

YOUR GUIDE TO Preparing for Emergencies



www.ces.ncsu.edu/disaster

Emergency Telephone Numbers

This Address				
This Telephone Number				
Statewide Emergency Number				
Operator				
Fire Department				
Police				
Highway Patrol				
Sheriff				
Poison Control Center				
Family Doctor				
Pediatrician				
Dentist				
Father's Work				
Mother's Work				
Electric Company				
Gas Company				
Oil Company				
Water Department				
Rescue Squad				
Ambulance				
Hospital Emergency				
Neighbors:				
Name	Phone			
Name	Phone			
Name	Phone			

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Helping Your Family Prepare Before a Disaster

Don't be reluctant to talk with your family about the possibility of a hurricane, fire, tornado, or flood. Thought and

- action before the disaster hits
- usually helps family members
- react wisely. Families that
- work together to prepare for the problem will cope better than those who do not take pre-cautions. Consider how your children might react in a disaster, how you might react, and how the crisis could affect each person's emotional and physical well-being. Plan in advance for how to deal with
- a crisis situation.

For the Entire Family...

- Make emergency plans as outlined by the Civil Service, Red Cross, or other disaster team.
- Discuss and practice these plans with your family before a disaster strikes.
- Work together to help your children or other dependents understand the procedures.

These steps will allow each family member to think through a potential crisis situation without the tension of a real emergency.



For Children...

- Give children exact steps to follow. Talking, practicing, and actively preparing together will help children understand strange occurrences like a hurricane.
- Help children practice dialing the telephone operator, fire station, and ambulance. (Keep the phone on the hook!)

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- Read news stories of family or community problems and emergencies. Talk about how your family would handle the situation. This gives your children the time to think through and plan actions for real life crises.
- Play "Let's Pretend" with preschoolers. Discuss a situation that might arise in your area and then ask, "What would you do?"
- Provide basic supplies for a variety of possible situations. Stock a box with games, books, and hobby materials

for sitting out emergencies. Make sure emergency supplies of food, diapers, and drinks are available, as recommended by disaster teams.

For Older Adults...

- If you have older or disabled relatives living at home, review emergency procedures with them.
- If special transportation or assistance is necessary in an emergency, arrange this in advance.

• If a relative lives in a nursing home, discuss evacuation procedures with the staff and make needed plans.

Involve children in preparing for and carrying out emergency plans. All children need and want to carry out important roles. This helps them feel a part of the family and prepares them to cope with later situations.

Adapted by Dr. Karen DeBord, Extension Child Development Specialist, Family and Consumer Sciences, North Carolina Cooperative Extension Service from *Stress and Coping with Disaster* by Karen DeBord, Marty Baker, Ami O'Neill, University of Missouri.



Your Family's Disaster Plan

To prepare your family for a disaster situation, follow these steps.

Gather information

- Be aware of what disasters are most likely in your community.
- Find out how you would be warned about an emergency.
- Know your community's evacuation routes.
- Learn how you should prepare for each disaster.
- Find out if special assistance is available for elderly or disabled persons.
- Learn about emergency plans at your work place.
- Ask about emergency plans for your children's school or daycare center.

Share Information With Your Family

- Discuss the types of disasters that could occur in your area.
- Explain what everyone has to do to prepare for and respond to a disaster.
- Discuss what each person is to do if you must evacuate.
- Teach your children how to make long distance calls, and explain how and when they should call 911.
- Show responsible family members how to shut off water, gas, and

electricity at main switches. Make sure they know when they should shut off utilities.

- Instruct household members to turn on the radio for emergency information.
- Practice what you have discussed.
- Post emergency telephone numbers by every telephone.
- Install a smoke detector on each level of your home, especially near bedrooms; test monthly and change the batteries twice each year.
- Draw a floor plan of your home. Mark escape routes from each room. (two if possible).
- Learn first aid and CPR.
- Post your Emergency Plan on the refrigerator.

Plan How Your Family Will Stay in Contact if Separated by Disaster

In an emergency, normal communications may not be possible, so choose two meeting places:

- —A place near your home in case of a fire, and
- —A place outside your neighborhood in case you cannot return home after a disaster.

Have one out-of-state and one local friend or relative as a check-in contact

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for everyone to call. (Sometimes it is easier to make longdistance calls than to make local calls in a disaster situation.)

Meet With Your Neighbors

- Plan how the neighborhood could work together after a disaster.
- Know your neighbors' skills (technical, medical).
- Determine how you could help neighbors who have special needs, such as elderly or disabled persons.
- Make plans for childcare in case parents cannot get home.

Emergency Plan

Out-of-state con	tact	Emergency Telep	hone Numbers
Name		In a life threatening emergency, dial 911 or the local emergency medical services system number.	
Fire Department			
Local contact		Hospital	
Name			
Phone (Day)	(Evening)	Family Physician	S
Mobile	(Pager)	Name	Phone
	(***;5**)	Name	Phone
Family Work Phe	one Numbers	Name	Phone
Father			
Mother			
Other		Right outside your hon	ne
Father's	Mobile/Pager	Away from the neighbo	orbood in case you cannot
Mother's	Mobile/Pager	return home	
		Phone	
		Route to try first	



Adapted by Dr. Wilma S. Hammett and Dr. Sarah Kirby, *Extension Housing Specialist*, from **Emergency Preparedness Checklist**, American Red Cross and Federal Emergency Management, 1991



A Disaster Kit for Staying at Home

Disasters happen anytime and anywhere. Is your family prepared to cope with an emergency until help arrives? You need to prepare now, before a disaster strikes. Put together a disaster supplies kit. When you've gathered supplies, discuss an emergency plan. Then you will be better able to stay at home with no water or electricity.

Preparing the Kit

Use the following checklist, as a guide to see what supplies your family will need. To be ready for a disaster, you will need to stock the basics: water, food, first aid supplies, clothing and bedding, emergency supplies and tools, and special items. You will need these items if your family is confined at home.

Water

Water is the most important item. Store water in a plastic container, such as clean soft drink bottles, and avoid using containers that could contaminate the water, decompose, or break. To keep stored water fresh, change it every 6 months.

A normally active person needs to drink at least 2 quarts of water each day. If it's hot and you are very active, you need twice as much. Children,



nursing mothers. and sick people will need more.

- Store at least 1 gallon of water per person per day (2 quarts for drinking and 2 quarts for food preparation, washing dishes, and bathing) Two gallons per person is better.
- Keep at least a 3-day supply of water for each person in your household, more if you have a place to store it.
- Include bleach for purifying additional water if supplies run out.
- Coffee filters may be used to remove sediment before purifying water.
- You will need extra fuel for boiling water if stored supply runs out.
- Include a medicine dropper or 1/8 tsp. and 1/4 tsp. measuring spoons for measuring bleach.

