

# Hurricane Watch



A Free Publication Brought to You by the  
Electric Cooperatives of Eastern North Carolina

## What's Inside:

- Tracking Chart
- Hurricane Terms
- Getting prepared
- Evacuation Tips
- Power Restoration
- Securing Your Boat
- Planning for Pets

Your Touchstone Energy® Partners



## Assemble a kit before storms hit

Households should have the following items in storage in preparation for the hurricane season:

- Drinking water (at least 7 gallons per person)
- Battery-operated TV, radio
- Battery-operated clock
- Spare batteries
- Manual can opener
- Flashlights
- Waterproof matches
- Toilet paper
- Cash (ATMs may not work after the storm)
- Sunscreen
- Bleach
- Water purification tablets
- Soap and detergent
- Rain gear
- Charcoal, lighter fluid
- Disposable plates, glasses and utensils
- Baby supplies (if necessary)
- Ice chest, ice
- Valuable papers (put in waterproof bag or container)
- Extra supply of medicine
- Non-perishable food: Canned meats (Spam, chicken, ham), fish (tuna, sardines); canned soups, dried fruits, cereal, crackers, cookies, coffee, tea, peanut butter and jelly, pudding, powdered or evaporated milk, prepared foods such as canned spaghetti, soup, stew, chili.
- Pet food



## Evacuation tips at a glance



- Evacuate if told to do so.
- Map out your route, using roads specified by local authorities.
- Before a storm threatens, make plans for taking care of your pets. Contact your veterinarian or local humane society for information on preparing your pets for an emergency.
- Do not get on the road at the last minute without a place to go.
- Fill your car with gasoline.
- Secure your home before leaving. Board up windows and glass doors, anchor loose yard objects or bring them inside and lock your doors.
- Get cash. After a hurricane, banks and ATMs may be temporarily closed.
- Notify family and friends of your plans.
- If possible, evacuate to the home of either friends or family in a non-vulnerable area within your county.
- Next try a motel or hotel, and as a last resort, go to a public shelter. Remember, shelters are not designed for comfort and do not usually accept pets.



Fallen trees and branches are a major cause of power outages after a natural disaster. You can help reduce the problem and the time it takes to get power restored by trimming back dead or weak branches from trees well before a storm arrives.

# Securing your boat

*Long before a hurricane is approaching, boat owners along North Carolina's coasts and sounds should already have a plan to minimize the impacts of a hurricane on their vessels. The following guidelines do not ensure a boat will escape damage, but a well-planned strategy will help reduce the chances of disaster.*

*Determine if you will trailer or haul your boat, secure it in a marina or move it to a previously identified hurricane mooring. Keep in mind the hazards hurricanes present: wind, tidal surge and wind-driven waves.*

*Check your insurance policies to know your responsibilities, as well as those of your marina or storage area. Gather insurance policies, registrations, inventories and other records. You may need them when you return to check on your boat.*



## When removing your boat from the water...

- Avoid exposure to wind and park away from trees.
- Lash the boat to the trailer and secure the boat to a fixed object, preferably from four directions.
- Remove half the air from the tires. Block the tires to prevent rolling.
- Seal door openings and tape windows that may break.
- Remove sails, rigging and other loose objects.

*If you plan to haul your boat, be sure the marina can store and secure it quickly. Check into prearranged contracts for hauling and have an alternate plan in case the marina cannot meet the sudden demand that would be generated by an approaching hurricane.*

## If you are leaving your boat at the dock...

- Double all lines and protect them from chafing.
- Make sure boats will not strike a roof as water level rises.
- Make sure all cleats and winches are well secured to the boat.
- Adjust lines to accommodate unusually high or low water.
- Install fenders to protect boats from rubbing against piers, pilings and other boats.
- Cut off all electrical devices, except bilge pumps, for the duration of the storm.
- Remove all loose items (canvas, sails, dinghies, radios and cushions) and lash down everything you cannot remove.
- Seal doors, openings and tape windows that may break.
- Do not stay aboard!

## If you are anchoring your boat in open water...

- Select a location that offers the best protection from wind and storm surge.
- Remove sails, riggings and other loose items. Lash down items that cannot be removed. Seal all doors and openings. Tape windows.
- Avoid channels and tidal currents.
- Leave early because of danger of high winds and strong currents. Bridges may be locked down to accommodate land traffic.
- Do not tie up to other boats.
- Make practice runs to determine accessibility, depth of water, location of bridges and to locate obstructions.
- Make sure all cleats and winches are well secured to the boat.
- Cut off all electrical devices, except bilge pumps, for the duration of the storm.
- Do not stay on board!

