a hardened crust that acts like concrete when redirecting water. These conditions can turn what would normally be a simple thunderstorm into a flash flood event with very little warning.

Additional hazards exist in the form of mudflows, where water picks up ash, soil, and debris that have been left behind after a fire. These mudflows can inflict a great deal of damage to homes and property.

Grand County could expect an increase up to 14 times normal water flow from snowmelt (spring run-off) or weather events. Additionally, any rain event that produces 1/4" of rain per hour or more could be of significant concern. Flooding may be highly localized or may occur over a fairly large area.



A 1/4" of rain per hour is produced by:

- **a light rain for 2-3 hours**
- **moderate rain for 30-60 minutes**
- **heavy rain for 15 minutes**

Although Grand County normally prepares for high water during spring run-off, no one can predict the spring weather, including warm temperatures and precipitation, which will determine the rate of flow into tributaries, creeks and rivers throughout the County.

The Williams Fork and East Troublesome burn scars will add additional risk during snowmelt, but the risk does not disappear at the end of run-off. The risk will continue all summer and for the next **several years**. In fact, some of the most damaging floods on other fires across Colorado have occurred during summer monsoonal thunderstorms two to three years after the fire.

To prepare, the Towns and County continue their collaborative efforts at mitigating risk and reviewing emergency response plans. Local and State officials have also been monitoring snowpack, flows in the various rivers, streams, and drainages and are prepared to provide alerts and warnings when necessary.

County officials have also participated in various meetings with local dam operators in order to prepare for water releases due to the over capacity of reservoirs or in anticipation of heavy run-off.



For property owners interested in sandbagging, sandbags will be available for purchase at Grand County businesses and sand will be provided free of charge at various locations throughout the county.

To learn more about sandbagging, go to page 14

This guide discusses preparation and emergency actions that will help people respond before, during, and after a flood event. It all starts with first understanding the risk itself and then knowing how you will be warned about the risk.

CodeRED is the free Emergency Alert System available to all Grand County residents and visitors administered by Grand County OEM and the Grand County Sheriff's Office. National Oceanic and Atmospheric Administration (NOAA) Weather Radio as well as other battery-powered or wind-up radios also provide emergency alerts.

To receive alerts via text message, phone calls, or by email, be sure to register with CodeRED by visiting www.GCEmergency.com. NOAA Weather Radios can be purchased through online retailers or can be provided to you for free by sending a request by email to us at oem@co.grand.co.us.

To learn more about the different methods used for emergency alerts and how to register for them, turn to page 11.

Grand County will begin to realize the effects of snowmelt during the runoff season from mid-May through June. During this time, Grand County Road & Bridge and municipal Public Works departments, will conduct inspections and manage debris and obstructions in waterways.

For property owners interested in sandbagging, pre-filled sandbags will be available for free at self-service stations in the county. Watch www.GCWatershedRecovery.com for more information. Sandbags will also be available for purchase at a variety of Grand County businesses, and sand will be provided free of charge at various locations throughout the county.

At the direction of Grand County's Board of County Commissioners (BOCC), Community Development and the Office of Emergency Management (OEM) have been working with FEMA to get Grand County property owners [access to the National Flood Insurance Program \(NFIP\)](#).

In the case of a significant flooding event anywhere in the county, the county-wide Emergency Operations Center (EOC) will be activated and all entities or agencies with response authority will participate and assist in managing and mitigating the event.

Firefighters and other public safety officials do everything possible to combat wildfires. Unfortunately, there is little we can do to prevent Mother Nature from bringing rainfall at unwanted times. It is up to each of us to take steps toward ensuring that flood after fire is not the second disaster we face.

On behalf of the Grand County Government, Town of Fraser, Town of Granby, Town of Grand Lake, Town of Hot Sulphur Springs, Town of Kremmling, and the Town of Winter Park, thank you for your active participation in preparedness and willingness to be informed.

INTRODUCTION

This guide discusses preparation and emergency actions that will help people respond to a flood.

The primary purpose of this guide is to save lives, reduce injuries, and protect property. It is designed to present information and guidance on actions to enhance survival in the event of natural and human caused disasters—in this case, a flood.

After an intense wildfire, burned vegetation and charred soil can form a water-repellent (hydrophobic) layer that blocks water absorption for years. During rainfall, water bounces off the soil and even a light rain can potentially turn into a flood or mudflow. Just one inch of floodwater in your home can cause \$25,000 of damage.

Post wildfire flash flooding and debris flows are a realistic threat in Grand County for homes, businesses and communities located within or along a burn scar. Additionally, areas that normally experience high water, are located along a river, stream, or tributary and properties located below or downstream from burn areas are at an increased risk of flooding.

It is crucial to plan and prepare for these hazards to prevent and reduce the loss of life and property, as well as develop and improve community resilience.

The Grand County Office of Emergency Management, with the help of local, state and federal partners, has prepared and printed this comprehensive guide with step-by-step instructions on what to do before, during, and after a flood event.

