Shenandoah Valley

Hurricane Preparedness Guide

Prepared By Shenandoah Valley Project Impact

Begun in September 2000, Shenandoah Valley Project Impact (SVPI), is a disaster preparedness and mitigation education program that serves the twenty-one jurisdictions of the Central Shenandoah Planning District. In January 2003, SVPI became the region's Citizen Corps Council. The goal of Shenandoah Valley Project Impact is to help Shenandoah Valley residents become "disaster resistant" by teaching them ways to protect their families, homes, and businesses from natural and man-made disasters.

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Information in this guide can be used to help you prepare before a hurricane strikes, to know what to do during a hurricane, and to help you recover in a hurricane's aftermath. It is never too early to be prepared for Hurricane Season. We hope that this guide is a helpful resource for your hurricane preparedness efforts.

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Hurricane Season:
June 1st - November 30th

Hurricane Facts

Information In This Section:

What Are Tropical Storms and Hurricanes?
Historical Tropical Storms and Hurricane In The Valley
The Saffir-Simpson Scale
Atlantic Hurricane Names

What Are Tropical Storms and Hurricanes?

- Hurricanes and tropical storms are cyclones (low pressure systems) that form in the tropics. Tropical storms have winds from 39 to 73 miles per hour. When winds reach 74 miles or more, the storm is called a hurricane.
- A hurricane's winds blow in a large counter-clockwise spiral around an "eye." The "eye" is the calm center of the storm that is generally 20 to 30 miles wide. A hurricane can have a diameter of 400 miles.
- A single hurricane can last more than two weeks over open waters and can run a path along the entire eastern U.S.
- Hurricanes and tropical storms can cause storm surges along the coast, spawn tornadoes and microbursts, create heavy rainfall that in turn causes inland flooding, landslides, and mudslides.
- In the Central Shenandoah Valley, inland flooding occurs when hurricanes and tropical storms become slow moving or stall against the mountains, dumping heavy amounts of rainfall into storm drains, creeks, streams, and rivers.
- Flooding on rivers and streams may persist for several days or more after the storm is over.
- Hurricanes are classified into five categories based on their wind speed, central pressure, and damage potential. This hurricane classification system is known as the Saffir-Simpson Hurricane Scale.

Did You Know?

Between 1970 and 1999, more people lost their lives from freshwater inland flooding associated with land falling tropical storms than from any other weather hazard related to tropical storms.

Saffir-Simpson Scale

Category	Sustained Winds	Damage
1	74-95 mph	Minimal
2	96-110 mph	Moderate
3	111-130 mph	Extensive
4	131-155 mph	Extreme
5	Greater than 155 mph	Catastrophic

Atlantic Hurricane Names

2016	2017	2018	2019	2020
Alex	Arlene	Alberto	Andrea	Arthur
Bonnie	Bret	Beryl	Barry	Bertha
Colin	Cindy	Chris	Chantal	Cristobal
Danielle	Don	Debby	Dorian	Dolly
Earl	Emily	Ernesto	Erin	Edouard
Fiona	Franklin	Florence	Fernand	Fay
Gaston	Gert	Gordon	Gabrielle	Gonzalo
Hermine	Harvey	Helene	Humberto	Hanna
Ian	Irma	Isaac	Imelda	Isaias
Julia	Jose	Joyce	Jerry	Josephine
Karl	Katia	Kirk	Karen	Kyle
Lisa	Lee	Leslie	Lorenzo	Laura
Matthew	Maria	Michael	Melissa	Marco
Nicole	Nate	Nadine	Nestor	Nana
Otto	Ophelia	Oscar	Olga	Omar
Paula	Philippe	Patty	Pablo	Paulette
Richard	Rina	Rafael	Rebekah	Rene
Shary	Sean	Sara	Sebastien	Sally
Tobias	Tammy	Tony	Tanya	Teddy
Virginie	Vince	Valerie	Van	Vicky
Walter	Whitney	William	Wendy	Wilfred

Since 1953, Atlantic tropical storms have been named from lists originated by the National Hurricane Center and now maintained by the World Meteorological Organization. The lists featured only women's names until 1979. Now men's and women's names are alternated. Names are used in a rotation every six years. The only time there is a change in the list is if a storm is so deadly or costly that the continued use of the name would be inappropriate for reasons of sensitivity.

Historical Tropical Storms and Hurricanes That Have Impacted The Central Shenandoah Valley

September 28-30, 1870

September 30, 1896

August 17-19, 1969 – Hurricane Camille

June 19, 1972 – Hurricane Agnes

November 4-7, 1985 – Hurricane Juan

September 6-8, 1996 – Hurricane Fran

September 18-19, 2003 – Hurricane Isabel

Tropical systems do affect the Central Shenandoah Valley. While many hurricanes are downgraded to tropical storms or depressions by the time they reach the Valley, they have left in their wake devastating floods which have caused injuries, loss of life, and damages to homes and businesses.

September 28-30, 1870: This tropical system moved up the Shenandoah Valley dropping heavy rainfall. The rainfall was first welcomed after a period of drought during the summer, but continued rainfall began to cause problems when it filled rivers and streams. The Shenandoah River, in Rockingham County, with its expanded and rapid course, carried houses, trees, and bridges northward. The Village of Port Republic was under 15 feet of water. Nine inches of rain fell in Rockbridge and Augusta Counties, destroying farms, crops, and fences. In Staunton and Waynesboro, railroad bridges washed away. At "The Point" in Lexington, several houses were swept away.

September 30, 1896: Staunton's flood of record was caused by this tropical system that affected the northern part of the region. This event started in the morning as a gentle soaking rain but by night turned into a torrential downpour. Lewis Creek and its tributaries overflowed their banks, causing severe damage to Staunton's downtown business district and residential area. In Harrisonburg, houses along Black's Run were flooded. Bridgewater, Elkton, and Keezletown were flooded. In Rockingham County, three lives were lost, crops destroyed, and railroad and telegraph lines were damaged.