## After the storm, you should...

- Be sure it is safe to travel before you return to your boat.
- Remove any water from the boat.
- Check for damage to your boat and the marina before you leave your mooring.
- Beware of dangling wires, fuel leaks, weakened docks and bridges and objects floating in the water.
- Know what your liabilities are and what your insurance company's responsibilities are.

# Safety is the focus of hurricane checklist

A checklist will make things easier for you during a hurricane, but, more importantly they can help save your life and the lives of others.

When a hurricane threatens the area, you will have to decide whether to evacuate or to ride out the storm out at home. If authorities recommend evacuation, you should leave. Their advice is based on the strength of the storm and its potential for death and destruction.

The National Weather Service advises that, in general, you should plan to leave if you live on the coast or an offshore island, if you live in a mobile home or if you live near a river or in a flood plain.

## **When a Hurricane Watch is issued you should:**

- Check often for official bulletins on radio, television, or National Oceanic Atmospheric Administration (NOAA) Weather Radio.
- Fuel your car.
- Check mobile home tiedowns.
- Moor small craft or move to safe shelter.
- Stock up on canned goods.
- Check supplies of special medicines and drugs.
- Check batteries for radio and flashlights.
- Secure lawn furniture and other loose material outdoors.
- Tape, board or shutter windows to prevent shattering.
- Wedge sliding glass doors to prevent their lifting from their tracks.

## **When a Hurricane Warning is issued and your home is sturdy and on high ground, you should:**

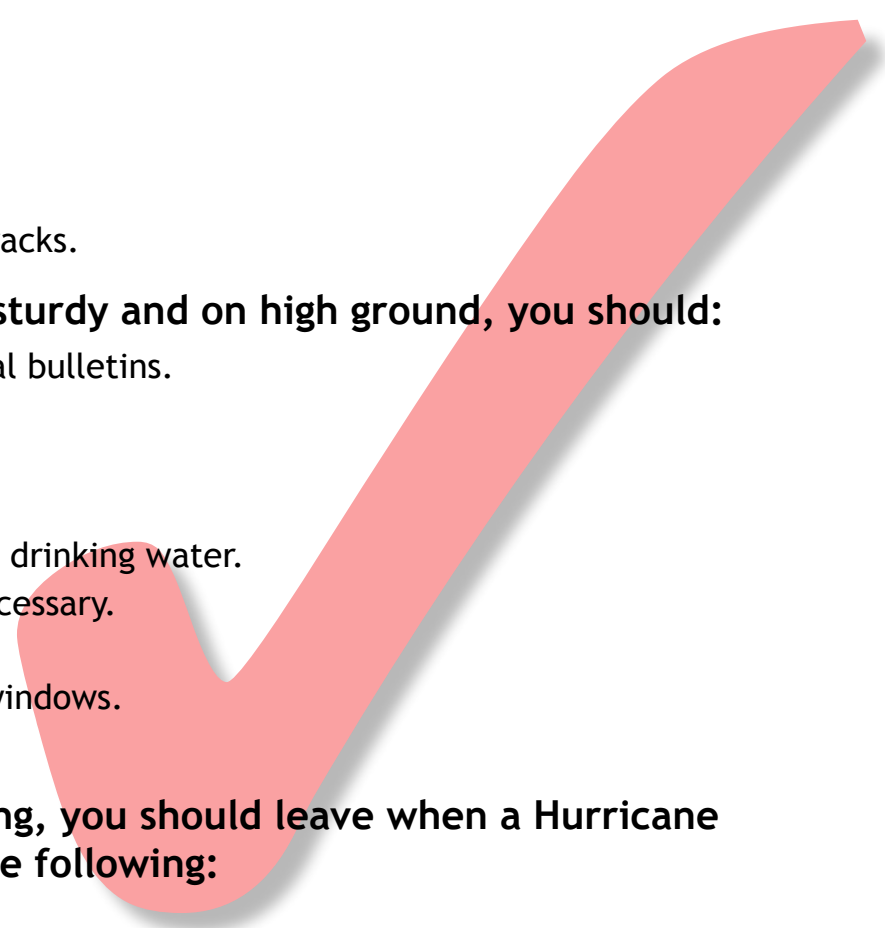
- Stay tuned to radio, television or the weather radio for official bulletins.
- Board up garage and porch doors.
- Move valuables to upper floors.
- Bring in pets.
- Fill containers, including bathtub, with several days supply of drinking water.
- Turn refrigerator to maximum cold and do not open unless necessary.
- Use phone only for emergencies.
- Stay indoors on the downwind side of the house, away from windows.
- Beware the eye of the hurricane.