It is imperative for you to take time to develop a family disaster plan; review emergency preparations and checklists regularly; build disaster supply kits in waterproof; easy-to-carry containers; know how you will be warned in the case of an emergency; and stay aware of current or future weather situations. Grand County and Towns are committed to keeping Grand County residents and visitors safe. We ask for your help by reading and studying this guide to prepare. You may also visit www.GCEmergency.com to learn more about staying informed and signing up for emergency alerts.



Post wildfire flash flooding and debris flows are a realistic threat in Grand County for homes, businesses and communities:

- **located within or along a burn scar.**
- **that normally experience high water.**
- **located along a river, stream, or tributary,**
- **located in drainages that are normally dry.**
- **that are downstream from burn areas.**

THE INCREASED RISK

Floods are the most common and costly natural hazard in the nation. After a wildfire, the flood risk increases significantly.

Floods

Flooding is a temporary overflow of water onto land that is normally dry. It is the most common natural disaster in the United States. Whether caused by heavy rain, thunderstorms, or the tropical storms, the results of flooding can be devastating, wiping out homes and businesses. While some floods develop over time, flash floods—particularly common after wildfires—can occur within minutes after the onset of a rainstorm. Even areas that are not traditionally floodprone are at risk, due to changes to the landscape caused by fire.

Wildfires Increase the Risk

Wildfires dramatically change landscape and ground conditions, which can lead to increased risk of flooding, flash flooding, and mudflows. Normally, vegetation absorbs rainfall, reducing runoff. However, wildfires leave the ground charred, barren, and unable to absorb water, creating conditions ripe for flash flooding and mudflows. Flood risk remains significantly higher until vegetation is restored—for several years after a wildfire. Flooding after fire is often more severe, as debris and ash left from the fire can form mudflows. As rainwater moves across charred and denuded ground, it can also pick up soil and sediment and carry it in a stream of floodwaters. These mudflows can cause significant damage.



Wildfires dramatically change landscape and ground conditions, which can lead to increased risk of flooding, flash flooding, and mudflows—for several years after a wildfire occurs.

Heavy Rains

Excessive amounts of rainfall can happen throughout the year, putting your property at risk. Properties directly affected by fires and those located below or downstream of burn areas are most at risk for flooding.

Flash Floods

A flash flood is a rapid flooding of low-lying areas in less than 6 hours, which can be caused by intense rainfall. Flash floods are known to roll boulders, tear out trees, and destroy buildings and bridges.

Mudflows

Mudflows are rivers of liquid and flowing mud on the surface of normally dry land, often caused by a combination of brush loss and subsequent heavy rains. Mudflows can develop when water saturates the ground, such as from rapid snowmelt or heavy or long periods of rainfall, causing a thick, liquid, downhill flow of earth.

PREPARE NOW

Prepare before a disaster occurs: create a plan, put together an emergency kit, and get your home ready.

There are many ways to take action and prepare before a disaster occurs. The actions in this guide include some of the most important ways to help yourself, your family, and your community increase your preparedness. **The time to get prepared is now.**

- **Know your risk.** Seek out information on flood risk around your property as well as what can increase the risk. Learn about mitigation measures that protect both life and property.
- **Know how you will be warned.** CodeRED is the free Emergency Alert System available to all Grand County residents and visitors administered by Grand County OEM and the Grand County Sheriff's Office. National Oceanic and Atmospheric Administration (NOAA) Weather Radio as well as other battery-powered or wind-up radios also provide emergency alerts. To receive alerts, be sure to register with CodeRED by visiting www.GCEmergency.com. To learn more about the different methods used for emergency alerts and how to register for them, turn to page 11.
- **Stay aware.** If flash flooding is a risk in your location, monitor potential signs such as heavy rain. Watch for other warning signs that could indicate potential flooding: increase in height and intensity of water flows, mudslides, debris in creeks, color changes in water, or leaning trees. Know that banks of rivers and streams may be unstable and dangerous.
- **Make a plan.** Learn and practice evacuation routes, shelter plans, and flash flood response. Plan with neighbors. Consider arrangements for your pets and livestock. Check on elderly or disabled neighbors to ensure they are aware of the situation. Teach your children about high water safety. Notify Grand County Human Services if kids, elderly, or disabled are often home alone so someone in emergency services knows to check on them. Choose a relative or close friend out of the area as a contact person for family members and friends. Make sure to have a full tank of fuel in your vehicle.
- **Have an emergency kit.** Gather supplies in case you have to leave immediately or if services are cut off. Keep in mind each person's specific needs, including medication. Don't forget your pets' needs. Obtain extra batteries and charging devices for phones and other critical equipment.



If flash flooding is a risk in your location, monitor potential signs such as heavy rain. Watch for other warning signs that could indicate potential flooding as well:

- **increase in height and intensity of water flows.**
- **mudslides.**
- **debris in creeks.**
- **color changes in water.**
- **leaning trees.**
- **unstable and dangerous stream banks.**



Make a Plan.

