



# Hurricane Information

## About Hurricanes

Hurricanes are powerful storms that form at sea with wind speeds of 74 mph or greater. They are tracked by satellites from the moment they begin to form, so there is usually a warning before a storm strikes. A hurricane covers a circular area between 200 and 480 miles in diameter. In the storm, strong winds and rain surround a central, calm "eye" which is about 15 miles across. These winds can sometimes reach 200 mph; however, the greatest damage to life and property is not from the wind, but from tidal surges and flash flooding. Because of the destructive power of a hurricane, you should never ignore an evacuation order.

Ross University School of Veterinary Medicine (RUSVM) uses an emergency mass notification system called SIREN which sends alerts by voice, text message, and email to communicate with the RUSVM community. This system is only used in times of emergency and students are reminded to ensure that their contact information is up to date on the "My Ross" portal.

The campus has a Hurricane Committee which tracks potential storms, provides advice to the dean on potential threats, and activates the Hurricane Plan and/or Evacuation Plan as needed.

## Tracking the Hurricane

The coordinates for St. Kitts are latitude 17.2 and longitude 62.4. Read latitudes from base to top, longitudes from right to left. You can pinpoint the location of the storm using the chart in your St. Kitts phone book.

## Preparing for a Hurricane

1. Identify potential home hazards such as those involving gas, electricity, chemicals, and structural damage.
2. Conduct an evacuation drill for at least two ways out of your home.
3. Provide escape ladders for multi-story structures.
4. Establish an assembly point to meet in the event of a disaster, especially if everyone isn't at home when it occurs.
5. Know the location of important papers.
6. Know how to shut off the gas, water, and electric mains.
7. Invite your upstairs neighbor downstairs for protection.
8. Eat a hot meal as it may be your last one for a while.

9. Leave your windows open a crack for ventilation, otherwise the hurricane may cause severe structural damage to your home.

**Stock your home with supplies that may be needed during the emergency period. These include:**

- Three to five days' supply of water (app gallons per person).
- Three to five days' supply of non-perishable food.
- First aid kit and manual.
- Battery powered radio, flashlights, and extra batteries.
- Sleeping bags or extra blankets.
- Non-breakable spoons, forks, knives, cups, plates, etc.
- Water purifying supplies - chlorine or iodine tablets or ordinary unscented household bleach.
- Minimum of a two-week supply of all prescription medications and other special medical needs.
- Baby food and/or prepared formula, diapers, and other baby supplies.
- Cleaning cloths, such as baby wipes to use in case bathing facilities are not available.
- Personal hygiene supplies - soap, toothpaste, sanitary pads or tampons, etc.
- Cleaning cloths, such as baby wipes to use in case bathing facilities are not available.
- Alternate cooking source such as a camp stove--> use only in well ventilated areas.
- Plastic trash bags and ties.
- Emergency kit for your car with food, a first aid kit, sleeping bags, etc.
- Games and toys for children.
- Extra cash.
- Pet food.
- Insect repellent.
- Rubber boots/rubber gloves.

## **Before a Hurricane**

News services will issue a hurricane watch when there is a threat of hurricane conditions within 24 to 36 hours. When a hurricane watch is issued, you should:

- Make sure you have gas in your car.
- Make sure you have gas for your generator and/or the battery is fully charged.
- Make arrangements with someone for transportation if you don't have a car.
- Fill your clean water containers.
- Review your emergency plans and supplies, checking to see if any items are missing.
- Tune in the radio or television for weather updates.
- When evacuation is necessary, pack only essential items - clothing, bedding, food, water, medicines, infant needs.
- Secure any items which may damage property in a storm, such as bicycles, grills, propane tanks, etc.

- Cover windows and doors, if possible.
- Fill sinks and bathtubs with water as an extra supply for washing.
- Adjust the thermostat on refrigerators and freezers to the coolest possible temperatures.
- Make sure you sleep wearing street clothes and that shoes are close by. Storms can hit in the middle of the night and immediate evacuation may be necessary.

## Evacuation

If you are directed to leave:

- Take only essential items with you.
- If you have time, turn off the gas, electricity, and water.
- Disconnect appliances to reduce the likelihood of electrical shock when power is restored.
- Make sure your car's evacuation kit is ready.
- Listen to the radio for emergency updates.