## **If you live in a mobile home or an area prone to flooding, you should leave when a Hurricane Warning is issued. Before evacuating, you should do the following:**

- Plan to leave early, in daylight if possible.
- Shut off water and electricity at main stations.
- Take small valuables and papers, but travel light.
- Leave food and water for pets. Shelters will not take them.
- Lock your house.
- Drive carefully to nearest designated shelter, using recommended evacuation routes.

## **When the “all-clear” is given, you should do the following:**

- Drive carefully, watching for dangling electrical wires, undermined roads and flooded low spots.
- Drive only where necessary and avoid sight-seeing.
- Report broken or damaged water, sewer and electrical lines.



## Watches & warnings: know the difference

A **hurricane watch** means a hurricane is possible threat in your area within 36 hours. Prepare to evacuate. Monitor local radio and television news broadcasts or listen to NOAA Weather Radio for the latest developments.

A **hurricane warning** is issued when a hurricane with sustained winds of 74 mph or higher is expected in a specified coastal area in 24 hours or less. If local authorities advise you to evacuate, you should leave immediately.



## 'Unofficial Hurricane Terms'

There's nothing funny about hurricanes and other natural disasters, but a little humor can be a great way to relieve stress and anxiety when storms threaten.

The Central Florida Hurricane Center offers these lighthearted definitions on its hurricane preparedness Website at: <http://flhurricane.com/general.php>.

**Prep-apathy** - What some will do after having close calls without anything happening. For instance, you prepare for a storm one time and nothing happens, so next time you don't. This is very very, very bad. This is where people get hurt.

**Crawfishing** - Act of making a prediction, and if it does not come to pass, passing the buck or brushing it off as a quirk.

**Fish Spinner** - A storm that goes out to sea, and

never makes landfall; also known as a Fish Storm.

**HurMedia** - Reference to hurricane media coverage, which can go a little overboard sometimes.

**Wave Monger** - A hurricane tracker who wishes for storms, who sees every cloud over the ocean as a potential monster heading for land, including tropical waves that have not formed yet. Wave Mongers are usually seen more often in the early season. They deal in hype rather than facts.

**Whinecasting** - Similar to wishcasting, but having someone visibly upset that the forecast was wrong and then blaming everything on anything else.

**Wishcasting** - Act of "wishing" a storm would come your way to "add excitement." If you are really this bored, you need another hobby. This is not the thing to do. The cliché, "Be careful what you wish for," really applies here.

# Develop and practice a family disaster plan

North Carolina has had more than its share of natural disasters and storms, including hurricanes, over the past few years. The best way to survive and endure a hurricane is to prepare for it beforehand.

Your Eastern North Carolina Touchstone Energy cooperatives offer the following tips to help you prepare your family for a hurricane.

- Discuss the type of hazards that could affect your family. Know your home's vulnerability to storm surge, flooding and wind.
- Locate a safe room or the safest areas in your home for each hurricane hazard. In certain circumstances the safest areas may not be your home but within your community.
- Determine escape routes from your home and places to meet. These should be measured in tens of miles rather than hundreds of miles.
- Have an out-of-state friend as a family contact, so all family members have a single point of contact.
- Make a plan now for what to do with your pets if you need to evacuate.
- Post emergency phone numbers by your phones and make sure children know how and when to call 911.
- Check your insurance coverage - flood damage is not usually covered by homeowners insurance.
- Stock non-perishable emergency supplies and a Disaster Supply Kit.
- Monitor the radio and make sure you have plenty of batteries in case the power goes out. Replace its battery every 6 months, as you do with your smoke detectors.
- Take First Aid, CPR and disaster preparedness classes.

## Don't forget your pets

Specialized pet shelters, animal control shelters, veterinary clinics and friends and relatives out of harm's way are ALL potential refuges for your pet during a disaster. Contact your veterinarian or local humane society for more information on preparing your pets for an emergency.

### BEFORE THE DISASTER

- Make sure your pets are current on their vaccinations. Shelters may require proof of vaccines.
- Keep a collar with identification on your pets. Have leash and a muzzle on hand.
- Make sure you have your pets' medications.
- Have a properly sized pet carrier for each animal; carriers should be large enough for the animal to stand and turn around.
- Make sure you've stored ample amount of food and water for your pets.

