

# Floods



**F**loods are one of the most common hazards in the U.S. However, all floods are not alike. *Riverine floods* develop slowly, sometimes over a period of days. *Flash floods* can develop quickly, sometimes in just a few minutes, without any visible signs of rain. Flash floods often have a dangerous wall of roaring water that carries a deadly cargo of rocks, mud and other debris and can sweep away most things in its path. *Overland flooding* occurs outside a defined river or stream, such as when a levee is breached, but still can be destructive. Flooding can also occur from a dam break producing effects similar to flash floods.

Flood effects can be very local, impacting a neighborhood or community, or very large, effecting entire river basins and multiple states.

Be aware of flood hazards no matter where you live, but especially if you live in a low-

lying area, near water or downstream from a dam. Even very small streams, gullies, creeks, culverts, dry streambeds or low-lying ground that appear harmless in dry weather can flood. Every state is at risk from this hazard.

## What to do before a flood

1. Know the terms used to describe flooding:

- **Flood Watch**—Flooding is possible. Stay tuned to NOAA Weather Radio or commercial radio or television for information. Watches are issued 12 to 36 hours in advance of a possible flooding event.
- **Flash Flood Watch**—Flash flooding is possible. Be prepared to move to higher ground. A flash flood could occur without any warning. Listen to NOAA Weather Radio or commercial radio or television for additional information.
- **Flood Warning**—Flooding is occurring or will occur soon. If advised to evacuate, do so immediately.
- **Flash Flood Warning**—A flash flood is occurring. Seek higher ground on foot immediately.

*Go to higher ground during floods. Moving water only 6 inches deep can knock you off your feet.*

2. Ask local officials whether your property is in a flood-prone or high-risk area. (Remember that floods often occur outside high-risk areas.) Ask about official flood warning signals and what to do when you hear them. Also ask how you can protect your home from flooding.

3. Identify dams in your area and determine whether they pose a hazard to you.

4. Purchase a NOAA Weather Radio with battery backup and a tone-alert feature that automatically alerts you when a **Watch** or **Warning** is issued (tone alert not available in some areas). Purchase a battery-powered commercial radio and extra batteries.
5. Be prepared to evacuate. Learn your community's flood evacuation routes and where to find high ground. See the "Evacuation" chapter for important information.
6. Talk to your household about flooding. Plan a place to meet your household in case you are separated from one another in a disaster and cannot return home. Choose an out-of-town contact for everyone to call to say they are okay. In some emergencies, calling out-of-state is possible even when local phone lines are down.
7. Determine how you would care for household members who may live elsewhere but might need your help in a flood. Determine any special needs your neighbors might have.
8. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the "Emergency Planning and Disaster Supplies" chapter for more information.
9. Know how to shut off electricity, gas and water at main switches and valves. Know where gas pilot lights are located and how the heating system works.
10. Consider purchasing flood insurance.
  - Flood losses are *not covered* under homeowners' insurance policies.
  - FEMA manages the National Flood Insurance Program, which makes federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.
  - Flood insurance is available in most communities through insurance agents.
    - There is a 30-day waiting period before flood insurance goes into effect, so don't delay.
    - Flood insurance is available whether the building is in or out of the identified flood-prone area.
11. Consider options for protecting your property.
  - Make a record of your personal property. Take photographs or videotapes of your belongings. Store these documents in a safe place.
  - Keep insurance policies, deeds, property records and other important papers in a safe place away from your home.
  - Avoid building in a floodplain unless you elevate and reinforce your home.
  - Elevate furnace, water heater, and electric panel to higher floors or the attic if they are susceptible to flooding.
  - Install "check valves" in sewer traps to prevent flood water from backing up into the drains of your home.
  - Construct barriers such as levees, berms, and floodwalls to stop floodwater from entering the building.
  - Seal walls in basements with waterproofing compounds to avoid seepage.

*Keep supplies on hand for an emergency. Remember a battery operated NOAA Weather Radio with a tone-alert feature and extra batteries.*

- Call your local building department or emergency management office for more information.

## What to do during a flood

1. Be aware of flash flood. If there is *any* possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
2. Listen to radio or television stations for local information.
3. Be aware of streams, drainage channels, canyons and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warning signs as rain clouds or heavy rain.
4. If local authorities issue a flood watch, prepare to evacuate:
  - Secure your home. *If you have time*, tie down or bring outdoor equipment and lawn furniture inside. Move essential items to the upper floors.
  - If instructed, turn off utilities at the main switches or valves. Disconnect

*If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.*

electrical appliances. *Do not touch* electrical equipment if you are wet or standing in water.

- Fill the bathtub with water in case water becomes contaminated or services cut off. Before filling the tub, sterilize it with a diluted bleach solution.
5. Do not walk through moving water. Six inches of moving water can knock you off your feet. If you must walk in a flooded area, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
  6. Do not drive into flooded areas. Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling. A foot of water will float many vehicles. Two feet of water will wash away almost all vehicles. If floodwaters rise around your car, abandon the car and move to higher ground, if you can do so safely. You and your vehicle can be quickly swept away as floodwaters rise.
  7. See the “Evacuation” chapter for important information.



## What to do after a flood

1. Avoid floodwaters. The water may be contaminated by oil, gasoline or raw sewage. The water may also be electrically charged from underground or downed power lines.
2. Avoid moving water. Moving water only six inches deep can sweep you off your feet.
3. Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a car.
4. Stay away from downed power lines and report them to the power company.
5. Stay away from designated disaster areas unless authorities ask for volunteers.
6. Return home only when authorities indicate it is safe. Stay out of buildings if surrounded by floodwaters. Use extreme caution when entering buildings. There may be hidden damage, particularly in foundations.
7. Consider your family's health and safety needs:
  - Wash hands frequently with soap and clean water if you come in contact with floodwaters.
8. Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are serious health hazards.
9. Contact your insurance agent. If your policy covers your situation, an adjuster will be assigned to visit your home. To prepare:
  - Take photos of your belongings and your home or videotape them.
  - Separate damaged and undamaged belongings.
  - Locate your financial records.
  - Keep detailed records of cleanup costs.
10. If your residence has been flooded obtain a copy of "Repairing Your Flooded Home" from the local American Red Cross chapter.
11. See the "Recovering From Disaster" chapter for more information.

*There is a 30-day waiting period before flood insurance goes into effect, so don't delay.*