## During the Hurricane

To get through the storm in the safest possible manner:

- Don't plan to have a "Hurricane Party" and consume alcohol. Remember, you need to remain alert for your personal safety.
- Don't drive around the island.
- Stay tuned to your radio and listen to the bulletins issued by Radio ZIZ and VON Radio.
- The weather channel (37 or 13) gives updates at 10 minutes of the hour. You may also visit their website at [www.weather.com](http://www.weather.com).
- Do not make unnecessary telephone calls.
- Monitor the radio or television for weather conditions, if possible.
- Stay indoors until the authorities declare the storm is over even if the weather appears to have calmed - the calm "eye" of the storm can pass as quickly as a minute leaving you outside when hurricane force winds resume.
- Expect the loss of electricity, gas, and water.
- Stay away from all windows and exterior doors, seeking shelter in a bathroom. Bathtubs can provide some shelter if you cover yourself with plywood or other materials.
- Prepare to evacuate to a shelter or to a neighbor's home if your home is damaged, or if you are instructed to do so by emergency personnel.
- If you should lose electrical power, eat perishable food first.
- Stay away from river banks, streams, and beaches. A hurricane causes the sea level to rise above normal tidal heights, with giant wind-driven waves and strong, unpredictable currents.
- Open one of the windows or doors of your house on the side opposite to the one which the wind is blowing. Remember to close the same door or windows as soon as the direction of the wind changes and open another contrary to the new direction. This is recommended as a means of balancing the pressure inside and outside the house, so that the difference in pressure does not tear away the doors and windows.

## **After the Hurricane**

### *Personal Injury*

Injuries during a hurricane are cuts caused by flying glass or other debris. It is also possible for puncture wounds resulting from exposed nails, metal, glass, or bone.

### *Water Quality*

Tidal surges or flooding can contaminate the public water supply. Do not assume that the water is safe to drink. Water treatment plants may not be operating or may have damage and flooding which contaminate the water lines. Listen for public announcements about the safety of the water supply.

Some general rules concerning water for drinking and cooking include:

- Don't use contaminated water to wash dishes, brush your teeth, wash and prepare food, or to make ice.
- Drink only bottled, boiled, or treated water until your supply is tested and found safe.
- Boil water for 10 minutes to kill harmful bacteria and parasites.
- Treat water with chlorine or iodine tablets, or mix six drops (1/8 teaspoon) of unscented, ordinary household chlorine bleach (5.25 percent sodium hypochlorite) per gallon of water. Mix and let stand for about 30 minutes; however, this treatment will not kill parasitic organisms.
- Containers for water should be rinsed with a bleach solution before reusing them.

### *Food Safety*

- Do not eat any food that may have come into contact with contaminated water.
- Discard any food not in a water proof container if there is a chance that it has come into contact with contaminated water.
- Undamaged, commercially canned foods can be saved if you remove the labels, thoroughly wash the cans, and then disinfect them with a solution consisting of one cup of bleach in five gallons of water. Re-label your cans, including expiration date with a marker.
- Food containers with screw-caps, snap-lids, crimped caps (soda bottles), twist caps, flip tops, snap-open, and home canned foods should be discarded if they have come into contact with floodwater because they cannot be disinfected.
- For infants, use only pre-prepared canned baby formula. Do not use powdered formula prepared with treated water.
- Your refrigerator will keep foods cool about four hours without power if it is unopened.
- Add block ice to your refrigerator if the electricity will be off longer than four hours.
- Thawed food can usually be eaten if it is still "refrigerator cold", or re-frozen if it still contains ice crystals.
- "When in doubt, throw it out."

### *Sanitation and Hygiene*

- Practice basic hygiene by washing your hands with soap and water that has been boiled or disinfected.
- Don't expose open cuts or sores to floodwater and keep infection down with antibiotic ointments.
- Don't allow children to play in floodwater areas.
- Wash children's hands frequently (always before meals), and do not allow them to play with toys that have been in contaminated water. Toys can be disinfected by using a solution of bleach in five gallons of water.

### *Mosquitoes*

To control mosquito populations, drain all standing water left in open containers outside your home. Mosquitoes are most active at sunrise and sunset. To protect yourself from mosquitoes use insect repellants that contain DEET. Be sure to read all instructions before using DEET. Care must be taken when using DEET on small children.

### *Mental Health*

Remember to take some time to consider your mental health as the days following a hurricane can be challenging. Some sleeplessness, anxiety, anger, hyperactivity, mild depression, or lethargy are normal, and may go away with time. If you feel any of these symptoms acutely, seek counseling. Children need extra care and attention before, during, and after the storm. Be sure to locate a favorite toy or game for your child before the storm arrives to help maintain his/her sense of security.