- **Stay informed and know how you will be warned.**
- **Learn and practice evacuation routes, shelter plans, and flash flood response.**
- **Plan with neighbors.**
- **Consider arrangements for your pets and livestock.**
- **Check on elderly or disabled neighbors to ensure they are aware of the situation.**
- **Teach your children about high water safety.**
- **Choose a relative or close friend out of the area as a contact person for family members and friends.**
- **Make sure to have a full tank of fuel in your vehicle.**

- **Obtain flood insurance.** Many insurance policies do not cover flooding. Make sure you review any current insurance policies, become familiar with what is covered, and ensure the limits are adequate for the building and any personal belongings. Consider getting flood coverage under the National Flood Insurance Program (NFIP) [when it becomes available in Grand County](#). Flood insurance protects your investment and provides peace of mind. Talk to your insurance agent about options. Remember: it typically takes thirty (30) days for a new flood insurance policy to go into effect.
- **Safeguard your possessions.** Itemize and take pictures of possessions. Keep important papers in watertight containers and have a record of your valuables in a safe place to help with insurance claims. Create password-protected digital copies.
- **Protect your property.** Move valued items to higher levels. Declutter drains and gutters. Install check valves. Consider a sump pump with a battery. Secure objects in your yard that may be swept away or damaged by floodwaters. Elevate your home and utilities (electrical, furnace, water heater, etc.) above the flood elevation. Coordinate with the community to keep storm drains free of debris. Consider building a barrier with sand bags to help divert and stop water from getting inside vulnerable doors and around foundations. Sandbag well heads that are in the flood zones. *More information about sandbagging can be found on page 14.*

EMERGENCY ALERTS

Timely info on weather conditions like a flood can make a big difference. Learn about different warning alerts you can get and how to get them.

When emergencies strike, public safety officials use timely and reliable systems to alert you. This page and the next page describe the different ways individuals can be alerted or warned and how to register for them.

Wireless Emergency Alerts

Wireless Emergency Alerts (WEAs) are just one of the ways public safety officials can quickly and effectively alert the public to serious emergencies. What you need to know about WEAs:

- WEAs can be sent by state and local public safety officials, the National Weather Service, the National Center for Missing and Exploited Children and the President of the United States.
- WEAs look like text messages but are designed to get your attention with a unique sound and vibration repeated twice.
- WEAs are no more than 360 characters and include the type and time of the alert, any action you should take and the agency issuing the alert.
- You are not charged for receiving WEAs and there is no need to subscribe, you will automatically receive them.

If you are not receiving Wireless Emergency Alerts here are some tips to troubleshoot your mobile device:

- Check the settings on your mobile phones and review your user manual. Some mobile service providers call these messages "Government Alerts," or "Emergency Alert Messages."
- Older phones may not be WEA capable.
- All major phone providers and some smaller providers participate in WEA.



NOAA Weather Radio

- **24/7 broadcast of weather and emergency information, regardless of broadband access, cellular service, or cable.**

Emergency Alert System

- **Alerts are sent through phone calls, text messages, email, and social media. Must have broadband access, cellular service, or cable.**

Internet page for info

- www.GCEmergency.com

Wireless Emergency Alerts

- **Cell phone messages**
- **Automatic messaging, but can be opted-out of.**

Emergency Alert System (including CodeRED)

The Emergency Alert System (EAS) is a national public warning system that was first implemented for the President to address the American people within ten minutes during a national emergency. The alerts are sent through broadcasters, satellite digital audio services, direct broadcast satellite providers, cable television and wireless cable systems. Must have broadband access, cellular service, or cable.

- The EAS is used by state and local authorities to deliver important emergency information such as weather information, imminent threats, AMBER (child abduction) alerts and local incident information targeted to specific areas.
- CodeRED is the free Emergency Alert System available to all Grand County residents and visitors. **Do not wait**, visit www.GCEmergency.com to register.
- The EAS is also used when all other means of alerting the public are unavailable.

NOAA Weather Radio

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations that broadcast continuous weather information from the nearest National Weather Service office based on your physical location.

- NWR broadcasts official warnings, watches, forecasts and other hazard information 24-hours a day, seven days a week, regardless of broadband access, cellular service, or cable.
- NWR also broadcasts alerts of non-weather emergencies such as national security or public safety threats through the Emergency Alert System.
- NWRs can be purchased through online retailers or one can be provided to you by sending a request to oem@co.grand.co.us.

FEMA App

Severe weather alerts from the National Weather Service are provided for up to five locations across the U.S. and additional preparedness material is also available for over 20 types of hazards. The FEMA App is also available in Spanish. You can download the app to your mobile device or smartphone free in the App Store (Apple-iOS 6.0 or later) and Google Play (Android). Learn more at www.fema.gov/mobile-app.

American Red Cross App

The Red Cross Emergency App combines more than 35 different types of severe weather and emergency alerts. You can choose the alerts that are important to your location or the location of loved ones. The App also offers preparedness information. All content is also available in Spanish. You can download the App to your mobile device or smartphone free in the App Store (Apple-iOS 6.0 or later) and Google Play (Android). Learn more at www.redcross.org/prepare/mobile-apps.

The Weather Channel App

Tracks weather and provides local forecasts and push alerts of severe weather to your mobile device. Download the App to your mobile device or smartphone free in the App Store (Apple-iOS 6.0 or later), Google Play (Android), App World (BlackBerry), and Windows Phone at www.weather.com/apps.

ALERTS AND WARNINGS

Learn about alerts and warnings before a flood. Familiarizing yourself with the terms below will help with an appropriate response.