### DURING THE DISASTER

- Bring pets indoors well in advance of a storm; reassure them and remain calm.
- Pet shelters will be filled on first come, first served basis. Call ahead and determine availability.
- If you go to a shelter be sure you have a proper identification collar and a rabies tag, proper identification on all belongings, a carrier or cage, a leash, an ample supply of food, water and food bowls, any necessary medications, specific care instructions and news papers or trash bags for clean-up.

### AFTER THE DISASTER

- Walk pets on a leash until they become re-oriented to their home. Familiar scents and landmarks may be altered.
- Be careful of downed power lines around your pet.
- If pets cannot be found after a disaster, contact the local animal control office to find out where lost animals can be recovered. Bring a picture of your pet.



# The Saffir-Simpson hurricane intensity scale

## Category One Hurricane:

Winds 74-95 mph. Storm surge generally 4-5 ft above normal. Coastal road flooding and minor pier damage.

## Category Two Hurricane:

Winds 96-110 mph. Storm surge generally 6-8 feet above normal. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane center.

## Category Three Hurricane:

Winds 111-130 mph. Storm surge generally 9-12 feet above normal. Low-lying escape routes are cut by rising water

3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles or more.

## Category Four Hurricane:

Winds 131-155 mph. Storm surge generally 13-18 feet above normal. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower

floors of structures near the shore. Terrain lower than 10 feet above sea level may be flooded requiring evacuation up to 6 miles inland.

## Category Five Hurricane:

Winds greater than 155 mph. Storm surge generally greater than 18 feet above normal. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of structures located less than 15 ft above sea level and within 500 yards of the shoreline.



Hurricane Ophelia hovered over Eastern North Carolina for hours, dumping heavy rainfall that flooded the Beaufort waterfront, shown here, and other low-lying areas at high tide.

## When flooding occurs ...

If your area has been flooded during a hurricane, you should use bottled water that has not been exposed to flood waters if it is available. If you don't have bottled water, you should boil water to make it safe. Boiling water will kill most types of disease-causing organisms that may be present.

If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for boiling. Boil the water for one minute, let it cool, and store it in clean containers with covers.

If you have a well that has been flooded, the water should be tested and disinfected after flood waters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

Do not eat any food that may have come into contact with flood water.

## Val-you



If you had to choose, would you go a day without lunch or a day without electricity?

For about the same amount of money you spend on lunch at your favorite restaurant, you could buy enough electricity to supply your home with heating, cooling, hot water, lighting, clean clothes and home-cooked meals for **one day**.

We don't want you to give up your favorite restaurant. We just want you to think about what a great value electricity is in today's world.