Staunton - September 1896

August 17-19, 1969 – Hurricane Camille: Camille is only one of two hurricanes on record to make landfall in the U.S. as a Category 5 hurricane. She made landfall on the gulf coast of Mississippi carrying with her gusts of up to 200 miles an hour and the highest storm surge ever recorded in the U.S. It was downgraded to a tropical depression by the time it reached Virginia but it combined with three other weather influences to create unparalleled amounts of rainfall in western Virginia. Nelson County was the hardest hit, receiving between 27 and 31 inches of rain, most in a five-hour period. Because most of the rain came in the middle of the night, while people were asleep, many people died. In the Central Shenandoah Valley, Rockbridge County was severely impacted, particularly in the City of Buena Vista, the Town of Glasgow, and the area along the South River. The City of Waynesboro was also inundated with floodwaters from Camille. Two hundred and fifty (250) people died in the United States as a result of Camille. Of these 250, 117 were in Virginia. Twenty-three (23) of the Virginians who died were in Rockbridge County. Across western Virginia, houses and businesses were damaged and destroyed, livestock and crops lost, and fertile topsoil washed away. Camille broke all flooding records in modern history along the James and Maury Rivers.

- Photo By Ralph Ogden

Nelson County - August 1969

- Photo By Ralph Ogden

Town of Glasgow - August 1969

Waynesboro - June 1972

June 19-21, 1972 – Hurricane Agnes: Hurricane Agnes was a weak, disorganized hurricane when it made landfall. Although it quickly disintegrated to a tropical depression, it was large with a diameter of 1,000 miles. It made its way up the Appalachians and exited back out to sea off the coast of North Carolina, where it regained the strength of a tropical storm. It reached the Virginia Coast and made its way up the Eastern Seaboard. Several states received record flooding with rainfall totaling 15 inches or more. In the Central Shenandoah Valley, Waynesboro was hit hard by Agnes. Parts of Waynesboro had to be evacuated due to flooding and homes and businesses were heavily damaged. The Town of Glasgow, in Rockbridge County, also received flooding but not to the extent it did during Camille. Because Agnes caused such widespread damage, it was one of the costliest hurricanes in U.S. history. Agnes caused 120 deaths in the U.S., 13 of those were in Virginia.

Town of Glasgow - November 1985

November 4-7, 1985 – Hurricane Juan: Flooding occurred over much of the Central Shenandoah Valley when the remnants of Hurricane Juan combined with a slow-moving low pressure system that moved northeasterly through West Virginia and Virginia, causing significant rainfall over a four-day period. The storm is also known as the "Election Day" Storm because it occurred during election day. In Rockingham County, the western part of the county suffered the most damage. In Elkton, a railroad bridge was a railroad bridge was washed out. In Highland County, 50 homes and 300 farms received damage from flooding. In Bath County, bridges were also washed out. In Augusta County, the Middle River damaged homes, property, and roads in areas like Frank's Mill, Fort Defiance, and Verona. In the Buffalo Gap area, Buffalo Creek washed away bridges and roads. In Waynesboro, the South River crested to record flood levels, damaging 140 homes, 32 mobile homes, and 41 businesses. In Rockbridge County, the Towns of Goshen and Glasgow, and the City of Buena Vista were the areas most affected by the flooding. Goshen experienced the heaviest damage due to the swiftness of the flood waters. In Buena Vista, 3 to 6 feet of water flooded homes and businesses. In Glasgow, almost half the homes and two-thirds of the businesses were damaged by flooding.

September 6-8, 1996 – Hurricane Fran: Hurricane Fran made landfall in southeastern North Carolina and traveled northward through Central Virginia and northwest through the Shenandoah Valley, exiting into West Virginia. Rockingham and Augusta Counties were the areas most affected in the Central Shenandoah Valley. Hurricane Fran broke almost all flood records along the Shenandoah River and its tributaries. In Rockingham, rainfall totals were between 8 and 13 inches. Areas in Rockingham that received damage included Naked Creek, Broadway, Bridgewater, Mount Crawford, and Dayton. Harrisonburg received minimal flooding along Black's Run. In Augusta County, Buffalo Gap, Augusta Springs, and Sherando were vulnerable to high water. National Guard troops evacuated people from Mt. Solon and Churchville. Two deaths occurred in Augusta County when people tried to cross the flood swollen Middle River in two separate incidents. In downtown Staunton, the Wharf area experienced flooding. In Waynesboro, the South River reached flood stage and its downtown business area was flooded. Hurricane Fran caused 34 deaths in the U.S., 6 of these fatalities occurred in Virginia.

Rockingham County - September 1996

September 18, 2003 – Hurricane Isabel: Hurricane Isabel made landfall along the Outer Banks of North Carolina. She moved northwestward through Virginia and Maryland, finally dissipating near Erie, Pennsylvania. In Virginia, some areas experienced sustained winds of 100 mph and tropical storm winds lasted for 29 hours. Along the coast of Virginia and the Chesapeake Bay, communities experienced storm surges from 5 to 8 feet. In the Central Shenandoah Valley, Augusta County received the most rainfall. At the Upper Sherando monitoring station, 20.6 inches was reported as the rainfall total. Southern Augusta County and northern Rockbridge County along the South River and its tributaries received the most severe flooding, along the South River which damaged homes, farms, roads, and bridges along Route 608. Amazingly there were no serious injuries or fatalities in that area. In Waynesboro, there was flooding in the downtown. Staunton received minimal damage but one death occurred because of the improper use of a generator. In Rockingham County, damage was mainly confined to roads, downed trees, and agricultural lands. A man and his daughter died in Rockingham County a few days after the storm, when they tried to cross a swollen stream in their horse and buggy. In Harrisonburg, a James Madison University student drowned in Black's Run when his canoe overturned the morning after the storm. In the U.S., 40 deaths were attributed to Hurricane Isabel.

Rockbridge County - September 2003

Before A Hurricane Strikes

Information In This Section:

Flood and Wind Mitigation Techniques
Create A Family Preparedness Plan
Assemble A Disaster Supply Kit
Special Needs To Consider During A Hurricane
Pet and Animal Preparedness Planning
Kids' Activity Survival Kit

The Atlantic Hurricane Season lasts from June to November, with the peak season from mid-August to late October. But don't wait until the beginning of summer to protect your family and property from the water and wind damage hurricanes and tropical storms can bring to the Central Shenandoah Valley. There are things you can do any time of the year that will prepare you for Hurricane Season. Remember, while you prepare for Hurricane Season, you are also preparing for other emergencies and natural disasters as well. This section of the Hurricane Guide will help you prepare.