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If the main water line was turned off before the emergency, the water in pipes will be safe to use. Water in the hot water heater and toilet tank (not the bowl) also should be safe. When purifying water, use 16 drops from a medicine dropper or 1/4 teaspoon of chlorine bleach for each gallon of water. If the water is not clear even after filtering, double the amount of purifying agent. If a slight bleach odor does not remian after 30 minutes, do not use the water.

Food

Keep a 2-week supply of nonperishable food at home in case of a disaster. Since gas or electricity could be off during an emergency, select foods that require no refrigeration, preparation or cooking, and little or no water. Rotate the food with newly purchased food supplies to ensure freshness. You may need some fuel source, if you want to heat food.

Buy the size container that can be used in one meal.

Make sure you purchase foods that you and your family like, as well as foods that have a long shelf-life. Because they contain liquids, canned fruit, vegetables, and fruit juices are excellent choices.

Consider the following for your Disaster Supply Kit

• Ready-to-eat canned fruits and vegetables

- Canned juices, milk, soup (if powdered or concentrated store extra water), cheese spreads
- Staples, (sugar, salt, and pepper)
- High-energy foods (peanut butter, jelly, crackers, granola bars, trail mix, dried fruit and nuts)
- Vitamins
- Foods for infants, elderly persons, or those on special diets
- Comfort foods, such as cookies, hard candy, sweetened cereals, lollipops, instant coffee and tea bags
- Canned meats such as tuna and Vienna sausage

To prepare food, include the following:

- Charcoal
- Wood for the fireplace
- Fuel cups—Sterno
- Gas for gas grill

Clothing and Bedding

Remember that your air conditioner or furnace might be out. Be sure you can get to your clothing that is appropriate for very high or very low temperatures.

First Aid Kit

Store your kit in a convenient place, and make sure everyone knows where it is. Ask your doctor or pharmacist about storing prescription medicines. Keep a first aid kit at home and another in each car. Store items in airtight plastic bags. A first aid kit should include:

- Sterile adhesive bandages in assorted sizes
- Tongue depressors for small splints
- Gauze pads (2-inch and 4-inch)
- Roller bandages (3-5 rolls)
- Tube of petroleum jelly or other lubricant
- Hypoallergenic adhesive tape
- Assorted sizes of safety pins
 Sciences
- ScissorsCleaning agent
- Cleaning agent or soapTweezers
- IweezelsLatex gloves
- Needle
- Sunscreen
- Moist towelettes
- Antiseptic (alcohol and antibiotic ointment)
- Thermometer

Non-prescription drugs

- •Aspirin or other pain reliever
- Anti-diarrhea medication
- Antacid (for stomach upset)
- Syrup of Ipecac (used to induce vomiting if advised by Poison Control Center)

Emergency Supplies and Tools

- Cash and/or traveler's checks
- Pliers
- Battery-operated radio and extra batteries
- Tape
- Cellular phone (fully charged)

- Matches in a waterproof container
- Compass
- Cameras to document damage
- Aluminum foil
- Paper cups, plates, and plastic utensils
- Plastic storage containers
- Flashlight and extra batteries
- Signal flare
- Non-electric can opener
- Plastic trash bags
- Utility knife
- Needle, thread
- Fire extinguisher, ABC-type
- Wrench to turn off household gas and water
- Tube tent
- Medicine dropper/measuring spoons
- Whistle
- Plastic sheeting/tarpaulin
- Paper and pencil

Sanitation

- Toilet paper
- Towelettes
- Soap, liquid detergent
- Feminine supplies
- Personal hygiene items
- Household chlorine bleach (without scent)
- Coffee filters (for water sanitation)

Special Items

For Baby

- Formula
- Diapers
- Bottles
- Powdered milk
- Medications
- Baby food

For Adults

- Heart and high blood pressure medication
- Insulin
- Prescription drugs
- Denture needs
- Contact lenses and supplies
- Extra eyeglasses
- Incontinence products

For Pets

- Food
- Water
- Litter
- Medications

Entertainment

• Games and books

Important Family Documents

Even if you do not need family records during an evacuation, they must be protected. Records are difficult to replace and may delay insurance claim or other important matters. You will need information about income, debts, insurance, and other financial data to apply for certain kinds of assistance. Keep these records in a waterproof, fireproof, portable container, and store copies of each in a separate, safe location.

- Will, insurance policies, contracts, deeds, stocks and bonds
- Passports, social security cards, and immunization records
- Bank account numbers
- Credit card account numbers and companies
- Inventory of valuable household goods, important telephone numbers
- Family records (birth, marriage, death certificates)

Summary

Remember the six basics you need to include – water, food, first aid supplies, clothing and bedding, tools and emergency supplies, and special items.



Adapted by Wilma Hammett and Dorothy Miner from *Your Family Disaster Supplies Kit*, American Red Cross and FEMA, 1992



Protecting Valuable Records

Many people assume that floods, storms, hurricanes, and other disasters happen to someone else, and many people postpone taking care of family papers. But protecting family papers prepares you to deal with natural disasters.

An up-to-date household inventory is very valuable. When making the inventory, do not overlook tools stored in the garage, lawn furniture, or food in the freezer. You may want to include a video or photographs of your inventory. An accurate inventory will help you determine if you have enough insurance to cover the contents of your home. Keep the inventory current. Give additional copies of lists of

valuables to your lawyer, the administrator of your will, a business associate, or trusted family member who doesn't live in your home.

Here's a list of the valuable papers that you should keep in your safe deposit box:

- Stocks, financial records, and bond certificates
- Important receipts and bills of sale
- Property records, deeds, titles, and/ or leases

- List of insurance policies
- Automobile bill of sale
- Household inventory
- Military service records
- Contracts (including promissory notes)
- Copyrights and patents
- Adoption papers
- A copy of your will (his and hers)



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- Passports
- Custody papers
- Auto title
- Citizenship papers
- Birth certificates
- Religious records
- Death certificates
- Income tax returns that document large transactions, unusual losses, or deductions
- Marriage certificates
- Divorce decrees
- Social Security cards
- Government savings bonds
- Retirement papers

These valuable papers may be kept at home in a waterproof, fireproof, locked box:

- Advisers' names and addresses
- Copies of birth and marriage certificates
- Guarantees and warranties
- Driver's license numbers
- Educational records
- Income tax returns for past 3 years
- Employee benefits

- Appliance manuals
- Health records
- Current bank statements
- Insurance policies
- Rental property records
- Loan payment books
- Safe deposit records and inventory of items
- Credit card numbers
- Bank account numbers

Adapted by North Carolina Cooperative Extension Service Specialists, NC State University, from University of Florida/ Institute of Food and Agricultural Sciences' *Disaster Notebook*.