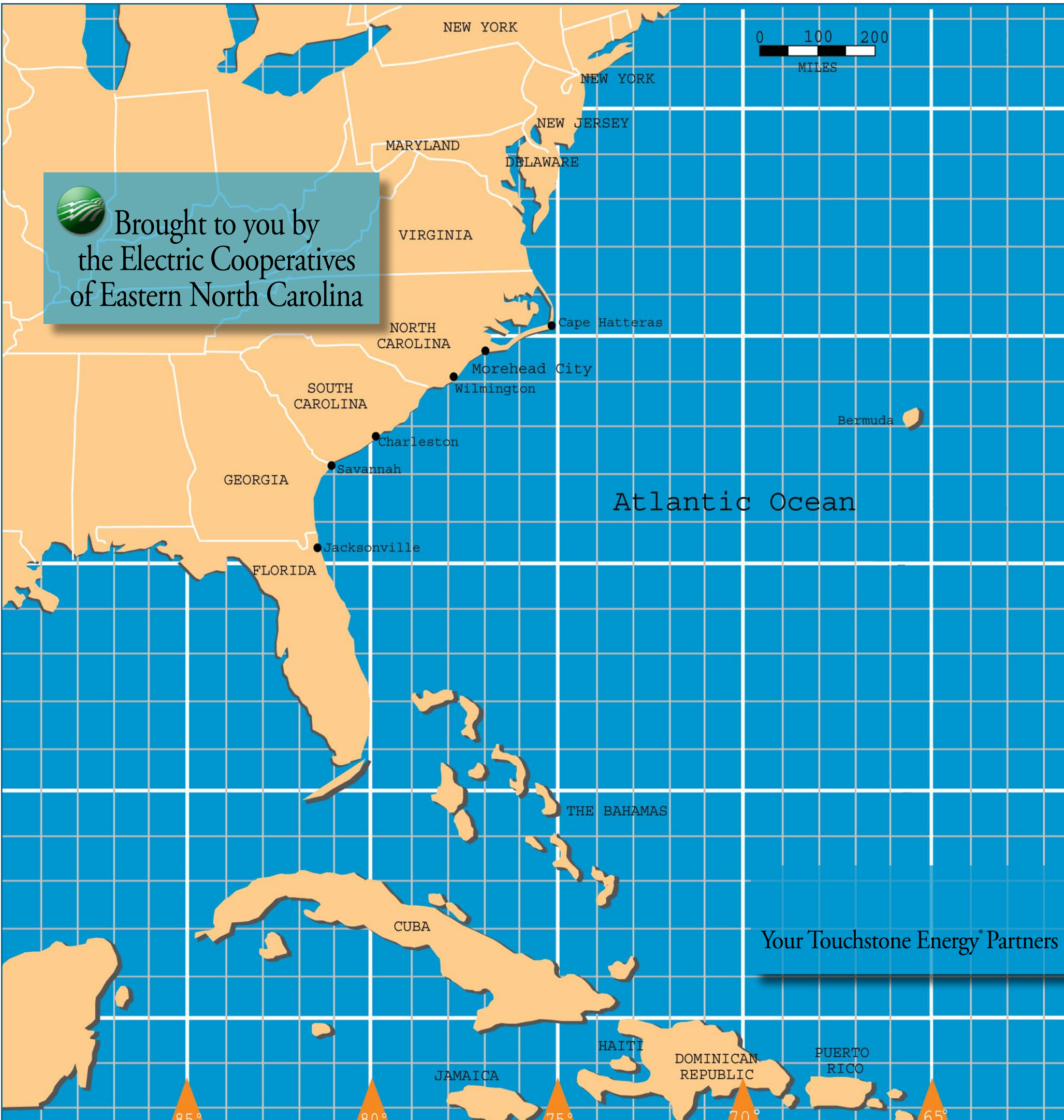



**The Electric Cooperatives  
of Eastern North Carolina**

*Committed to value.*

Your Touchstone® Energy Partners





 Brought to you by  
the Electric Cooperatives  
of Eastern North Carolina

Your Touchstone Energy® Partners



# Cooperatives uniquely qualified to serve members

**T**he Electric Cooperatives of Eastern North Carolina are among 27 member-owned cooperatives in the state, and among more than 900 electric cooperatives nationwide.

North Carolina's electric cooperatives are located from the mountains to the coast and collectively provide electricity to 20 percent of the state's population and serve 45 percent of the state's land mass, more than any other electric utility. Across the U.S., electric cooperatives provide at-cost electric service to 34 million people in 46 states. Collectively, they own and maintain 43 percent of the electric distribution lines in the country.

These locally controlled cooperatives, while independent, all practice seven guiding principles:

- **Voluntary and Open Membership:** Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

- **Democratic Member Control:** Members actively participate in setting policies and making decisions. The elected directors are accountable to the membership. Members have equal voting rights (one member, one vote).

- **Members' Economic Participation:** Members

contribute equitably to, and democratically control, the capital of their cooperative. Any margins above and beyond operating expenses are returned to the members in proportion to their financial transactions with the cooperative.

- **Autonomy and Independence:** Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

- **Education, Training, and Information:** Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of their cooperatives. They inform the general public, particularly young people and opinion leaders, about the nature and benefits of cooperation.

- **Cooperation among Cooperatives:** Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.

- **Concern for Community:** While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.

## Cooperation is critical in times of disaster

Cooperatives nationwide participate in mutual aid agreements that over the years have sent thousands of crews to neighboring communities and states to help with restoration efforts after some of the worst natural disasters.

When disasters strike, the state's cooperatives are coordinated and dispatched through their statewide organization, North Carolina Electric Membership Corporation (NCEMC) to send equipment and help where needed. They are available to other crews in North Carolina first, then they are sent to