Flood and Wind Mitigation Techniques

There are many simple things you can do to protect your property from the water and wind damage associated with hurricanes and tropical storms. Typically, by the time a hurricane reaches the Central Shenandoah Valley, it has been downgraded to a tropical storm or even a tropical depression. With tropical storms and depressions, flooding is the central concern but wind can also be a factor (tropical storms have winds of 39 to 73 miles per hour). Here are some ways you can reduce damage from flooding and wind.

Flood Mitigation:

- Know Your Flood Risk: Call your local emergency management office, building department or floodplain management office for information about flooding. Ask to see a flood map of your community. This information will help you determine how much water is likely to come in.
- Remove debris from gutters and culverts so that rain water can flow freely through gutters and storm drains.
- Be Aware Of How Stormwater Drains: When it rains, pay attention to how stormwater drains from your property and into storm drains on the street. Do not do any alterations of landscaping on your property that will prevent proper storm water drainage.
- Secure Fuel Tanks: A fuel tank can tip over or float in a flood, causing fuel to spill or catch fire. Cleaning up a house that has been damaged by floodwaters containing fuel oil can be difficult and costly. Make sure tanks are anchored so they will not move.

Mitigation: Any sustained action that reduces or eliminates long-term risk to people and property from natural and man-made hazards and their effects.

- Install Float Plugs In Your Floor Drains: If a drain pipe backs up, the float will rise, plugging up the drain and preventing water from backing up through the drain.
- Install Backflow Valves In Your Sewer System: To prevent floodwaters from causing sewage to back up into your home, have a plumber install interior or exterior backflow valves.
- Use Sealants: If you have a basement prone to flooding, you can use waterproofing compounds to seal walls and windows of basements. When applying these compounds, it is important to follow the manufacturer's directions.
- Raise Utilities and Appliances: If you have electrical panel boxes, furnaces, water heaters, and appliances such as washers and dryers in areas prone to flooding, consider elevating them. Consider elevating furnaces and appliances by placing them on platforms in the same space or moving them to higher floors of the house. Electrical panel boxes, water heaters, or furnaces could be moved to higher floors, or the attic.
- Consider purchasing Flood Insurance.

Wind Mitigation:

- Make A List: Keep a list handy of things you need to bring inside that could become missiles under windy conditions such as trash cans, lawn furniture, bicycles, children's toys, and garden tools. Having a list makes it easy if a storm approaches quickly and you are not thinking clearly. (This list is also useful for thunderstorms, windy days, or tornadoes.)
- Keep Trees and Shrubbery Trimmed: Keeping greenery trimmed reduces the dead branches and debris that can be carried by the wind or clog up gutters and storm drains. Trees can be trimmed so that they are "wind resistant" which reduces the chances they will fall in high winds.
- Protect Your Roof: Have a professional inspect your roof to make sure that the roof sheathing (the boards or plywood nailed to the roof rafters or trusses) is nailed properly and that the end gables are securely braced. Install hurricane straps to fasten the roof to the walls of the house to give it added protection in high winds.
- Secure Double Entry And Garage Doors: Double entry doors and garage doors can make your house vulnerable in high winds. Ask your hardware store for guidance on how to secure double entry doors on the top and the bottom with sliding bolts and for suggestions for strengthening garage doors.

Why You Should Consider Flood Insurance?

Just an inch of water can cause costly damage to your property.

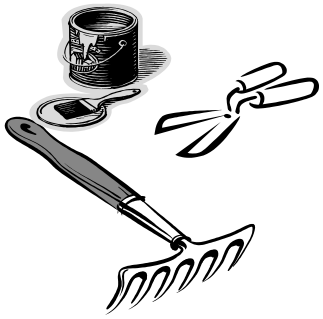
Everyone lives in a flood zone - it is simply a matter of degree of risk.

Homeowners Insurance does not cover flooding.

It takes 30 days after you purchase a flood insurance policy for it to take effect so don't wait until there is a hurricane watch in your area to think about flood insurance.

For more information about the National Flood Insurance Program - check out their website:

www.floodsmart.gov



Family Preparedness Plan

The _____Family Disaster Plan

Last Updated: _____

Names of People in this Family:

_____ _____

_____ _____

_____ _____

Our Designated Meeting Places:

In the event of the need to immediately evacuate our house, or in the event that we come home and see the house in flames, it is important that we have a designated meeting place outside of our home so that we know that everyone is out and safe.

Our immediate outside place is:_____

In the event that we would not be able to enter our neighborhood or had to leave our neighborhood for reasons such as a flood, hazardous materials spill or other neighborhood evacuation,

Our meeting place outside of our neighborhood is: _____

Our Designated Out of Town Contacts:

In many emergencies, it is easier to contact someone out of town than to make a local call. For this reason, it is necessary to designate an out of town contact that we will call to let know our condition and our whereabouts in time of emergency when we may not be able to get in touch with each other.

Designated Out of Town Contact:

Name_____ Phone: _____

In the event that we cannot contact that person, the back up contact is:

Name_____ Phone: _____

Emergency Telephone Numbers:

For All Emergencies: 9-1-1

Office of Emergency Services: _____

Poison Control Center: _____

Fire Department: _____

Police or Sheriff: _____

Hospital: _____

American Red Cross Chapter: _____

Salvation Army: _____

VA State Police : _____

Health Department: _____

National Response Center
(Chemical, Oil Spills, Chemical/Biological Terrorism): 800-424-8802

Power Emergency Number: _____

Acct. # _____

Telephone: _____

Cellular Phones: _____

TV Cable: _____

Heating Fuel: _____

Propane: _____

Act. # _____

Pump Septic Tank: _____

Water Pump Service: _____

Other Important Numbers:

_____

_____

Our Neighbors' Telephone Numbers:

Name: _____

Address: _____

Phone #: _____

Cell Phone #:_____

Name: _____

Address: _____

Phone #: _____

Cell Phone #:_____

Name: _____

Address: _____

Phone #: _____

Cell Phone #:_____

Name: _____

Address: _____

Phone #: _____

Cell Phone #:_____

Our Insurance Policies:

Health Insurance Information

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Dental/Optical Insurance Information

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Flood Insurance

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Life Insurance Information

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

House Insurance Information

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Business Insurance

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Vehicle Insurance Information

Company Name: _____

Group Name or #: _____

Subscriber: _____

Social Security #: _____

Telephone #: _____

Other Information: _____

Our Family Medical Information:

Medical Information (Name): _____

Doctor's Name & Phone Number: _____

Dentist's Name & Phone Number: _____

Pharmacy Name & Phone Number: _____

Prescriptions:

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

Medical Information (Name): _____

Doctor's Name & Phone Number: _____

Dentist's Name & Phone Number: _____

Pharmacy Name & Phone Number: _____

Prescriptions:

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

Medical Information (Name): _____

Doctor's Name & Phone Number: _____

Dentist's Name & Phone Number: _____

Pharmacy Name & Phone Number: _____

Prescriptions:

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

RX #: _____

Drug Name & Dose: _____

Doctor: _____

Medical Information-Animals:

Animal's Name: _____

Species: _____

Breed or Type: _____

Age as of _____: _____

Sex: _____ Date Spayed or Neutered: _____

Color/Markings: _____

Rabies Tag #: _____

Last Trip to the Vet: _____

Any illnesses or major surgeries: _____

Veterinarian: _____

Address & Phone: _____

Pet-friendly hotel: _____

Boarding Kennel: _____

Animal Hospital for Boarding: _____

Friend or pet sitter: _____

Pictures of pet alone and with her/his family are attached.

Disaster Supplies Kit

After a hurricane, you many need to survive on your own for several days. Basic services such as electricity, gas, water, sewage treatment, and telephones may be cut off for days, or even a week or longer. You need to have enough food, water, and other supplies to last your family for three days. You may have to evacuate at a moment's notice and take essentials with you, so pack your disaster supplies in easy to carry containers such as an unused trashcan, camping backpack, or duffel bag. Below is a checklist that you can use to make sure you have the supplies you need. Check your supplies every six months and restock needed

- ☐ Water – one gallon per person per day. The best option is to buy commercially bottled water, keep it in its original container and do not open until you need to use it. Observe the expiration or "use by" date. If you store your own water, use two-liter plastic soda bottles that have been thoroughly cleaned with soap and water. Sanitize the bottles by adding a solution of one teaspoon of non-scented liquid household chlorine bleach to one quart of water. Swish solution in the bottle so it touches all surfaces. After sanitizing, rinse out the bottle with clean water then fill the water container. If tap water has been commercially treated you do not need to add anything else. If the water you are using comes from a well or water source that is not treated with chlorine, add two drops of non-scented liquid household bleach to the water. Tightly close the container using the original cap and be sure not to touch the inside of the cap. Replace water every six months if not using commercially bottled water.
- ☐ Food – Stock foods that do not need refrigeration, cooking, or water. Avoid foods that make you thirsty. Choose salt-free crackers and whole grain cereals. If you include cans without pop-top lids, be sure to include a manual can opener. Remember to include foods for persons in your family with special dietary needs, and infants.

- ☐ Portable, battery-powered radio and extra batteries.
- ☐ Notepad and pens to write down important information.
- ☐ Whistle.
- ☐ Flashlight or battery-powered lantern and extra batteries. (Do not use candles.)
- ☐ First aid kit and manual.
- ☐ Sanitation and hygiene items (i.e. moist towelettes, toilet paper, toothbrush).
- ☐ Matches in a waterproof container.
- ☐ Extra change of clothing for each member of your family, including a jacket, long pants, long sleeve shirt, and sturdy shoes.
- ☐ A sleeping bag or blanket for each person.
- ☐ Kitchen accessories and cooking utensils.
- ☐ Photocopies of credit cards, identification cards, and important documents.
- ☐ Cash in small bills and coins.
- ☐ Special needs items such as prescription medications and copies of prescriptions, eye glasses, and hearing aid batteries.
- ☐ Items for infants, such as formula, diapers, bottles, and pacifiers.
- ☐ Entertainment items such as books, playing cards, games, and favorite toys.

Special Needs During A Hurricane

Many of us may have special needs that we need to think about during a hurricane. We may have to take additional steps to protect ourselves and our families. If you have special needs, here are some things you can do to plan for a hurricane or other disaster:

- Create a network of neighbors, relatives, friends, and coworkers to aid you in an emergency. Discuss your needs and make sure everyone knows how to operate necessary equipment.
- Discuss your needs with an employer.
- If you are mobility impaired and live or work in a high-rise building, have an escape chair.
- If you live in an apartment building, ask the management to mark accessible exits clearly and to make arrangement to help you leave the building.
- Keep specialized items ready, including extra wheelchair batteries, oxygen, catheters, medication, food for service animals, and any other items you might need.
- Be sure to make provisions for medications that require refrigeration.
- Keep a list of the type and model numbers of the medical devices that you require.

Examples of Special Needs and Additional Steps:	
Special Need:	Additional Steps:
Person With Hearing Impairment	May need to make special arrangements to receive warnings.
Person With Visual Impairment	May need to make arrangements for transportation if asked to evacuate.
Person With Mobility Impairment	May need special assistance to get to a shelter.
Single Working Parent	May need help to plan for disasters and emergencies.
Non-English Speaking Person	May need assistance planning for and responding to emergencies. Community and cultural groups may be able to help keep people informed.
Person Without Vehicle	May need to make arrangements for transportation.

Caring For Animals During A Hurricane

Whether it's a large-scale natural catastrophe or an unforeseen emergency that causes you to leave your home temporarily, everyone's family can benefit from having a household evacuation plan in place before disaster strikes. Every disaster plan must include your pets! The Humane Society of the United States (HSUS) offers the following tips to pet owners designing an emergency safety plan:

- If you evacuate your home, **Do Not Leave Your Pets Behind!** Pets most likely cannot survive on their own; and if by some remote chance they do, you may not be able to find them when you return.
- For public health reasons, many emergency shelters cannot accept pets. Find out which motels and hotels in your area allow pets -- well in advance of needing them. Include your local animal shelter's number in your list of emergency numbers -- they might be able to provide information concerning pets during a disaster.
- Make sure identification tags are up to date and securely fastened to your pet's collar. If possible, attach the address and/or phone number of your evacuation site. Make sure you have a current photo of your pet for identification purposes. (A photo of you with your pet is even better!)
- Make sure you have a secure pet carrier, leash or harness for your pet so that if he panics, he can't escape.
- Take pet food, bottled water, medications, veterinary records, cat litter/pan, can opener, food dishes, first aid kit and other supplies with you in case they're not available later. While the sun is still shining, consider packing a "pet survival" kit which could be easily deployed if disaster hits.
- If you are unable to return to your home right away, you may need to board your pet. Most boarding kennels, veterinarians and animal shelters will need your pet's medical records to make sure all vaccinations are current. Include copies in your "pet survival" kit along with a photo of your pet. (A photo of you and your pet is even better!)
- If it is impossible to take your pet with you to temporary shelter, contact friends, family, veterinarians, or boarding kennels to arrange for care. Make sure medical and feeding information, food, medicine and other supplies accompany your pet to his foster home. **NOTE:** Some animal shelters will provide temporary foster care for owned pets in times of disaster, but this should be considered only as a last resort.
- If you have no alternative but to leave your pet at home, there are some precautions you must take, but remember that leaving your pet at home alone can place your animal in great danger! Confine your pet to a safe area inside -- NEVER leave your pet chained outside! Place a notice outside in a visible area, advising what pets are in the house and where they are located. Provide a phone number where you or a contact can be reached as well as the name and number of your vet.

Not only are pets affected by disaster, but the other animals in the disaster area are affected as well. The HSUS offers these basic tips for people who encounter wildlife or have livestock on their property:

Wildlife

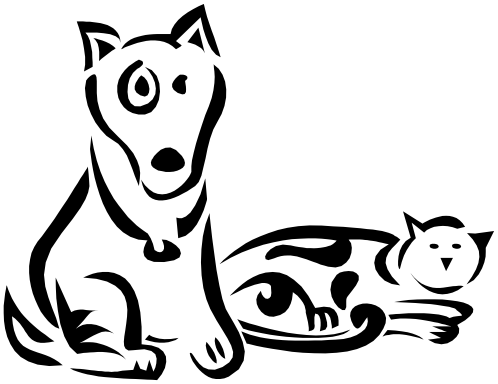
- Wild animals often seek higher ground that, during floods, eventually becomes submerged (i.e., island) and the animals become stranded. Animals have a flight response and will flee from anyone approaching too closely. If the animal threatens to rush into the water, back away from the island or you may cause the frightened animal to jump into the water to escape from you.
- Wild animals often seek refuge from flood waters on upper levels of a home and may remain inside even after the water recedes. If you meet a rat or snake face to face, be careful but don't panic. Open a window or other escape route and the animal will probably leave on its own. Never attempt to capture a wild animal unless you have the training, protective clothing, restraint equipment, and caging necessary to perform the job.
- If you see an injured or stranded animal in need of assistance, or you need help with evicting an animal from your home, please contact your local animal control office or animal shelter! If it is a wild animal, contact the Game Commission.

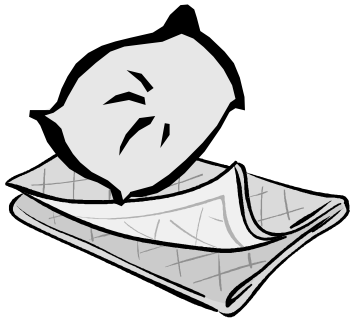
Livestock

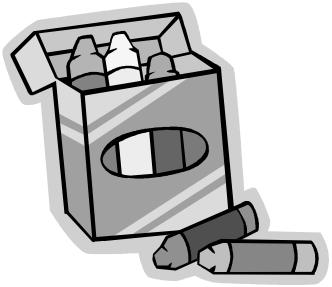
- **Evacuate Livestock Whenever Possible.** Arrangements for evacuation, including routes and host sites, should be made in advance. Alternate routes should be mapped out in case the planned route is inaccessible. The evacuation sites should have or be able to readily obtain food, water, veterinary care, handling equipment and facilities.
- Trucks, trailers, and other vehicles appropriate for transporting each specific type of animal, should be available along with experienced handlers and drivers to transport them. Whenever possible, the animals should be accustomed to these vehicles in advance so they're less frightened and easier to move. If evacuation is not possible, a decision must be made whether to move large animals to available shelter or turn them outside. This decision should be based on the type of disaster and the soundness and location of the shelter (structure).
- All animals should have some form of identification that will help facilitate their return. Your disaster plan should include a list of emergency phone numbers for local agencies that can assist you if disaster strikes. These numbers should be kept with your disaster kit in a secure, but easily accessible place.

For additional information, please contact:
Humane Society of the United States;
2100 L. Street, NW
Washington, DC. 20037
Attn: Disaster Services Program
Phone: (202) 452-1100
www.hsus.org

Source: Federal Emergency Management Agency Website:
www.fema.gov/library/diztips.shtm







Kids Activity Survival Kit

You may have to leave your house during a hurricane and may sleep somewhere else for a while. It's smart to put together your own "Kid's Activity Survival Kit" so you will have things to do and share with other kids. These can all be stored in a backpack or duffel bag. Just make sure you can carry it easily. Some suggested items for your Activity Survival Kit:

- ☐ A few of your favorite books
- ☐ Crayons, pencils, or marking pens and plenty of paper
- ☐ Scissors and glue
- ☐ Two favorite toys such as a doll or action figure
- ☐ One or two board games
- ☐ A deck of cards
- ☐ A puzzle (one with lots of pieces is good – it takes a long time to do!)
- ☐ Small people figures and play vehicles that you can use to play out what is happening during the hurricane – such as an ambulance, fire truck, helicopter, dump truck, police car, small boats
- ☐ Favorite stuffed animal or puppet
- ☐ Favorite blanket or pillow
- ☐ Pictures of the family and pets
- ☐ A "keep safe" box with a few treasures that make you feel special

- Source: www.fema.gov/kids

Information In This Section:

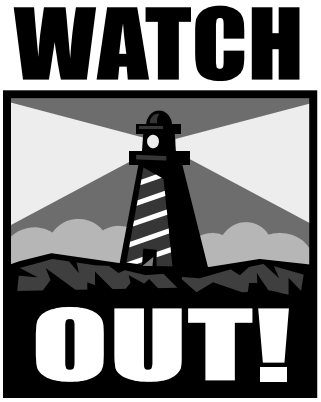
Hurricane/Tropical Storm Watches and Warnings
Information About Portable Generators
Keeping Refrigerated Foods Safe
Other Disasters Caused By Hurricanes
Evacuation
What To Do If The Power Goes Out
Hurricanes, Floods, and Driving