Meal Preparation and Food Safety After a Power Failure

After a power failure, you might not have heat, refrigeration, or water. To prepare food when you have no power, follow these guidelines:

- If you have limited heat for cooking, choose foods that cook quickly.
- Prepare casseroles and one-dish
- meals, or serve no-cook foods.
- If you can't use your stove, you can use a:
- Fireplace.
- Candle warmer, such as a fondue pot. Do not use a candle warmer to cook raw meats, fish, poultry, and eggs.
- Camp stove and charcoal burner. Never use a fuel-burning camp stove or charcoal burner inside your home, even in a fireplace. Fumes from these stoves can be deadly.
- Do not cook frozen foods because they require much more cooking time and heat than canned goods.
- Eat commercially canned foods straight from the can. Do not eat home canned meats and vegetables unless you can boil them for 10
- minutes before eating.



Helping People Put Knowledge to Work



- Substitute liquids from canned vegetables for water in unsweetened cooked dishes.
- Substitute juice from canned fruits for water in salads and beverages.
- All water from questionable sources that will be used in food preparation must be boiled for at least 10 minutes before use.
- If you are without refrigeration, open only enough cans or jars of food for one meal. Leftover food in jars and cans cannot be saved.
- If necessary, substitute canned and powdered milk for fresh milk.
- Prepare and eat foods in their original containers, if possible.

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With the door closed, food in most freezers will stay below 40° F for up to 3 days, even in summer. Thawing rate depends on:

- The amount of food in the freezer.
- The kind of food.
- The temperature of the food.
- The freezer.
- The size of freezer.

You may safely re-freeze foods that still contain ice crystals or that have been kept at 40° F or below.



Adapted by Dr. Angela Fraser, Extension Food Safety Specialist, Family and Consumer Services, North Carolina Cooperative Extension Service, NC State University, from University of Florida and Agricultural Sciences' *Disaster Handbook*

When the Power Is Out—When to Save Refrigerated Food and When to Throw It Out

Food	Still Cold; Held at 40° F or Above Under 2 Hours	Held Above 40° F Over 2 Hours
Dairy		
Milk, cream, sour cream, buttermilk, evaporated milk, yogurt	Safe	Discard
Butter, margarine	Safe	Safe
Baby Formula, opened	Safe	Discard
Eggs		
Eggs, fresh	Safe	Discard
Hard-cooked in shell	Safe	Discard
Egg dishes	Safe	Discard
Custards and Puddings	Safe	Discard
Cheese		
Hard cheese, unopened processed cheese	Safe	Safe
Soft cheese, cottage cheese, opened processed cheese	Safe	Discard
Fruits		
Fruit juice, opened	Safe	Safe
Canned fruits, opened	Safe	Safe
Fresh fruits, coconut, raisins, dried fruits, candied fruits, dates	Safe	Safe

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Food	Still Cold; Held at 40° F or Above Under 2 Hours	Held Above 40° F Over 2 Hours
Vegetables		
Vegetables, cooked	Safe	Discard after 6 hours
Vegetable juice, opened	Safe	Discard after 6 hours
Baked potatoes	Safe	Discard
Fresh mushrooms, herbs, spices, not in oil	Safe	Safe
Garlic, chopped in oil or butter	Safe	Discard
Casseroles, soups, stews	Safe	Discard
Meat, Poultry, Seafood		
Fresh or leftover meat, poultry, fish, seafood	Safe	Discard
Thawing meat or poultry	Safe	Discard if no ice crystals present
Meat, tuna, shrimp, chicken egg salad	Safe	Discard
Gravy, stuffing	Safe	Discard
Luncheon meats, hot dogs, bacon, sausage, dried beef	Safe	Discard
Pizza, meat topped	Safe	Discard
Canned meats (NOT labeled "Keep Refrigerated") but refrigerated after opening	Safe	Discard
Pies, Pastry		
Pastries, cream filled	Safe	Discard
Pies, custard, cheese filled or chiffons	Safe	Discard
Pies, fruit	Safe	Safe
Bread, Cakes, Cookies, Pa	sta	
Bread, rolls, cakes, muffins, quick bread	Safe	Safe
Refrigerator biscuits, rolls, cookie dough	Safe	Discard
Cooked pasta, spaghetti	Safe	Discard
Pasta salad with mayonnaise or vinegar base	Safe	Discard

Food	Still Cold; Held at 40° F or Above Under 2 Hours	Held Above 40° F Over 2 Hours
Sauces, Spreads, Jams		
Mayonnaise, tartar sauce, horseradish	Safe	Discard if above 40° F for over 8 hours
Peanut butter	Safe	Safe
Opened salad dressing, jelly, relish, taco and barbecue sauce, mustard, catsup, olives	Safe	Safe



Prepared by Extension Food Safety Specialists, Family and Consumer Services, North Carolina Cooperative Extension Service

When the Power Is Out—When to Refreeze Frozen Food and When to Throw It Out

Food	<i>Still Contains Ice Crystals and Feels as Cold as if Refrigerated</i>	<i>Thawed and Held at Over 40°F for Over 2 Hours</i>
Meat, Poultry, Seafood		
Beef, veal, lamb, pork, ground meats	Refreeze	Discard
Poultry, ground poultry Variety meats (liver, kidney, heart, chitterlings)	Refreeze	Discard
Casseroles, stews, soups, convenience foods, pizza with meat, poultry, or seafood	Refreeze	Discard
Fish, shellfish, breaded seafood products	Refreeze; will be some loss of texture and flavor	Discard
Dairy		
Milk	Refreeze; may lose some texture	Discard
Eggs (out of shell), egg products	Refreeze	Discard
Ice cream, frozen yogurt	Discard, significant loss of quality	Discard
Cheese (soft and semi-soft), cream cheese, Ricotta	Refreeze; may lose some texture	Discard
Hard cheeses (cheddar, Swiss, Parmesan) Cheesecake	Refreeze	Discard

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Food	Still Contains Ice Crystals and Feels as Cold as if Refrigerated	Thawed; Held Over 40° F for Over 2 Hours	
Juice, opened	Refreeze	Refreeze; discard if mold, yeasty smell, or sliminess develops	
Home or commercially packaged fruit	Refreeze; will change texture and flavor.	Discard after held at 40° F for 6 hours	
Vegetables			
Juice, opened	Refreeze	Discard after held at 40° F for 6 hours	
Home or commercially packaged or blanched	Refreeze; may lose texture and flavor	Discard after held at 40° F for 6 hours	
Breads, Pastries			
Breads, rolls, muffins, cakes without custard fillings	Refreeze	Refreeze	
Cakes, pies, pastries with custard or cheese fillings	Refreeze	Discard	
Pie crusts	Refreeze	Refreeze	
Commercial and homemade bread dough	Refreeze; may lose some quality	Refreeze; considerable loss of quality	
Other			
Casseroles, pasta- and rice-based	Refreeze	Discard	
Flour, cornmeal, nuts	Refreeze	Refreeze	



Prepared by Extension Food Safety Specialists, Family and Consumer Services, North Carolina Cooperative Extension Service



Foods That Require No Cooking

"I'm hungry." But what do you do when there's no power for cooking? You may be surprised at the variety of foods that can be prepared even if there is no gas or electricity for cooking. Here's a list of foods that require no cooking.