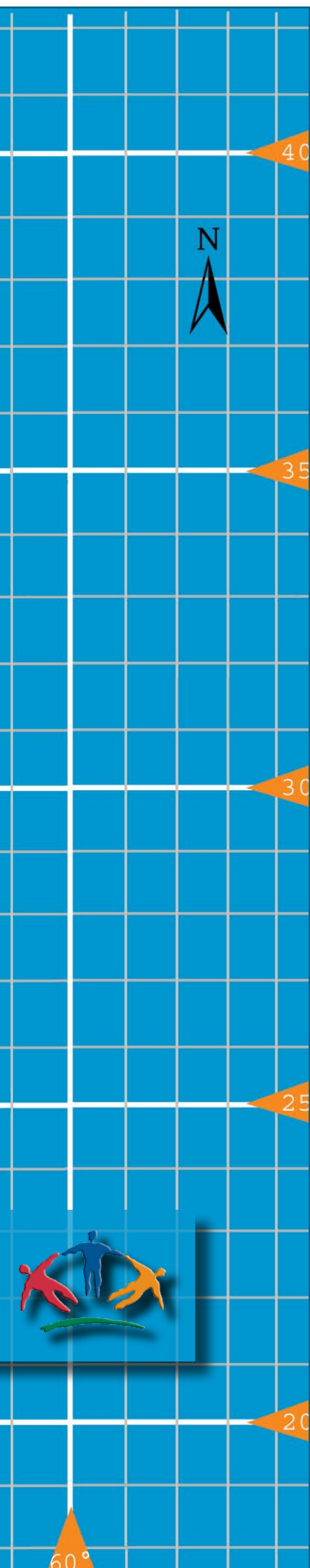
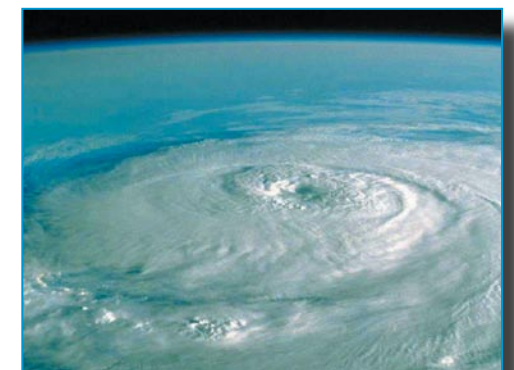
neighboring states.

When the call is made, cooperative crews are ready. Over the years, crews have been dispatched to restore power in areas hit by hurricanes, ice storms, flooding and more.

NCEMC organizations are members of the National Rural Electric Cooperatives Association (NRECA), the national service organization representing the cooperative electric utilities and their consumers.

Most North Carolina Cooperatives are also members of Touchstone Energy, an alliance of more than 600 cooperatives

in 45 states that collectively delivers power to more than 22 million customers every day. Touchstone Energy cooperatives provide high standards of service to all customers – residential, commercial, industrial and agricultural.



## Generator Safety

Having a generator during power outages can be a comfort and can keep critical appliances running in your home, but if not used properly, portable generators can damage your appliances and even electrocute you or the people who are restoring power.

If you connect a portable electric generator to the main electrical supply coming into your house, the generator could feed back into the electrical distribution system and electrocute workers who are repairing lines. If used improperly, generators can also damage the appliances you connect.

Connecting a generator to the main electrical supply for your house requires the services of a licensed electrician. A properly installed transfer switch that does not allow the generator to feed back onto the utility's distribution system is critical if you plan on connecting the generator to your home or business.

Another consideration is the size of generator you need for the equipment you want to run. Typical generator sizes for home use vary from about 8 to 14 horsepower and can handle 4,000 to 8,500 watts. Before buying a generator or connecting appliances to an existing generator, you need to consider the maximum surge rating, and the continuous power rating of the generator.

Items such as refrigerators, freezers, and air conditioners use more current at start up. It can take as much as seven times more energy to start a motor load as it does to keep it running once the motor or compressor is turning. It is important, especially with motor loads such as well pumps and compressors, that the generator is adequately sized to handle the motor starting load. Under-sized generators may not start a motor or compressor and it may even damage your appliances or the generator.

Remember, too, that you should never use a gas-powered generator inside your house or garage because of the danger of carbon monoxide poisoning.



## Home Electrical Safety

The hard working people restoring your power after a storm appreciate your patience and understanding that they are doing everything they can to restore your power as quickly and safely as possible. Here are some important things you should remember if the power goes out.

If power is lost or you plan to evacuate, turn off your heating and air conditioning systems, as well as your electric range. Unplug sensitive electronic appliances such as televisions, VCRs, microwave ovens and computers. Make sure family members know how to turn off electricity, gas and water.

Wait 10 to 15 minutes before turning on appliances and heating systems after power is restored.

If your home is damaged, look for electrical system damage, too. If you see sparks, broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main breaker box. Do not step in water to get to the box. Call an electrician.

If power lines or poles are down in your yard or in the street, always treat them as if they were energized and dangerous and stay away.