What To Do When A Hurricane/Tropical Storm Watch Is Issued

A hurricane/tropical storm watch means there is a threat of hurricane/tropical storm conditions within 36 hours. If a hurricane/tropical storm watch is issued in your area, here are some things you should do:

- Listen or watch storm information on a NOAA Weather Radio or local radio or television station. Heed the advice of local officials and evacuate if you are told to do so.
- Prepare your property for high winds. Bring lawn furniture, hanging plants, lawn ornaments, trash cans, etc. inside. Secure your home by closing windows and doors. Remove outside antennas (if this can be done safely).
- Fill your car's gas tank in case you are required to evacuate and need to travel a long time or get stuck in traffic.
- Stock up on prescription medicines.
- If you are in a mobile home, check the tie downs.
- Check your disaster supply kit and replace or restock items.
- Store valuables and personal items in a safety deposit box in a waterproof container on the highest level of your home.
- Turn the refrigerator and freezer to the coldest setting. Open them only when necessary. Keeping the coldest air inside will help perishables last much longer in the event of a power failure.
- If told to do so by authorities, turn off utilities. (Remember, a professional is required to turn your natural gas back on so you only want to turn it off when directed by local officials).
- Turn off propane tanks to reduce fire potential.
- Review your evacuation plan.
- Unplug small appliances that may be damaged by power surges during the hurricane.

Because the Central Shenandoah Valley is prone to intense rainfall, a flood watch may be issued in addition to a hurricane/tropical storm watch. A flood watch means a flood is possible in your area. Be alert to signs of flooding, and if you live in a flood-prone area, be ready to evacuate at a moment's notice.



What To Do When A Hurricane/Tropical Storm Warning Is Issued

A hurricane/tropical storm warning means hurricane/tropical storm conditions are expected in 24 hours or less. If a hurricane/tropical storm warning is issued in your area, here are some things you should do:

- Use a NOAA weather radio or continuously listen to a local radio or television station.
- If officials advise you to leave your home, go as soon as possible.
- If you evacuate, take your pets with you.
- If you are not advised to evacuate, stay indoors, away from windows, skylights, and doors.
- Have a supply of flashlights and extra batteries handy.
- Store drinking water in clean plastic bottles and cooking utensils. Fill bathtubs and sinks with water to use for flushing toilets. (Do not use water that has been stored in glazed tubs or sinks for drinking or to bathe young children because, over time, lead can leach from the glaze into the water.)
- Be aware that the calm "eye" is deceptive; the storm is not over. Once the eye passes over your area, the winds increase and blow from the opposite direction. Trees, shrubs, buildings, and other objects damaged by the first winds can be broken or destroyed by the second winds.
- Bring companion animals indoors and maintain direct control of them. Be sure that your pet disaster kit is ready to go. If a storm is predicted of lesser intensity and if pastured animals have access to high ground, it is better to let them out into their pastures than to leave them in a barn, unless that barn is very well constructed and protected. Horses and cattle are able to avoid windborne debris if they have enough area to move. In the last hours before a hurricane or tropical storm hits, it may be safer to do this than to attempt a last-minute evacuation.

A flood warning may be issued in addition to a hurricane/tropical storm warning. A flood warning means flooding is already occurring or will occur soon in your area. If told to evacuate, do so immediately. Follow recommended evacuation routes. Stay out of areas subject to flooding. If you come upon floodwaters, stop, turn around, and go another way. Climb to high ground and stay there.

Evacuation

Include evacuation planning as part of your preparedness activities if a hurricane/tropical storm watch is issued in your area. During a hurricane, local officials could ask you to evacuate your home and neighborhood. Here are some tips about evacuation.

You should evacuate under the following conditions:

- If you are directed by local authorities to do so. Be sure to follow their instructions.
- If you live in a mobile home or temporary structure – such shelters are particularly hazardous during hurricanes no matter how well fastened to the ground.
- If you live in a floodplain, near a river, or on an inland waterway.
- If you have medical needs that make you dependent on electricity or specialized care.
- If you feel you are in danger.

If you are advised to evacuate but it is not an immediate evacuation:

- Bring pets into the house and confine them to a room if you can. Pets try to run when they feel threatened. Keeping them inside will allow you to find them quickly if you need to evacuate.
- Put your disaster kit by the door or in your car.
- Bring things indoors that could be potential hazards such as lawn furniture and trash cans.
- Turn off electricity at the main fuse or breaker, and turn off water at the main valve.
- Leave natural gas on unless local officials advise otherwise, because you will need it for heating and cooking when you return home. If you turn gas off, a licensed professional is required to turn it back on and there may be a cost or it could take weeks for a professional to respond.
- Make sure you have a full tank of gas in your car because gas stations may be closed during the hurricane or the pumps may not work if there is a loss of power.
- If you do not own a car, make transportation arrangements with friends or your local government.
- Call your "out-of-town" contact and tell them where you are going and when you expect to get there.

If you are told to evacuate immediately by local officials:

- Listen to the local radio or television station and follow the instructions of local officials.
- Wear long pants, a long-sleeved shirt, and sturdy shoes. (The most common injury following any disaster is cut feet.)
- Take your pets with you when you leave, provided you can do so without endangering yourself. Remember if it is not safe for you, it is not safe for them.
- Use travel routes specified by local authorities. Since certain areas may be impassable or dangerous, avoid short cuts.

Information About Portable Generators

- Portable generators are useful when temporary electric power is needed, but they can also be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire.

- **Never** use a portable generator in an enclosed or partially enclosed space. Portable generators can produce high levels of carbon monoxide (CO) very quickly. Only use a generator outdoors and away from homes. Opening doors and windows or using fans will not prevent CO buildup. When you use a portable generator, remember that you cannot smell or see CO. Even if you cannot smell exhaust fumes, you may still be exposed to CO. If you start to feel sick, dizzy, or weak while using a portable generator, get to fresh air right away. Alert others near or in the home to get fresh air. Do not delay – the CO from portable generators can rapidly lead to full incapacitation and death.

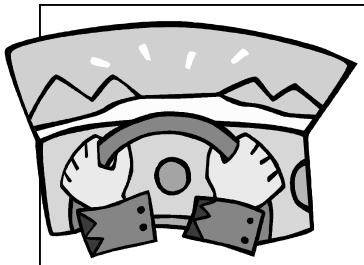
- Keep a portable generator dry and do not use it where it could get wet by rain. To protect it from moisture, operate it on a dry surface under an open canopy-like structure. Make sure your hands are dry before touching a generator.