Breakfast

- Fruit or
- canned juice
- Ready-to-eat cereals or breakfast bars
- Breads or crackers with jams, jellies, margarine, peanut butter, cheese, or cheese spreads
- Milk (canned, evaporated or reconstituted powdered milk, which may also be used in coffee or tea)*
- Instant coffee, tea, or cocoa (if tap water is hot enough)

Lunch or Supper

- Processed cheese or cheese spreads*
- Canned vegetables*
- Peanut butter

- Canned meats, fish, poultry*
- Canned beans (baked beans, kidney beans, garbanzo beans, etc.)*
- Raw vegetables, such as carrots, celery, etc.
- Fruits (canned or fresh)
- Bread, crackers, cookies
- Canned puddings*

Snacks

Fruits (fresh, canned, dried), milk,* juices, cheeses,* ready-to-eat cereals, nuts and seeds, fruit leathers, crackers, cookies, raw vegetables, raisins, hard candy, granola bars, beef jerky



*These foods must be refrigerated after opening. You will have to eat it all in one sitting.

Prepared by Cooperative Extension Specialists, NC State University

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Helping Your Child Through the Crisis

A disaster can make a child afraid, more afraid than you. A child can mix up real fear and make-believe fear. This is okay. You can help.

- Don't leave.your child alone in a new place.
- Stay together to show you won't go away.
- Tell the child about the disaster.
- Tell the child you were afraid.

Talk with your child.

- Encourage your child to talk.
- Listen to the child.
- Say it's okay to be afraid.
- Hold and hug the child.
- Explain. Talk. Listen. Over and over.

Keep working to make things better.

- As long as it can be done safely, let him or her help clean up.
- Don't stop doing things.
- Put order in your day as best as you can.
- Tell the child about your plans each day.
- Stay close together.





Bedtime may be bad.

- Your child may not want to sleep away from you.
- Your child may be afraid of the dark.
- Your child may have bad dreams or begin to wet the bed again.

You can help.

- Explain why it gets dark.
- Talk about dreams.
- Praise the child for good things.
- Don't yell.
- Don't spank.
- Agree on a time for your child to go to bed.

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- Leave the door open a little.
- Leave the light on.
- Read to your child.
- Tell a story about something good that happened that day.

If you stay worried about the child, seek help. Schools can help you find professional help. Remember, this is a hard time for you, too.

Childcare During and After a Disaster

Immediately after a disaster and during the recovery period, you may worry about your childcare. Where will your children be safe? Who can watch them while you are busy dealing with agencies, cleaning, and repairs? If you do not already have regular childcare arrangements, check with churches, clergy, church members, childcare facilities, relatives, sitters, or neighbors. Afterschool or summer school activities would give the child a meaningful place to be and would free you to deal with the crisis. Library programs, foster grandparent agencies, 4-H clubs, and church youth groups are other alternatives. There may be money available to help you pay for the care.

General Guidelines

- Spend more time with your child. Use part of that time to talk.
- Your child will be comforted by familiar surroundings. Get copies of photos from family and friends and allow your child to replace lost stuffed animals.

- Expect to have greater difficulty at times of separation (leaving for school, bedtime) and provide extra reassurance. Let your child know where you are. Daytime phone calls can help reassure your child.
- Monitor your child's viewing of the disaster on television and other media. Repeated viewing of disaster scenes can be traumatic. If possible, watch with your child and discuss the programs you see.
- Allow your child to discuss the disaster, but do not force it. When discussing it, emphasize that he or she is now safe.



Adapted by Dr. Karen DeBord, Extension Child Development Specialist, Family and Consumer Sciences, North Carolina Cooperative Extension Service for Stress *and Coping with Disaster* by Karen DeBord, Marty Baker, Ami O'Neill, University of Missouri.

Sasta readiness - response - recovery

Entertainment Ideas

Include entertainment items such as games for children and books for adults in your disaster supply kit. Below are some ideas for times when children are bored. If space permits, include some old magazines, tape or glue, writing paper, coloring books, crayons, pens, pencils, old socks and pieces of fabric in the kit for an "I'm Bored" bag.

The following activities can be used to relieve tension, provide comfort, contact and reassurance. They may also help children to express their feelings about what is happening:

- Read a chapter in a favorite book or an interesting article in a magazine
- Play a game charades, cards or sports
- Make a timeline of your life. Add 2-3 important things that happened each year
- Make a tape of sounds you hear in your house
- Make a scrapbook of souvenirs, postcards or pictures
- Write to a friend or send for a pen pal name. Around the World Friends, 550 Fifth Avenue, New York, NY, 10036
- Make up a funny song using a familiar tune
- Plan a dinner for a president
- Write a TV script using the characters from your favorite TV show
- Make a puppet from a bag, sock, glove or scraps of fabric
- Make a puzzle, word search or crossword puzzle
- Make up your own greeting cards
- Start a diary
- Write a note in secret code, Morse code or your own code
- Design a futuristic house for the year 2050
- Pretend you are a radio disc jockey and make up your own commercials
- Make a simple snack or appetizer for dinner
- Plan a vacation to the place of your dreams
- Have each person write a sentence and then put them all together to make a story













Caring for Your Pets in an Emergency

Making arrangements for your pets should be part of your household disaster planning. If you must evacuate your home, it's always wise to take your pets with you. Although trained service dogs are allowed in emergency shelters, other pets are not allowed due to public health and safety reasons. You need to have other plans for your pets. Advance planning is essential; it could save a pet's life.

Is Your Pet Prepared for an Emergency?

If your pets will be traveling, make sure you have a pet carrier (portable kennel) or crate for each pet. Be sure the carrier is large enough; your pet should be able to stand up and turn around in it. Take time to familiarize your pet with the portable kennel. Initially confine your pet for short periods; then lengthen the time.

Be sure your pet's vaccinations are up to date. This is especially important for pets that will be boarded. Most boarding facilities require proof of current rabies and distemper vaccinations. Be sure your cat or dog wears a

Be sure your cat or dog wears a properly fitted collar with a current license (identification) and rabies tag



at all times. Take a leash with you when you travel.

Keep an ample supply of pet food and other essentials, like kitty litter, with other hurricane supplies. Don't forget about newspaper, plastic bags, cleaner and disinfectant to properly handle pet wastes.