### *Moving Ahead*

- When cleaning up take proper precautions to avoid injury - wear proper clothing, including long sleeves and pants, and boots.
- When entering a damaged structure make sure the main electrical switch is off. If you see frayed wiring or sparks when you restore power or, if there is an odor of something burning but no visible fire, you should immediately shut off the electrical system at the main circuit breaker.
- Dry and disinfect all materials inside the house to prevent the growth of mold and mildew. Continue to monitor your radio or television for up-to-date emergency information.
- Do not touch or drive through power lines that are lying on or dangling near the ground. If a power line falls across your car while driving, continue to drive away from the line. If the engine stalls, do not turn off the ignition. Stay in your car and wait for emergency personnel. Do not allow anyone other than emergency personnel to approach your vehicle.
- If possible, use battery-powered lanterns rather than candles to light your home and prevent fires. Make sure candles are in a safe holder and away from curtains, paper, wood, or other flammable items. Never leave a candle burning when you are out of the room.
- Heat related illness is a major cause of concern following a hurricane due to lack of electricity, which may prevent adequate interior ventilation. Consider ways to increase ventilation by opening windows, yet taking proper safety measures.

## **Definitions**

### **Hurricane Season:**

Extends from June 1st through November 30th. That is the period when climatic conditions are optimum for the formation and sustained movement of hurricane winds.

### **Tropical Cyclone:**

A warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center. Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperature and heat export at the low temperatures of the upper troposphere. In this they differ from extra tropical cyclones, which derive their energy from horizontal temperature contrasts in the atmosphere.

### **Tropical Wave:**

A trough or cyclonic curvature maximum in the trade-wind easterlies.

### **Tropical Depression:**

A tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 33 knots (38 mph or 62 km/hr) or less.

### **Tropical Storm:**

A tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) ranges from 34 knots (39 mph or 63 km/hr) to 63 knots (73 mph or 118 km/hr).

### **Tropical Storm Watch:**

An announcement for specific coastal areas that tropical storm conditions are possible within 36 hours.

### **Tropical Storm Warning:**

A warning that sustained winds within the range of 34 to 63 knots (39 to 73 mph or 63 to 118 km/hr) associated with a tropical cyclone are expected in a specified coastal area within 24 hours or less.

### **Hurricane:**

Identical to a tropical storm except winds exceed 63 knots (73 MPH) at the surface. These winds, in the Northern Hemisphere, blow in a counterclockwise manner about the center of the storm. The storms are usually formed in the Atlantic Ocean north of the equator or in the Caribbean. They move northward up through the West Indies or through the Gulf of Mexico to the United States. The storms vary in physical characteristics ranging from 100 to 500 miles in diameter, with wind velocities of 64 to 132 knots, decreasing in intensity from the center outward. They move along their paths at a rate of 6 to 18 knots.

### **Hurricane Eye:**

In the center of the storm is the "eye" of the hurricane, usually with little or no winds. Immediately surrounding the eye is a circular belt of high-velocity winds. Seen from above, a hurricane looks like a doughnut; the doughnut representing the circular winds and the hole, the eye. If the eye of a hurricane just misses an area that area will have continuous winds in one direction until the storm passes. On the

other hand, if the eye passes over an area, the winds will blow from one direction; then as the eye passes over, there will be a period of calm, lasting anywhere from a few minutes to several hours. When the calm passes, the area will suddenly be hit by extremely strong winds blowing from the opposite direction.

**Hurricane Conditions (HURCON):**

The HURCON System is established by 45th SW to maintain continuity of "Hurricane Condition." This system is based on the forecast arrival of 50 knots (58 MPH) or higher winds associated with a tropical cyclone.

**Condition IV - (Alert):**

Destructive force winds are expected within 72 hours. A general "state of readiness" will begin.

**Condition III - (Alert):**

Destructive force winds are expected within 48 hours. The majority of the preparations for the storm should be accomplished within 24 hours.

**Condition II - (Alert):**

Destructive force winds are expected within 24 hours. Final emergency preparations shall be completed and "state of readiness" reported to the RUSVM Dean. Conditions will be assessed, and decisions about personnel dismissal and university closure will be made.

**Condition I - (Emergency):**

Destructive force winds are expected within 12 hours. The Campus will be closed at the RUSVM Dean's discretion.

Hurricane categories:

Categories are established for each hurricane based upon the severity of the forecasted maximum sustained winds and storm surge above Mean Sea Level (MSL). The following are the Saffir/Simpson's Scale of Hurricane Categories:

Hurricane Category	Maximum Sustained Winds		Storm Surge Ft Above MSL
	MPH	KNOTS	
1	74-95	64-82	4-5
2	96-110	83-95	6-8
3	111-130	96-112	9-12
4	131-155	113-134	13-18
5	over 155	over 134	over 18