Alerts and Warnings

Outlook – Special Weather Statement

Storm information that may impact area several days from now.

Advisory

Nuisance level weather hazard is occurring now or likely to occur.

Flood or Flash Flood Watch: 6-24 hours in advance

Life or property-threatening weather hazard possible.

Conditions are favorable and floods are possible, but there is some uncertainty.

Stay tuned for updates.

Flood Warning: 5-60 minutes in advance

Life or property-threatening hazard is occurring now or likely to occur in the near future, move to higher ground or evacuate immediately.

Flash Flood Warning: 5-60 minutes in advance

Life or property-threatening weather hazard is occurring now.

Move to higher ground immediately.

Common Terms

Flood: A temporary overflow of water onto land that is normally dry.

Flash Flood: A flood that can happen within minutes or hours of heavy rainfall, a dam or levee failure, or city drains overflowing.

Levee/Dam: A manmade structure to contain or prevent water from moving past a certain point.

Mudflow: A river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water.

Landslide: The sliding down of a mass of earth or rock from a mountain or cliff.

Slope Failure: A phenomenon that occurs when a slope collapses abruptly due to weakened self-retainability of the earth under the influence of a rainfall or an earthquake.



Advisory

Hazard is likely to occur, stay aware.

Watch

Floods are likely and possible.

Warning

Floods will occur soon, evacuate now.

Flash Flood Warning

Flooding is occurring; seek higher ground immediately.

SANDBAGGING

You can build a barrier with sand bags to help divert and stop water from getting inside vulnerable doors and around foundations.

Sandbagging is a flood prevention technique that has been around for centuries. It is an effective way to deflect water and help protect structures from flooding.

Before starting, determine how high you want the wall of sandbags to be. This, combined with the length of your bags, will help you determine the number of sand bags you will need. Build the dike at least one foot higher than the projected crest to allow for fluctuations in the water level. You would need about six sandbags per foot of dike length for a 1-foot-tall dike, 21 sandbags per foot for a 2-foot-tall dike, 45 sandbags per foot for a 3-foot-tall dike and 78 sandbags per foot for a 4-foot-tall dike.

Filling sand bags is a two-person task. While one person holds the bag, the other shovels sand, filling the bags a little over halfway. Do not overfill the bag; this will make it more difficult to carry, move, compact and form when you lay it down. Tie off the sand bags if you plan to transport them, but make sure it can be untied later. Otherwise, fold over the top flap of the bag, leaving room so that the sand can move around.

Instructions

Step 1: Clear debris from the area where you want to build the wall. Since friction holds a dike from sliding, create a good bond between the ground and the dike. Remove anything slippery from the dike site. Do not put plastic sheeting under the bags since it will increase the potential for the dike to slide.

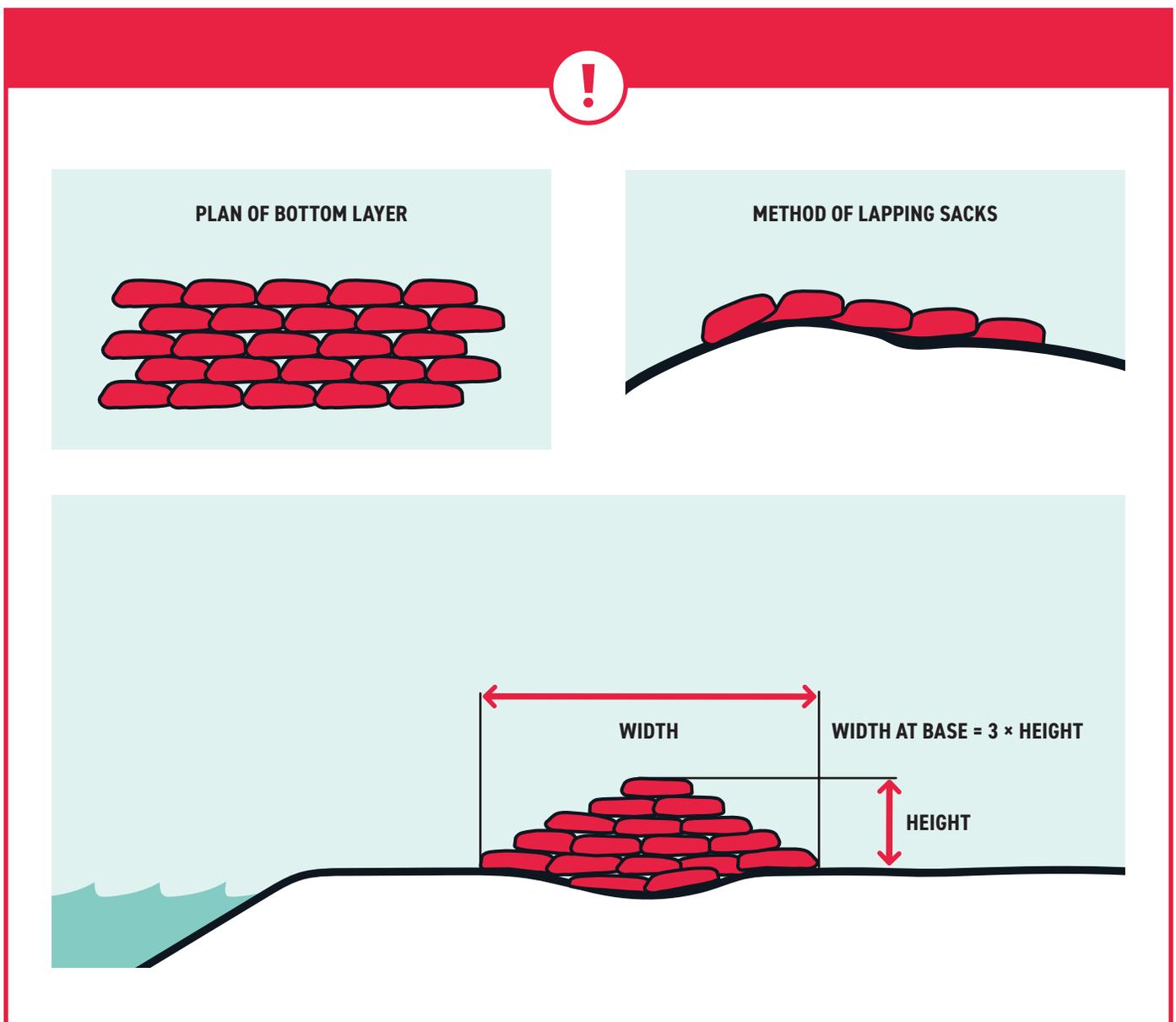
Step 2: Place the first layer of bags lengthwise (parallel to the water flow), overlapping the bags so the filled portion of one bag lies on the unfilled portion of the next, with the untied open end facing away from the water. Compact and shape each bag by walking on it. Continue to walk on the bags as you place succeeding layers to eliminate voids and form a tight seal. Five feet of water can exert about 310 pounds of pressure per square foot at the base of a dike. When stacking second and third rows, offset adjacent rows or layers by one-half bag length to eliminate continuous joints (it's similar to laying bricks).