Plan ahead. Make some phone calls to determine options for pet placement and care if you have to evacuate. Consider all the possibilities:

• Your Home – It may be necessary for your pet to remain at home if you have to leave. Survey your home and determine the best location away from windows to place the pet during a storm emergency, such as a utility room,

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bathroom, kitchen, or other tiled areas which can be cleaned easily.

- Kennels Survey boarding kennels to determine which will take pets during an emergency. Find out who stays on the premises with the animals in the event of a storm and what provisions would be made if the kennel should have to evacuate from a hurricane or a flood.
- Veterinarians Check with veterinary clinics to locate those with boarding facilities.
- Friends Ask dependable friends or relatives who live farther inland, away from the coast or river areas, for shelter during the storm emergency.
- Motels Call motels to determine if they allow pets. Be sure to check on restrictions on the size and number of pets allowed.

If Your Pet Stays at Home...

If the pet must be left behind when the home is evacuated during the storm, remember:

• Prepare an area for the pet to use inside the house away from the windows, such as a utility room, garage, bathroom, or other tiled area which can be easily cleaned.

- Bring the pet indoors well ahead of the storm.
- Do not leave any pet outside or tied up during a hurricane.
- Leave only dry-type foods that are relatively unpalatable to prevent overeating. Use sturdy food containers.
- Do not leave any treat-type vitamins or minerals supplements. Your pet may get salt poisoning if it overeats the treats.
- Birds must eat daily to survive. Use special food dispensers if you must leave them behind.
- Water for pets should be left in a bathtub or other sturdy containers that will not spill.
- If animals are on special diets and medications, consult a veterinarian.
- Never leave a cat with a dog, even if the two are normally friendly.
- Confine and keep small pets (birds, hamsters, etc.) away from cats and dogs.
- Provide access to high places, such as countertops, in case flooding occurs.
- Difficult or dangerous animals should be left in special crates or cages to reduce the possibility of escape.

If Your Pet Goes with You...

If the pet will be taken along during evacuation, prepare the following items:

- License or identification and rabies tags
- Steel or fiberglass crate, properly pet-sized
- Non-spill water and food bowls
- Newspaper and/or paper towels, litter, scooper, plastic bags for waste
- Leashes and collar
- Water in sanitized nonbreakable containers
- Dried and packaged semi-moist foods
- Special medications
- Toys, blankets, and special comfort items

After Your Pet Returns Home...

Be careful in allowing a pet outdoors after the storm has passed. Familiar scents and landmarks may be altered, and a pet could easily be confused and become lost. Downed power lines can present a real danger to a pet.



Adapted by Dr., Wilma S. Hammett, Extension Home Environment Specialist, from Guidelines for Emergency Pet Care, Institute of Food and Agricultural Sciences, University of Florida, 1997



Hurricane Preparations For Horse Farms

With the possibility of a hurricane once again hitting the North Carolina coast, horse farm owners need to be prepared.

1. Get the name(s) of the REINS (Regional Equine Information Network System) Coordinating Agents and volunteers serving as Equine Disaster and Emergency Management Coordinators from your county Extension center. Ask if a disaster/emergency equine management plan exists for your area. REINS organizations will serve as the lead equine contact during an emergency/ disaster within an area. For more background information, visit the REINS Web site (http:// www.cals.ncsu.edu/an_sci/extension/horse/hhreins.htm) and the

Extension Horse Husbandry Web site (http://www.cals.ncsu.edu/an_sci/ extension/horse/hhmain.html).

- 2. Put together an emergency stable first aid kit that includes the following:
 - Knife
 - Adhesive tape
 - Scissors
 - Duct tape
 - Nylon or cotton rope

- Extra halters
- Clean towels
- Antiseptic and soap
- Leg wraps
- Topical antibiotic ointments
- Tranquilizers
- Pain relievers
- Bandages
- •Bee sting kit
- Insect repellent
- Flash light and batteries

3. Consider how you will protect your horses if a hurricane were to hit your area. Are your barns and buildings in good repair and located on high ground? If the barn might be damaged by high winds or flooded, your horses might be better off on high ground in a pasture. Or will you evacuate your horses? More detailed information on evacuation is included on pages 2 and 3.

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 - of Agriculture, and local
 - governments cooperating.



If a Hurricane May Be Coming

- 1. Secure structures on your farm:
 - Move loose objects indoors.
 - Tie jumps and poles together.
- 2. Fill all water tubs, and store drinking water.

If possible, you need a 7-day supply. Allow 20 gallons of water per horse per day. Line garbage cans with plastic bags and fill with water. Note: After a hurricane has hit, finding clean drinking water is one of the most difficult dilemmas as water sources tend to be contaminated.

- 3. You should have a 7-day supply of feed and hay on hand. Place feed bags on pallets and cover them withwater-repellent tarps to reduce the likelihood of water damage.
- 4. Bed all stalls including aisleways where pastured horses will be tied during the storm. Store additional bedding in plastic bags indoors.
- 5. Place fly masks on pastured horses to reduce the incidence of eye injuries from flying debris.
- 6. Secure a generator (4 horsepower or greater) for use as an electrical reserve unit. Make certain the generator is large enough to run your water pump while providing electrical outlets for a refrigerator and lights.

Store a large supply of gasoline.

Identify your horses

Most feed stores carry blank cattle ear tags. Using a permanent marker, write your name, delivery address, phone number(s), and horse's name on a tag. Braid the tag into each animal's mane or tail.

Consider spray painting your phone number in white or blaze orange paint on both sides of the barrel or hip of your horse.

Microchips inserted in the neck muscle are also an excellent way to identify an animal. It also may be helpful to have pictures, identification and/or registration papers on your animals should you need to verify ownership. Be sure to store these items in an area that will remain dry.

If practical, evacuate yourself and your horses well in advance of the storm to a safe holding area. Get a list of approved sites from your REINS coordinating agent within 48 hours before any intense weather. It is extremely difficult to pull a horse trailer during gale-force winds! Also, your normally docile mount may become safe holding area.

Four permanent sites are available for the evacuation of horses. All require a current negative Coggins. Please do not reserve accommodations unless you will be able to use it.

• Pioneer's Harness Track, Southern Pines, (910) 692-8640. Stall is free; owner to supply feed, bedding, and water. Feed store located in town. Must sign release form.

• NCSU Veterinary Equine Research Center (VERC), Southern Pines, contact Dr. Jim Hamilton at (910) 692-8640. Use of stalls or paddocks is free; owner to supply feed, bedding, and water. Feed store located in town. Must sign release form.

• Senator Bob Martin Eastern Agricultural Center, Williamston, contact Brian Dygert at (252) 792-5802. Stall is free if a mandatory evacuation is declared. If horse owner evacuates voluntarily, there is a \$3 daily stall charge. Owner must supply feed, bedding, and water; limited bedding available (\$3.50 to \$5.00 per bale). Feed store located in town. MUST CALL FOR RESERVATIONS. If the facility is not in use, 296 stalls are available.