- Plug appliances directly in to the portable generator or use a heavy-duty, outdoor-rated extension cord that is rated at least equal (in watts or amps) to the sum of the connected appliance loads. Check that the cord is free of cuts or tears and that the plug has all three prongs, including the grounding pin.

- Never try to power the home wiring by plugging the portable generator into a wall outlet, a practice known as "backfeeding." This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbors served by the same utility transformer. It also bypasses some of the built-in household circuit protection devices.

- Choose a generator rated for "home stand-by use," one that includes automatic voltage regulation. Without this feature, home electronics could be damaged.

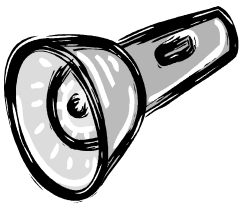
- Have a licensed electrical contractor install a transfer switch if you connect your generator to your house wiring. The transfer switch makes sure the power flows into the house and not back to power lines.



Hurricanes, Floods, and Driving

During and after a hurricane or tropical storm, road conditions can be very dangerous. High winds can cause flying debris. Wind driven rain can impair visibility. Roadways can be covered with floodwaters, downed trees or live power lines. The safest thing you can do is to stay off of roadways. Never try to walk, swim, or drive through floodwaters. It only takes 6 inches of moving water to knock a person off his feet. It only takes between 18 and 24 inches of moving water to float a vehicle. Floodwaters may also contain wild animals flooded from their homes (such as snakes), trash and debris, and live power lines. If you come across floodwaters, do not drive through them, turn around and go another route. If your vehicle becomes surrounded by water or the engine stalls, abandon your vehicle and climb to higher ground, if you can get out safely. Stay away from underpasses because they can rapidly fill with deep water while the adjacent roadway is clear.

If The Power Goes Out



If the power is lost, turn off major appliances to reduce the power surge when electricity is restored. The surge from many appliances starting at the same time may damage or destroy appliances.

Do not use candles for lighting. They could cause a fire. Use flashlights and battery-operated lanterns instead.

Listen to a battery-operated radio or television for current hurricane information from local officials.

If you use a portable generator, make sure to follow the manufacturer's instructions and never use a generator indoors.

When the power goes off and causes you to loose refrigeration, first use the perishable foods from the refrigerator. Then use the food from the freezer. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers (meaning foods are safe to eat) for at least two days. Finally, begin to use nonperishable foods and staples.

Leave one light turned on so you'll know when your power returns.

Remember that equipment such as automated teller machines (ATMs) and elevators may not work during a power outage.

If you have a cordless phone or answering machine, your telephone may not work with out electricity. Make sure you have either a standard telephone handset or cellular phone for communication.

It is important to have filled up your car with gas before the hurricane because gas stations rely on electricity to power their pumps.

If you use a battery-operated wheelchair, life-support system or other power-dependent equipment, make sure you have come up with a plan before the hurricane arrives. Your best option may be to evacuate early to a location away from the storm and to have a back-up power supply.

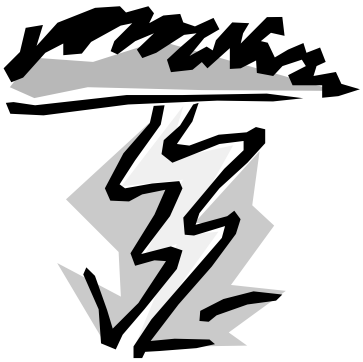
Keeping Refrigerated Foods Safe If The Power Goes Out

- Always keep your refrigerator at or below 40°F and your freezer at or below 0°F. An appliance thermometer can tell you if your refrigerator and freezer are at the proper temperatures.
- If the power goes out, keep the refrigerator and freezer doors closed as much as possible to maintain cold temperatures. An unopened refrigerator will keep food safely cold for about 4 hours. A full freezer will stay sufficiently cold for about 48 hours (24 hours if it is half full) if it is unopened.
- If your freezer is not full, keep items close together – this helps the food stay colder longer.
- Obtain dry or block ice to keep your refrigerator as cold as possible if the power is going to be out for a prolonged period of time.
- Keep frozen meat and poultry items on the lowest (coldest) shelf of the freezer, and separated from other food so that thawing meat or poultry juices will not contaminate other food.
- Be sure to discard any fully cooked items in either the freezer or the refrigerator that have come in contact with raw meat juices.
- If previously frozen food is partially or completely thawed when the power comes back on, you can safely refreeze it if it contains ice crystals or is at 40°F or below. Partially thawed food can be refrozen safely but refreezing may reduce the quality of some food.

Other Disasters Caused By Hurricanes

Hurricanes bring with them other hazards besides flooding, such as severe thunderstorms with lightning and hail, tornadoes, landslides, and mudslides (debris flows).

Severe Thunderstorms



A severe thunderstorm is a thunderstorm that produces hail at least ¾ of an inch in diameter, has wind gusts of 58 miles or higher, or produces a tornado.

Severe thunderstorms also produce lightning. You are in danger from lightning if you can hear thunder.

If you experience a severe thunderstorm during the hurricane, stay away from windows and doors. Draw shades and blinds over windows to prevent glass from shattering into your home if wind or hail causes it to break. Avoid taking a bath or shower, or running water because metal pipes and plumbing can conduct electricity if struck by lightning. Stay away from electrical equipment and telephones.

Tornadoes

A tornado is a violently rotating column of air extending from the base of a thunderstorm to the ground. The most violent tornadoes have rotating winds of 250 mph or more.

If a tornado warning is issued, it means a tornado has been sighted or indicated by weather radar. You need to seek shelter immediately.

Seek shelter in a basement or cellar if available. If you do not have a basement, consider an interior bathroom, closet, or hallway on the lowest floor, away from windows and exterior doors. Protect yourself from debris with a pillow or blanket and use your arms and hands to protect your head and neck.

If you live in a mobile home, seek shelter in a nearby sturdy building.