Step 3: Seal the completed dike with a sheet of plastic to improve water tightness. Spread a layer of soil or sand one inch deep and about one foot wide along the bottom of the dike on the water side. Lay polyethylene plastic sheeting over the loose soil or sand so the bottom extends one foot beyond the bottom edge of the dike. Place a row of sandbags on the bottom edge of the plastic to form a watertight seal along the water side. The upper edge of the plastic should extend over the top of the dike. Use sandbags to hold down the top edge of the plastic. Lay the plastic sheeting very loosely. The water pressure will make the plastic conform easily to the sandbag surface. If the plastic is stretched too tightly, the water could puncture it. Also, avoid puncturing the plastic with sharp objects or by walking on it. Use poly sheeting that is at least six millimeters thick.

Recommended Method for Sandbag Diking

The U.S. Army Corps of Engineers recommends building a dike three times as wide at the base as it will be tall. For example, a 4-foot-high dike should be 12 feet wide at the base. At a minimum, dikes should be twice as wide at the base as they are tall.

For more information about dike building, visit www.ag.ndsu.edu/publications/disasters/sandbagging-for-flood-protection or view these videos: www.ag.ndsu.edu/flood/sandbagging-safety-tips and www.ag.ndsu.edu/flood/home/building-a-sandbag-dike-video.





Sand bags can be purchased throughout the county at various locations such as local ranch supply stores, hardware stores, etc.

Sand is provided free of charge to all county residents at the following locations:

- **Grand County Road and Bridge Shop: 467 East Topaz, Granby, CO 80446**
- **Grand County Road and Bridge Shop: 350 GCR 5103, Fraser, CO 80442**
- **Middle Park Fair and Rodeo: 210 11th Street, Kremmling, CO 80459**
- **Fraser Public Works Shop: 125 Fraser Ave**
- **Grand Lake Public Works Shop: 217 Marina Dr.**
- **Winter Park Public Works Shop: 80500 Main St.**

General Sandbagging Tips

- When selecting the dike's location, take advantage of natural land features that keep the dike as short and low as possible. Avoid obstructions that would weaken the dike.
- Do not build the dike against a building wall because of the force the dike may place on the building. Leave at least eight feet to maneuver between the dike and buildings.
- Remove ice and snow from the ground before starting to build a dike or the dike will leak when the snow and ice melt.
- Lap unfilled portion under next sack.
- Sacks should be approximately one half full of clay, silt, or sand.
- Sandbagging should also focus along existing flood works or any low spots along dikes for maximum protection.
- If the dike is to be more than three feet high, dig a bonding trench where the dike will be placed. The trench should be at least 4 to 6 inches deep and 18 to 24 inches wide.
- To be effective, a dike must be three times as wide as its base as it is high.
- The open ends of the sandbags should be facing upstream and/or uphill so that the moving water will not remove the sand from the bags as readily.
- Alternate direction of sandbags with bottom layer, i.e., bottom layer lengthwise with dike, next layer crosswise.
- As individual bags are put in place, walk on bags to tamp them into place to ensure maximum strength. Take care to avoid puncturing the bags.

Self-Service Stations

- For the 2021 season, Grand County and Northern Water are planning to have self-service sandbag stations placed throughout the county. Visit www.GCWatershedRecovery.com for more information.