• Governor James B. Hunt Horse Complex, Raleigh, contact Wesley Watt, NC State Fair manager or Sherri Bridges, Horse Complex secretary, at (919) 821-7400 or (919) 733-2145. Four hundred and eighty-five stalls are available to horse owners at no charge during declared emergency situations. Horse owners must supply feed, bedding, and water. MUST CALL IN RESERVATIONS TO CONFIRM STALL AVAILABILTY. Please be aware that the Hunt Horse Complex typically serves as a National Guard/Emergency Preparation site. On occasion, the governor has closed the facility to the general public so that it can be used by emergency workers. If the facility has been closed, it will not be available to horse owners.

Get a list of approved sites from your REINS coordinating agent within 48 hours before any intense weather. It is extremely difficult to pull a horse trailer during gale-force winds! Also, your normally docile mount may become upset and difficult to handle with the environmental changes. Loading a horse during extreme weather may be impossible.

Be aware of rapidly rising water. If you are located in an area prone to looding, evacuate your animals with 7 days of feed and bedding before the storm. If you are unable to evacuate, remove horses from flood-prone stalls and barns, and move them to higher ground prior to the threat of rising water. Horses trapped in stalls or barns with hinged doors is a leading killer of animals immediately following a major storm. If you cannot move them to higher ground, leave your animals in a pastured area. Place fly masks on them to reduce the incidence of eye injuries from flying debris.

If your barn is well constructed, leave your horses inside to minimize injury from flying debris. For example, pole barns with post cemented in the ground and block barns and roofs with a history of routine maintenance that were built according to code do well in storms.

If your barn is poorly constructed or in poor repair, leave your horses in a naturally protected well-fenced pasture area.

- select a low area protected by rises; make certain the area will not by subject to flash flooding; avoid streams, ponds, etc.
- keep horses away from shallow rooted trees or trees damaged in previous storms.
- keep horses away from dilapidated structures to minimize injuries from flying debris.

If you halter your animals, make certain that the halter will break if caught on an object.

Secure and store temporary fencing materials to permit quick, temporary fence repairs. Select fence systems that do not require electricity. Permanent repairs can be made later.

Obtain film for your camera and camcorder to document storm damage. If time permits, take pictures of your structures before the storm. Review your insurance policy to determine storm coverage; then document damage accordingly.

Recovering After the Storm

In many cases, wind and rainfall from the storm does not create as many problems as the aftereffect of the storm. You may face prolonged power interruptions, blocked roadways, downed trees (often across fencing and structures), and increased populations of biting insects. The following recommendations will help you recover and protect your horse's health.

- 1. After the storm has sub sided, immediately check your horse's welfare.
- 2. Take pictures of storm damage to facilities, fences, and roadways.
- 3. Be aware of the possibility of cyanide poisoning due to the ingestion of wilted wild cherry (Prunus species) leaves, twigs, bark, or seeds and/or red maple leaves (Acer rubrum). Symptoms include: weakness, excitabil ity, gasping for breath, poor coordination, collapse, convulsions, constipation or diarrhea, bloody urine, and death. Symptoms may result if as little as 1 or 2 cups of leaves are consumed on an empty stomach.
- 4. If your power is out, persis tently notify the power company. Tell them how many horses you have, and explain the importance of electricity to their wellbeing. If possible, make a personal visit.
- 5. Contact the local fire department and request water delivery. Most fire departments will accommodate, if you have a large number of horses and you are experiencing a prolonged power outage. Make certain you have several tubs avail able to hold the water.
- Check your horse's vaccination schedule against diseases caused by biting insects. Horses should be vaccinated annually for

Eastern Equine Encephalomyelitis (EEE). The increased mosquito population that occurs immediately after a storm has typically resulted in an increased incidence of encephalomyelitis. Horses located in areas with high mosquito populations should be vaccinated twice per year, 6 months apart. Contact your county extension agent for information concerning storm-related agricultural assistance programs for livestock and horse owners.

Emergency situations may force you to make the difficult, but practical decision of putting human life above that of your horse. You must care for yourself first and your animals second. The horse has demonstrated a remarkable survival ability in the face of natural disaster, one which far exceeds those of humans. You may find additional information at www.cals.ncsu. edu/an_sci/extension/horse/ hhmain.html



Prepared by Dr. Bob Mowrey, Department of Animal Science, North Carolina State University



For immediate release

Use Chainsaws Safely

When a major storm scatters broken trees and other debris, cleanup can involve chain saws. But each year, about 40,000 people die or are injured in chainsaw accidents. To protect your life and your property, you need to know how to use the tool properly.

North Carolina Cooperative Extension provides these chainsaw safety guidelines:

- Review the owner's manual carefully.
- Make sure your saw is well-maintained, with sharp teeth, correct chain tension, proper lubrication, a properly tuned engine and functioning safety equipment. Your operator's manual will contain specifics.
- Make sure the saw you are using is right for the job: Mini- or lightweight saws, with guide bars up to 14 inches, are right for light and occasional use in pruning, cutting small logs and cutting down small trees. Midweight saws, with guide bars from 14 to 20 inches, are best for cutting logs and cutting down small to medium trees. Heavyweight saws, with guide bars over 20 inches long, should be used only by a professional.
- Wear well-fitted clothing free of dangling or ragged edges that could get entangled in the saw or the brush. Safety eyeglasses are essential for protecting against flying dust and other debris. Hardware and other supply stores sell protective chaps or leggings made of synthetic fabrics designed to prevent the running saw from coming in contact with your legs. A hard hat can protect your head from falling limbs and other debris. A good pair of ear plugs can protect your hearing. Be sure to wear sturdy gloves and shoes.
- Have a first-aid kit nearby.
- Before you get started, watch where limbs will fall and plan an escape route should a tree suddenly start to fall in your path.
- Do not climb trees while operating a chainsaw.
- Be careful when cutting material under tension, such as a leaning or strained tree.
- Don't cut anything other than wood.
- While people and animals shouldn't be in the area where you are working, there should be some one within calling distance who can help if you get in trouble.
- Avoid using a chainsaw in wet, windy or dark conditions.
- Wait a few minutes for the motor to cool before refueling.

For more information on disaster recovery, contact your county's North Carolina Cooperative Extension center or visit the Web site www.ces.ncsu.edu/disaster/.





How To Care For Ice-Damaged Trees

One cannot appreciate the damage ice causes to trees until they've experienced a heavy ice storm. Fortunately, major ice storms do not occur on a regular basis. The trees that normally take the brunt of the damage – Chinese and Siberian elms, poplars, silver maples, birches and willows – are the predictable victims. All of these species have brittle wood and are easily damaged by ice and wind storms.