Tornado danger signs:

- Dark, often greenish clouds
- Large hail
- Wall cloud – an isolated lowering of the base of a thunderstorm
- An approaching cloud of debris
- Funnel cloud – a visible rotating extension of the cloud base
- Roaring noise – high winds of a tornado can cause a roar that is often compared with the sound of a freight train

Landslides and Mudslides

The term “landslide” describes many types of downhill earth movements ranging from rock avalanches to debris flows. Debris flows are fast-moving landslides that start as shallow landslides then liquefy and accelerate.

Watch the patterns of storm water drainage on slopes near your home and where runoff water converges, increasing flow over soil covered slopes.

Watch hillsides around your house for any signs of land movement.

Listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together.

If you are near a stream or channel, be alert for any sudden increase or decrease in water flow or for a change from clear to muddy water.

Consider leaving if it is safe to do so or evacuate immediately if you are told to do so by local officials.

Hurricane and Preparedness Internet Resources

American Red Cross: **www.redcross.org**

Citizen Corps: **www.citizencorps.gov**

Federal Emergency Management Agency: **www.fema.gov**

Hurricane Hunters: **www.hurricanehunters.com**

National Hurricane Center: **www.nhc.noaa.gov**

National Weather Service: **www.weather.gov**

Prepare.Org (Disaster Preparedness For Vulnerable Populations: Seniors, Children, People With Disabilities, Animal and Pet Owners): **www.prepare.org**

Virginia Department of Emergency Management: **www.vaemergency.com**

Virginia Citizen Corps: **www.vaemergency.com/citizencorps**

After A Hurricane Strikes

Information In This Section:

Tips On What To Do When The Hurricane Is Over
Taking Care Of Yourself And Your Family

After a hurricane has passed through your community, there are several things you should do, especially if your home or neighborhood has experienced damage from water or wind. It is just as important to practice safety measures after the storm as it is before or during the hurricane. Below are some things to keep in mind when you return home.

- Continue listening to local radio or television stations for the latest weather information, road conditions, and flood or wind-related hazards.

- If you evacuated, return home when local officials tell you it is safe. Stay away from floodwater. Avoid flooded roads and washed-out bridges. If you come upon a barricade, follow detour signs or turn around and go another way.

- Help injured or trapped persons and give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. Call for help. If someone needs to be rescued, call professionals with the right equipment to help.

- Help people who require special assistance - infants, elderly people, those without transportation, large families who may need additional help in an emergency situation, people with disabilities, and the people who care for them.

- Stay away from damaged areas. Avoid loose or dangling power lines. Stay out of any building that has water around it. Floodwater often undermines foundations, floors can crack or break, and buildings can collapse.

- When entering buildings, use extreme caution - watch carefully every step you take. Wear long pants, a long-sleeved shirt, and sturdy shoes. Use battery-powered lanterns or flashlights when examining buildings.

- When examining buildings, look at walls, floors, doors, staircases, and windows to make sure that the building is not in danger of collapse. Inspect foundations for cracks or other damage. Check for gas leaks, fire hazards, electrical system damage, and sewer and water line damage. Watch for loose plaster, drywall, and ceilings that could fall.

- Take pictures of the damage, both of the building and its contents, for insurance claims.

- Report broken utility lines to the appropriate authorities.

- Open windows and doors to ventilate and dry your home.

- Pump out flooded basements gradually (about 1/3 of the water per day) to avoid structural damage. Service damaged septic tanks, cess pools, pits, and leaching systems as soon as possible.

- Avoid drinking or preparing food with tap water until you are certain it is not contaminated. Throw away food and drinking water, including canned goods, that have come in contact with flood waters. Check refrigerated and frozen foods for spoilage.

- Watch out for wild animals, especially poisonous snakes, that may have come into buildings with the floodwater.

- Watch pets closely and keep them under your direct control. Pets may be disoriented, aggressive, or defensive. Be aware of hazards at nose, paw, or hoof level, particularly debris, spilled chemicals, fertilizers, or other substances that may not seem dangerous to humans but may be to animals.

Sources For The Information In This Guide:

Are You Ready: An In-depth Guide To Citizen Preparedness. FEMA Publication IS-22, August 2004

Repairing Your Flooded Home. FEMA Publication 234 / American Red Cross Publication 4477, August 1992

Talking About Disaster: Guide For Standard Messages. Produced by the National Disaster Education Coalition, Washington, D.C., 2004

Taking Care Of Yourself and Your Family After A Hurricane

The aftermath of a Hurricane can be a stressful time for families. Taking care of yourself and your family is just as important as cleaning up the debris and damage the hurricane may have left behind. As you clean-up from a hurricane, here are ways to deal with stress:

★ **Discuss your problems** with family and friends. Sharing your anxieties with others may help you release tension. Crying is a natural response to a disaster and is a great way to release pent-up emotions.

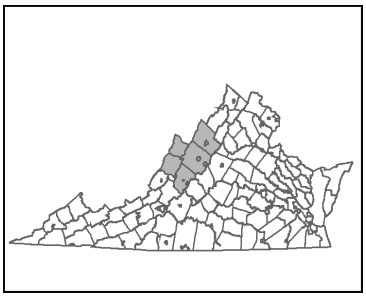
★ **Rest often and eat well.** Being active helps with stress but don't overdo it. When you are tired, you may suffer from stress and other health problems. Rest and nourishment will keep your body going like it should.

★ **Seek professional help** if you cannot shake feelings of despair or stress. Following a disaster, special outreach programs may be set-up to help people.

★ **Stay healthy** while you clean-up and repair. Wash you hands with soap and water, thoroughly and often. This is especially important before handling food, eating, or smoking. Confirm that water is clean and safe. Avoid injuries by not lifting heavy objects or working to the point of fatigue.

★ **Help children** deal with the hurricane by keeping the family together and trying to establish some family routines. Listen to children and encourage them to express their feelings. Explain the disaster factually - children can be afraid of things they don't understand. Reassure children through words and actions that life will return to normal. Be understanding and don't scold children because they are going through a rough time.

★ **Remember: Small children, pregnant women, and people with health problems should avoid flooded areas until the clean-up is completed.**



Central Shenandoah Valley Region

To learn more about hurricanes and other disasters,
or to schedule a speaker or disaster education program contact:

citizen corps

Shenandoah Valley Project Impact
Central Shenandoah PDC
112 MacTanly Place
Staunton, Virginia 24401
Phone: 540•885•5174
E-mail: cspdc@cspdc.org