SURVIVE DURING

Take an active role in your safety by understanding key protective actions and what to avoid.

Assess the situation. Depending on where you are and the amount of advanced warning time you are given, go to the safe location that you have identified. Help a neighbor who may require special assistance – infants, elderly people, and people with special needs. Free livestock and lead or transport them to safety.

If told to evacuate, do so immediately. Never drive around barricades. Local responders use them to safely direct traffic out of flooded areas. Work in cooperation with Police, Fire, Public Works, and Emergency Personnel. Always follow the instructions given— authorities will direct you to leave if you are in a low-lying area or within the greatest potential path of rising waters. Even if you have not been ordered to evacuate yet, it is always best to be prepared when a flood watch is issued.

Listen to Emergency Alert Systems, NOAA Weather Radio, or local alerting systems for current emergency information and instructions.

Do not walk, swim, or drive through flood waters. Turn Around. Don't Drown.® Just six inches of fast moving water can knock you down, and one foot of moving water can sweep your vehicle away.

Stay off of bridges over fast-moving water. Fast-moving water can wash bridges away without warning.

If your vehicle is trapped in rapidly moving water, stay inside. If water is rising inside the vehicle, seek refuge on the roof.

If trapped in a building, go to its highest level. Do not climb into a closed attic. You may become trapped by rising floodwater. Go on the roof only if necessary. Signal for help.

If you have time, turn off the gas, electricity, and water. Disconnect appliances to prevent electrical shock when power is restored. Adjust the thermostat on refrigerators and freezers to the coolest possible temperature to prevent food from spoiling.



Depending on the type of flooding:

- **Evacuate if told to do so. But if you don't feel safe, don't wait for an evacuation order.**
- **Move to higher ground or a higher floor.**
- **Stay where you are, signal for help if necessary.**

RESPONSE PLANS

An overview of the roles and responsibilities before, during, and after a flooding event for agencies that would respond.

Grand County Sheriff's Office

Responsibilities:

- Protect life (health and well-being of the community)
- Minimize the threat to people and property in response to flooding (via evacuation if necessary)
- Continue to provide essential law enforcement services

Priorities:

- Consult with weather and water professionals to assess the threat level
 - » 24-hour stream watch during peak run-off periods
 - » Communication with affected agencies
 - » Obtain hydrologic information from relevant sources
- Identify actual affected areas
 - » Life threatening potential
 - » Need to evacuate
 - » Secure affected area (traffic/crowds)
 - » Establish and secure access to affected areas
- Secure property impacted by high water
 - » Public property (local government infrastructure)
 - » Private property (prevent looting)
- Continue to provide essential police services
 - » Prioritize police response to requests for service
 - » Additional manpower and other resources from local agencies

Grand County Road and Bridge and Municipal Public Works Departments

Responsibilities:

- Monitoring rivers and streams in the city, towns and county
- Managing debris that might impede the flow of water in creeks and culverts in public right-of-way
- Evaluating levels of flooding and/or anticipated flood threat and determining needs
- Establishing priorities for the protection of life safety, essential facilities, access roads, bridge structures and culverts

BE SAFE AFTER

Floodwater and standing water can be dangerous. Protect yourself and your loved ones from risks brought on by floods.

Avoid moving water.

Play it safe. Additional flooding or flash floods can occur. Listen for local warnings and information. Return home only when authorities indicate it is safe.

Avoid wading in floodwater, which can be contaminated and contain dangerous debris. Underground or downed power lines can also electrically charge the water.

Use a generator or other gasoline powered machinery ONLY outdoors and away from windows.

Stay away from damaged areas unless your assistance has been specifically requested by police, fire or relief organizations.

Be aware of areas where floodwaters have receded. Flooding may have caused familiar places to change. Floodwaters often erode roads and walkways. Roads may have weakened and could collapse under the weight of a car. Use extreme caution when entering buildings, there may be hidden damage, particularly in foundations. Stay out of any building if it is surrounded by floodwaters.

Confirm the water supply is safe to drink. Listen for news reports to learn whether your community's water supply has been contaminated by the floodwaters. Remember to carry bottled drinking water and discard any food products that may have come in contact with floodwater.

Wear heavy gloves and rubber boots during clean up. Ventilate your home. Open all doors and windows to allow air to circulate and dry out your home. Dehumidify as soon as possible after a flood. If salvageable, clean and disinfect everything that got wet. Mud left from floodwaters may contain sewage and chemicals.

Service damaged septic tanks, cesspools, pit and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.

Contact your insurance agent to discuss claims, if you purchased flood insurance.

Be wary of people who drive through neighborhoods offering help in cleaning up or repairing your home as they may not be legitimate. Check references if you hire cleanup or repair contractors, and be sure they are qualified to do the job.

CONTACT INFORMATION

A list of emergency contacts as well as general contact information for services you may need during an emergency situation.