The real danger of fallen power lines is often hidden. Post-storm debris can conceal power lines that have fallen. Fallen trees that contain energized power lines can energize any item they contact, such as metal fences, a pond, or water. Even the ground can be energized near fallen power lines.

If your electric service is out, check with neighbors to see if they have power. If they do, you may have a blown fuse or a tripped breaker. Never replace a fuse or reset a circuit breaker with wet hands or while standing on a wet or damp surface.

If you use candles, remember that open windows and gusty winds can knock them over or blow flammable materials into them.

If you cook food with Sterno or charcoal, remember to do so outside in a well-ventilated area. Cooking indoors with Sterno or charcoal will produce deadly carbon-monoxide fumes.

Finally, helping our line crews is appreciated, but working with power lines and electricity requires a high degree of training. To restore power with the highest degree of safety, restoration must be accomplished in a certain order and by specific procedures.

## After a major power outage

# The steps to restoring power

**Step 1.** Transmission towers and lines supply power to one or more transmission substations. These lines seldom fail, but they can be damaged by a hurricane or tornado. Tens of thousands of people could be served by one high-voltage transmission line, so if there is damage here it gets attention first.

**Step 2.** A co-op may have several local distribution substations, each serving thousands of consumers. When a major outage occurs, the local distribution substations are checked first. A problem here could be caused by failure in the transmission system supplying the substation. If the problem can be corrected at the substation level, power may be restored to a large number of people.

**Step 3.** Main distribution supply lines are checked next if the problem cannot be isolated at the substation. These supply lines carry electricity away from the substation to a group of consumers, such as a town or housing development. When power is restored at this stage, all consumers served by this supply line could see the lights come on, as long as there is no problem farther down the line.

**H**urricanes and ice storms. Tornadoes and blizzards. Electric cooperative members have seen them all. And with such severe weather comes power outages. Restoring power after a major outage is a big job that involves much more than simply throwing a switch or removing a tree from a line.

The main goal is to restore power safely to the greatest number of members in the shortest time possible. The major cause of outages is damage caused by fallen trees. That's why your electric cooperative has an ongoing right-of-way maintenance program. This illustration explains how power typically is restored after a major disaster.

*Reprinted from Carolina Country, the monthly magazine for North Carolina's Touchstone Energy cooperatives*

These processes work in the direction beginning with the power source, for example generation or main transmission towers, to substations to main distribution lines to tap or branch lines and then to lines that serve individuals. These steps result in restoring power to the maximum number of members in the shortest time possible.

- **Step 1.** Transmission towers and lines supply power to one or more substations, and a problem with one of these lines could interrupt the electric power to several thousand consumers.
- **Step 2.** A problem within a substation could cause all of the consumers being served from that substation to be without electric service. Also, if the problem is limited to one particular circuit leaving the substation, only those consumers on that specific circuit would be without electric service. If the problem can be corrected at the substation level, power may be restored to a large number of people.

- **Step 3.** Main distribution lines carry power from the substation, and each line serves a portion of the consumers from the substation. A problem on a specific line could leave hundreds of consumers without electric service, but when repaired could restore power to hundreds of people.

- **Step 4.** Tap lines are the branch lines that serve a smaller number of consumers from the main lines similar to the way in which secondary roads provide access from main roads. A fault on a tap line would interrupt electric service to those consumers being served by that line only. Even after the break on the tap line is repaired, the consumers on that tap line would still be without electric power until the main line is repaired.

- **Step 5.** Problems with lines that serve individual farms, homes and businesses are pursued next. A more localized problem affects the electric service to an individual member, while the remaining system can still have electric service.

**Area enlarged:** Consumers themselves (not the co-op) are responsible for damage to the service installation on the building. Your co-op can't fix anything beyond this point. Call a licensed electrician.

**Step 5.** Sometimes, damage will occur on the service line between your house and the transformer on the nearby pole. This can explain why you have no power when your neighbor does. Your co-op needs to know you have an outage here, so a service crew can repair it.