Homeowners often plant fastgrowing species like the ones mentioned above for rapid shade. Fastgrowing trees normally have brittle wood and develop weak, V-shaped crotches that easily split apart under added weight. Often, trees with extensive internal rot and decay that may not have been evident from the exterior receive severe damage.

Many times these trees overhang the house, driveway or power lines servicing the home. When large limbs or tree tops are broken in an ice storm, they can cause major damage and expense.

For homeowners with trees with major limb or top damage, two questions should be addressed.

The first one is: "Does the condition of the tree warrant efforts to save it or should it be removed?" Major tree repair can be quite expensive and should only be attempted if a major portion of the tree is still intact and efforts can be made to maintain its attractiveness and value to the property. If the whole side or top is gone, it's questionable whether it's worth spending the time and money to salvage the tree. This is especially true if it's one with brittle wood that lends itself to similar problems in the future. While no one wants to remove a large, mature tree, the prudent decision may be to replace it with a young tree possessing desirable qualities.

The second question to consider is: "Can you handle the damage repair yourself or should you seek professional help?" Small limbs can be removed easily with pruning shears or a pole-lopper provided they are within your reach. Do you feel comfortable climbing a ladder up into the tree? Power equipment should never be operated from a ladder or in the tree where firm footing is questionable. Removing hanging limbs should be left to professional tree services. Look for them under Tree Service in the Yellow Pages. Make sure they carry proper liability and workmen's compensation insurance before allowing them to start the job.

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What damage is repairable and what is not?

Broken limbs should be removed. Generally, if the branch has not split away from the trunk, the broken segment should be removed back to the next major adjacent branch. Do not leave branch stubs. Stubs encourage rot and decay.

For trees with tops broken out, remove the snags to the next major interior branch. Generally, this will be a major fork. Avoid topping the tree to allow small side branches to grow out and continue the tree's height growth. These branches will be weak and prone to breakage.

To avoid stripping the healthy bark from the trunk when a heavy, broken limb is removed, the 3-step procedure should be used. The first cut is made on the underneath side of the branch about 18 inches out from the trunk. The cut should be approximately half-way through the branch or until its weight first starts to bind the saw. The next cut should be made on top of the branch about 1 to 2 inches in front (toward the end of the branch) of the bottom cut. Continue cutting until the branch drops free.

The last cut removes the remaining branch stub from the trunk. The cut should be made from the top of the branch at the branch collar. The collar is the slight ridge where the branch attaches to the tree's trunk or another major branch.

In certain situations, a damaged limb may strip healthy bark from the tree. To repair this type of damage, cut any ragged edges of torn bark away from the damaged area. Take care to limit the amount of healthy, tight bark removed. To speed the healing process, the repair cut made with a sharp knife into healthy bark should leave a wound shaped like an elongated football with the pointed ends of the cut running vertically along the trunk or limb or as near parallel to the initial damage as possible.

Trees with split trunks or major limb forks may possibly be salvaged if the split is not too extensive. Repairing this type of damage will involve a cable and brace technique that should be left to a professional tree service.

Some small to medium-sized trees may have been uprooted. It may be possible to straighten these trees and brace them with guy wires. Do not attempt this unless one-half to one-third of the tree's original root system is still in the soil and the remaining exposed roots are relatively compact and undisturbed. Before straightening the tree, remove some of the soil from beneath the root mass so the roots will be placed below the existing grade level. Attach two to three guy wires to the trunk and anchor the wires 10 to 12 feet away from the tree.

Corrective pruning to help improve the shape of damaged trees is best done now. The tree will respond quickly this spring if it has not been severely damaged. Take care not to remove more than one-third of original branches. This will severely retard the tree's growth in the spring and may damage it beyond recovery.

Treatment of the trunk and limb wounds with tree paint is not necessary. In fact, research shows that painted areas can lead to increased rot and decay due to trapped moisture in areas where the paint cracks open. You may want to fertilize your tree this spring with a good quality tree fertilizer. Check with your county Extension office for recommended rates.





For immediate release

Take steps now to minimize problems with damaged shade trees, timber stands

If you have a storm-damaged shade tree or timber stand, there are steps you can take now to minimize problems.

According to North Carolina Cooperative Extension, hanging branches are particularly hazardous in a home landscape because a mild disturbance could cause them to fall. Fallen trees and broken or partially attached tree branches should be removed by a bonded or insured professional. If you're inexperienced and try to tackle this chore yourself, you can put yourself and your property at risk, and you can seriously damage your trees.

For moderate pruning jobs close to ground level, use sharp tools to cut back to a lateral side branch or bud, or back to live, healthy wood. Make the cut at a slant next to a bud that can produce new growth. Don't cut the branch flush with the trunk. Instead, cut outside the collar at the base of the branch.

In the past, some people recommended that tree wound dressings be applied to all cuts to prevent decaycausing infection. However, research has shown that wound dressings don't prevent decay and, in some cases, can serve as food sources for microorganisms.

For woodland owners with felled trees, rapid harvest and removal can prevent damage by fungi and insects.

Salvage harvest of damaged timber can be dangerous and expensive. Also, because many timber owners may be trying to market their damaged timber before it spoils, you may have a hard time finding a harvesting firm available to handle your job. In that case, focus on salvaging timber that is the easiest to cut — for instance, stands blown or felled in one direction — and timber that is the most perishable, has the highest potential product value and is the most valuable.

Sawtimber trees with broken tops may be unusable for lumber because of wood splintering and internal tearing. Salvage of usable sawlogs from broken trees depends on the height of the standing stumps. To keep down logging costs in storm-damaged stands of mixed sawtimber and pulpwood, all salvageable sawtimber and pulpwood should be removed during the same operation.

For more information, contact your county's North Carolina Cooperative Extension center or visit the Web site http://www.ces.ncsu.edu/disaster.





For immediate release

Hiring an Arborist

The following guidelines for selecting professional tree care professionals are offered cooperatively by the International Society of Arboriculture (ISA), the USDA Forest Service, and the Arbor Day Foundation:

- 1. Make sure they are part of an established business in the community or nearby area. There should be a phone listing, usually under Tree Service.
- 2. Have them provide evidence they are actually working for the company, not moonighting.
- 3. Ask for current certificates of insurance showing that they are fully insured for property damage, personal liability, and worker compensation.
- 4. Ideally they should be members of a professional association such as the ISA, National Arborist Association (NAA), or the American Society of Consulting Arborists (ASCA).
- 5. Arborists who have received certification from their professional associations, such as ISA Certified Arborists, will have received training and have access to current technical information on tree care, repair, and removal.
- 6. If possible, get more than one estimate to ensure that the price offered is competitive with that offered by others for the same services.
- 7. In case of tree removals, have a clear understanding about who removes the limbs and debris from the property, and whether or not the price includes stump removal and cleanup.
- 8. Check to see if the estimate has considered the possible value your tree will have as firewood or chips, either to yourself or if sold to others.