Emergencies	911
Grand County Government	(970) 725-3347
Animal Control	(970) 887-2988
Assessor's Office	(970) 725-3060
Building Department	(970) 725-3255
Coroner's Office	(970) 724-0083
CSU Extension	(970) 724-3436
Economic Development	(970) 725-3129
Housing Authority	(970) 725-3070
Human Services	(970) 725-3331
Manager's Office	(970) 725-3100
Motor Vehicle	(970) 725-3063
Natural Resources	(970) 887-0745
Office of Emergency Management	(970) 725-3803
Planning Department	(970) 725-3255
Public Health	(970) 725-3288
Road and Bridge	(970) 887-2123
Sheriff's Office	(970) 725-3343
Sheriff's Office Dispatch (non-emergent/24hrs)	(970) 725-3311
Vital Records	(970) 725-3064
Water Quality & Resources	(970) 725-3058
Grand County Local Agencies/Organizations	
Northern Colorado Water Conservancy District	(800) 369-7246
Grand County Rural Health	(970) 725-3477
Grand County Wildfire Council	(970) 627-7121
Grand Foundation	(970) 887-3111
Middle Park Conservation District	(970) 724-3456
Mountain Family Center	(970) 557-3186
Town of Fraser	(970) 726-1050
Police Department	(970) 722-7779
Public Works	(970) 726-5491

Town of Granby	(970) 887-2501
Police Department	(970) 887-3007
Public Works	(970) 887-2448
Town of Grand Lake	(970) 627-3435
Public Works	(970) 627-3583
Town of Hot Sulphur Springs	(970) 725-3933
Public Works	(970) 725-3933
Town of Kremmling	(970) 724-3249
Police Department	(970) 531-3318
Public Works	(970) 724-3249
Town of Winter Park	(970) 726-8081
Police Department	(970) 722-7779
Public Works	(970) 726-8011
Grand County Fire Protection Districts	
East Grand Fire (Fraser/Winter Park)	(970) 726-5824
Grand Fire (Granby Area)	(970) 887-3380
Grand Lake Fire	(970) 627-8428
Hot Sulphur Springs/Parshall Fire	(970) 725-3414
Kremmling Fire	(970) 724-3795
State Agencies	
Colorado 811 (Utilities Locate)	811
Colorado Brand Inspection Division	(303) 869-9160
Colorado Department of Transportation Road Conditions (511)	511
Colorado Division of Water Resources (Division 5 Office)	(970) 557-3038
Colorado Parks & Wildlife	(970) 725-6200
Colorado State Forest Service (CSFS)	(970) 887-3121
CSU Small Acreage Management Team	(970) 219-9903
Federal Agencies	
Bureau of Land Management	(970) 724-3000
Natural Resource Conservation Service (NRCS)	(970) 724-3456
Rocky Mountain National Park	(970) 586-1206
US Army Corp of Engineers	(970) 243-1199
US Forest Service (Sulphur Ranger District—Grand County)	(970) 887-4100
US Forest Service (Yampa Ranger District—Routt County)	(970) 638-4516

ADDITIONAL RESOURCES

Fact sheets, preparedness materials, informational websites and flyers, frequently asked questions, and more.

References, Resources and More Information

Alerts & Warnings

www.GCEmergency.com

www.ready.gov/alerts

www.fema.gov/mobile-app

www.redcross.org/prepare/mobile-apps

www.weather.com/apps

Boulder National Weather Service

www.weather.gov/bou

National Flood Insurance Program

www.floodsmart.gov

Emergency Preparedness

www.fema.gov

www.ready.gov/floods

www.ready.gov/be-informed

www.redcross.org/get-help/how-to-prepare-for-emergencies

www.cdc.gov/disasters/floods/readiness

www.weather.gov/bou/floodafterfire

cwcb.colorado.gov/flood-after-fire

mars.colorado.gov

dhsem.colorado.gov/info-center/readycolorado

www.GCEmergency.com

www.bewildfireready.org

Monitor River Gauges

water.weather.gov/ahps2/index.php?wfo=BOU

Wildfire Recovery

www.GCEmergency.com

www.GCWatershedRecovery.com

www.middleparkcd.com/east-troublesome-fire/

Flood Publications *(Publications must be viewed online at www.co.grand.co.us/floodready)***FEMA English**[Floods Follow Fires](#)[Flood Risks Increase After Fires](#)[Flood After Fire](#)[Flood Insurance](#)[Flood Information](#)**FEMA Español**[Las inundaciones y los incendios van de la mano](#)[El riesgo de inundación aumenta después de los incendios](#)[Inundaciones Después de un Incendio](#)**READYColorado**[Flood](#)**National Flood Insurance Publications** *(Publications must be viewed online at www.co.grand.co.us/floodready)***National Flood Insurance (NFIP)**[Why Do I Need Flood Insurance?](#)**Landslides / Debris Flow Publications** *(Publications must be viewed online at www.co.grand.co.us/floodready)***FEMA English**[Understanding Mudflow and the NFIP](#)**FEMA Español**[Las avalanchas de lodo y el NFIP](#)**READYColorado**[Landslide / Rockslide](#)**Emergency Preparedness Publications** *(Publications must be viewed online at www.co.grand.co.us/floodready)***Ready.gov**[Are You Ready? Guide \(2020\)](#)[Create Your Family Emergency Communication Plan](#)[Document and Insure Your Property](#)[Know Your Alerts and Warnings](#)[Safeguard Critical Documents and Valuables](#)**American Red Cross**[Flood Checklist](#)[Disaster and Emergency Preparedness for Older Adults](#)[Is Your Organization Prepared for Disasters and Emergencies?](#)

QUICK TIPS

Prepare Now: There are many ways to take action and prepare before a disaster occurs: creating a plan, putting together an emergency kit, and getting your home ready.