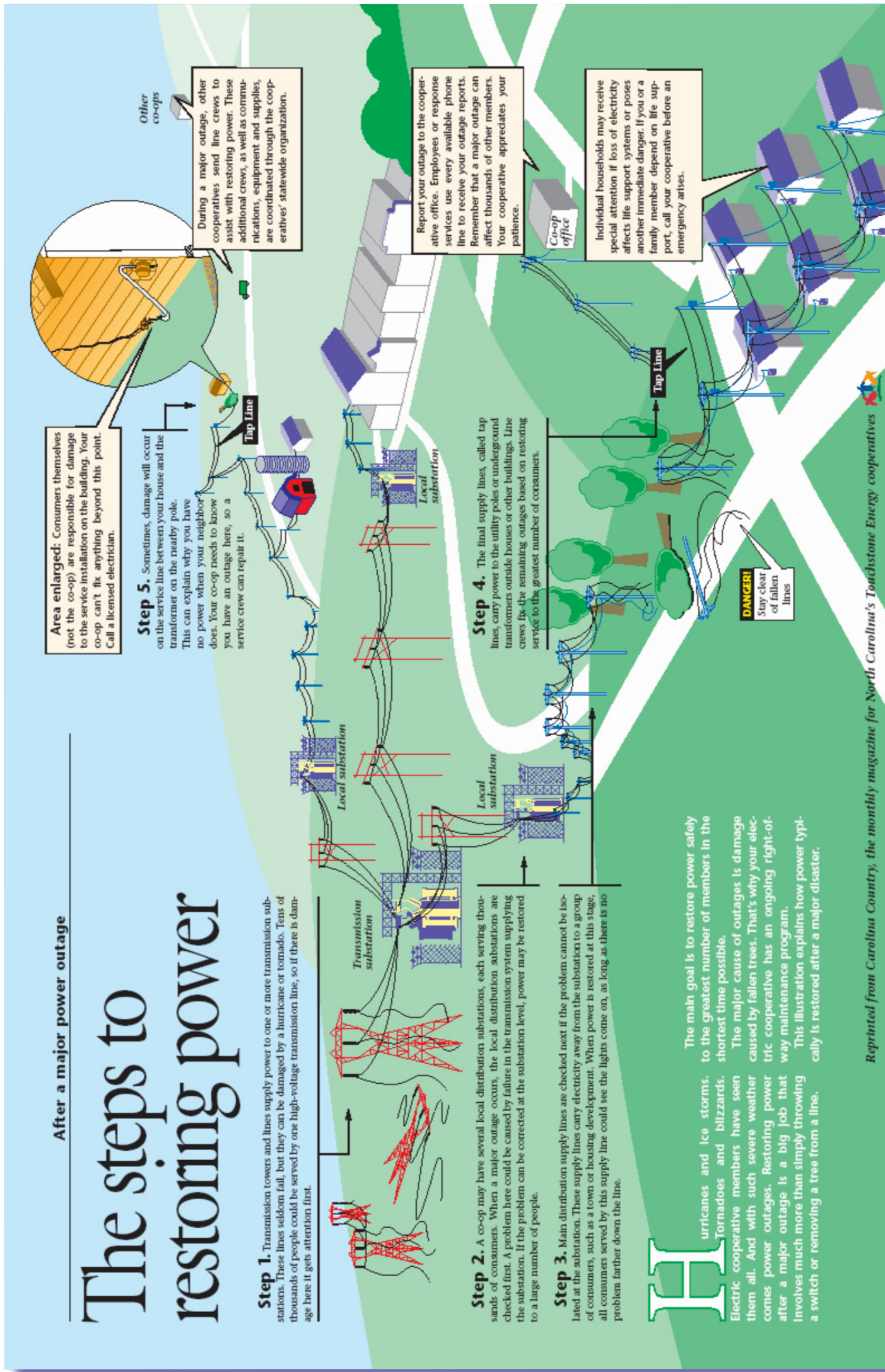
**Other co-ops**  
During a major outage, other cooperatives send line crews to assist with restoring power. These additional crews, as well as communications, equipment and supplies, are coordinated through the cooperatives' statewide organization.

Report your outage to the cooperative office. Employees or response services use every available phone line to receive your outage reports. Remember that a major outage can affect thousands of other members. Your cooperative appreciates your patience.

Individual households may receive special attention if loss of electricity affects life support systems or poses another immediate danger. If you or a family member depend on life support, call your cooperative before an emergency arises.

**Step 4.** The final supply lines, called tap lines, carry power to the utility poles or underground transformers outside houses or other buildings. Line crews fix the remaining outages based on restoring service to the greatest number of consumers.

**DANGER!**  
Stay clear of fallen lines



# Helping you...



## ...when you need us most

### The Electric Cooperatives of Eastern North Carolina

- Albemarle EMC • Cape Hatteras Electric Cooperative • Carteret-Craven Electric Cooperative •
- Edgecombe-Martin EMC • Halifax EMC • Harkers Island EMC • Jones-Onslow EMC •
- Roanoke Electric Cooperative • Tideland EMC • Tri-County EMC •



Your Touchstone Energy® Partners