Know how you will be warned



Prepare an emergency kit



Make a plan, know evacuation routes



Leave before flooding starts



Protect your property

Survive During: Take an active role in your safety by knowing key protective actions and what to avoid.



Disconnect electricity and gas



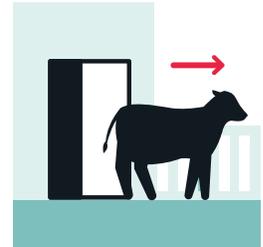
Don't walk or drive in flood water



Get to higher ground or the roof



Follow evacuation orders



Lead livestock to a safer location

Be Safe After: Know how to protect yourself and your loved ones from the hazards brought on by floods.



Don't swim or wade in the water



Stay away from damaged areas



Don't go home until the area is safe



Be wary of scams, check references



Clean and disinfect items, circulate air

Rates of Rainfall

Drizzle: very small droplets.

- Slight (fine) drizzle: Detectable as droplets only on the face, car windshields and windows.
- Moderate drizzle: Windows and other surfaces stream with water.
- Heavy (thick) drizzle: Impairs visibility and is measurable in a raingauge, rates up to 1 mm (>1/10") per hour.

Rain: drops of appreciable size and may be described as small to large drops. It is possible to have rain drops within drizzle.

- Slight rain: Less than 0.5 mm (>1/10") per hour.
- Moderate rain: Greater than 0.5 mm (>1/10") per hour, but less than 4.0 mm (~2/10") per hour.
- Heavy rain: Greater than 4 mm (~2/10") per hour, but less than 8 mm (~3/10") per hour.
- Very heavy rain: Greater than 8 mm (~3/10") per hour.

Showers: have a shorter duration than rain. They tend to be quick and come in bursts.

- Slight shower: Less than 2 mm (~1/10") per hour.
- Moderate shower: Greater than 2 mm (~1/10"), but less than 10 mm (~4/10") per hour.
- Heavy shower: Greater than 10 mm (~4/10") per hour, but less than 50 mm (~2") per hour.
- Violent shower: Greater than 50 mm (~2") per hour.

Rain Amount Guidelines

1/100 (0.01) of an inch of rain: The first measurable amount of rainfall reported by The National Weather Service. This would not leave puddles on the ground and would slightly wet the surface. This might occur during a light shower for 2-5 minutes or even a drizzle for two hours.

1/10 (0.10) of an inch of rain: A light rain for 30-45 minutes, moderate rain for 10 minutes or heavy rain for five minutes. Small puddles would form but usually disappear after a short while.

1/4 (0.25) of an inch of rain: A light rain for 2-3 hours, moderate rain for 30-60 minutes or heavy rain for 15 minutes. There would be many puddles on the ground and they would not disappear easily.

1/2 (0.5) of an inch of rain: A light rain never reaches this amount, moderate rain for 1-2 hours or heavy rain for 30-45 minutes. There would be deep standing water and they would last for long periods of time.

3/4 (0.75) of an inch of rain: A light moderate rain never reaches this amount, heavy rain lasting for 2-4 hours. There would be deep standing water for long periods of time.

One (1.00) inch of rain: A light moderate rain never reaches this amount, heavy rain for several hours (2-5 hours). There would be deep standing water for long periods of time.

Citations

Ready.gov

<https://www.ready.gov/floods>

Federal Emergency Management Agency (FEMA) / National Flood Insurance Program (NFIP)

<https://www.floodsmart.gov/floodsmart/>

U.S. Geological Survey (USGS)

https://www.usgs.gov/mission-areas/water-resources/science/usgs-flood-information?qt-science_center_objects=0#qt-science_center_objects

Colorado Water Conservation Board (CWCB)

<https://cwcb.colorado.gov/flood-after-fire>

National Weather Service (NWS) / National Oceanic and Atmospheric Administration (NOAA)

<https://www.weather.gov/wrn/spring2017-flood-sm>

Colorado Department of Homeland Security and Emergency Management (DHSEM)

<https://mars.colorado.gov/dr4581-wildfire-recovery>

Acknowledgments

Grand County Government

Sheriff's Office
Emergency Medical Services
Community Development
Road and Bridge
Water Quality and Resources
Natural Resources
Economic Development
Human Services

Municipalities

Town of Fraser
Town of Granby
Town of Grand Lake
Town of Hot Sulphur Springs
Town of Kremmling
Town of Winter Park

Organizations/Special Districts

Northern Colorado Water Conservancy District
Middle Park Conservation District
All Grand County Fire Protection Districts and Police Departments
National Weather Service - Boulder

Stay informed and register
to receive Emergency Alerts
at www.GCEmergency.com

Follow us on Social Media
Facebook: @GrandCountyOEM
Twitter: @GrandCountyOEM



GRAND COUNTY, COLORADO
Office of Emergency Management