Some tree problems are critical and urgent now. Others can wait for competent service and should not be regarded as an emergency. That allows you time to make informed decisions.





Preventing Frozen Pipes

When temperatures drop below freezing–especially for a significant amount of time–the potential for frozen pipes increases dramatically.

Before cold weather hits, here are some precautionary steps you can take:

- Know where and how to shut off your water from the main shut-off valve.
- Seal air leaks around pipes that allow cold air to seep in.
- Insulate pipes near outer walls, in crawl spaces or in attics.
- In exposed or problem areas, you may use heat tape or heat cables to prevent freezing. Make certain they are UL approved and that you follow manufacturers instructions.
- Disconnect garden hoses, shut off and drain water from pipes leading outside.
- Turn your faucet on just enough to have constant dripping.
- Open cabinet doors to allow heat to circulate around pipes under a sink.
- Leave heat on and set no lower than 55 degrees.
- If you plan to be away from home, have someone check on your
- house daily.

• Close foundation vents if the temperature drops below freezing for a significant period of time. Reopen when weather warms.

If pipes freeze:

- Shut off water valves. Stopping the flow of water can minimize the damage to your home.
- Call a plumber to thaw your pipes. Thawing them yourself can lead to greater damage and can be a hazard.
- If your pipes burst, call a plumber and your insurance agent.

Although NOT recommended, if you do try to thaw:

- Don't try to thaw the pipes with an open flame or torch.
- Don't use ungrounded electrical appliances outdoors, or near grounded water pipes.
- Be careful of the potential for electric shock in and around water.
- Never start a debris fire to warm pipes.
- When thawing pipes, always work from the open faucet toward
- the frozen area. This will keep
- steam from being trapped by ice
- and bursting the pipe.

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Prepared by: Susan Condlin and Sarah Kirby, North Carolina Cooperative Extension





Proper care with generators can protect life, property

When electric power service is out due to a major storm, many people turn to gasoline-powered generators to run household appliances. Knowing how to use generators safely is important to protect life and property.

North Carolina Cooperative Extension advises those using generators to be sure to operate them in wellventilated, covered, unheated areas.

Generators should not be operated in a basement, attached garage or other closed area. Exhaust fumes contain carbon monoxide, an odorless, colorless gas. Be aware of the effects that may be caused by carbon-monoxide, including drowsiness, headache and disorientation.

When purchasing a portable generator, keep in mind that they come in different sizes and have different features. Have a licensed electrician determine your power needs and match those with the power output of the generator you select.

Here are some practical options:

- an overhead valve engine for longer life and quieter operation
- an automatic idle control to reduce noise and fuel consumption
- a large gas tank (A five-to-10 gallon
- tank may last only 5 to 10 hours.)

- a low oil shutdown feature to prevent engine damage
- a wheel kit for easy transport. It is also helpful to have a manual or automatic switch to disconnect the generator from the home's main power lines. Without this, use the main switch on your electric service panel to cut the power to your home.

Generators are usually used to run plug-in appliances such as refrigerators, freezers and lights. Any appliance not permanently wired to the electrical system can be operated with polarized extension cords from the generator. Overloaded extension cords can cause fire.

If a generator is wired into a service box for running 240-volt or hardwire appliances like furnaces or air conditioners, it is important to have a manual double-throw transfer switch on the service box or generator.

The transfer switch prevents the generator from back-feeding electricity into the power lines and possibly causing injury or death to unsuspecting utility workers trying to restore power.

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The switch also prevents costly damage to your generator when power is restored. A licensed electrician should install the switch.

Finally, remember fire safety in refueling and storing generators. Let the generator engine cool for at least two minutes before refueling to prevent fire. Fill tanks 1 inch from the top to prevent fuel from spilling.

Store generators in a safe place to prevent large fuel tanks from catching fire. Gasoline for running generators should be stored where it will not get contaminated with water, resulting in poor performance. For more information on disaster recovery, contact your county center of North Carolina Cooperative Extension, or visit the Web site <u>http://www.ces.ncsu.edu/disaster/.</u>



Kerosene Heater Safety

Portable kerosene heaters can supply homeowners with temporary heat during a power outage or can be used to warm a cool room without the expense of heating the entire house. Newer models are manufactured with numerous safety features, but operator errors such as using gasoline instead of kerosene, failure to provide adequate ventilation, and fuel spills have resulted in numerous home fires. According to the National Fire Protection Association, there is a "much higher" fatal fire risk associated with the use of wood stoves, portable kerosene heaters and space heaters as compared to central heating.

The following list will help reduce the risk of a fire from using a portable kerosene heater:

• Use only water-clear 1-K grade kerosene (see Figure 1). Never use gasoline. Gasoline is not the same as kerosene. Even small amounts

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of gasoline or other volatile fuels or solvents mixed with kerosene can substantially increase the risk of a fire or an explosion.

Always store kerosene in a container intended for kerosene, not in a gasoline can or a can that has contained gasoline. This helps

avoid using contaminated fuel or the wrong fuel by mistake. Kerosene containers are usually blue; gasoline containers are red.

When purchasing kerosene at the pump, make sure to use the kerosene pump, not the gasoline pump. Some service stations have separate islands for kerosene. Some oil companies have also

established quality control programs to minimize the chances of gasoline contamination of kerosene.

• 1-K grade kerosene should be

purchased from a dealer who

can certify that what lead to a release of

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is being sold is 1-K. State-operated and private sector certification programs that ensure the quality of kerosene are established in some states. Grades other than 1-K can

more pollutants in your home, posing a possible health risk. Different grades of kerosene can look the same so it is important that the dealer certify that the product sold is 1-K grade kerosene.

- Never refuel the heater inside the home. Fill the tank outdoors, away from combustible materials, and only after the heater has been turned off and allowed to cool. Do not refuel the heater when it is hot or in operation. Do not fill the fuel tank above the "full" mark. The space above the "full" mark is to allow the fuel to expand without causing leakage when the heater is operated.
- In case of flare-up or if uncontrolled flaming occurs, do not attempt to move or carry the heater. This can make the fire worse. If the heater is equipped with a manual shut-off switch, activate the switch to turn off the heater. If this does not extinguish the fire, leave the house immediately and call the fire department. As an added reminder and precaution, install at least one smoke detector near each sleeping area or on each level of the house.
- Reduce your exposure to indoor air pollutants by properly operating and maintaining your portable kerosene heater. Although portable kerosene heaters are very efficient in the burning of fuel to produce heat, low levels of certain pollutants such as carbon monoxide and nitrogen dioxide are produced. Exposure to low levels of these pollutants may be harmful, especially to

individuals with chronic respiratory or circulatory health problems.

- To assure you and family members are not exposed to significant levels of these pollutants, you should follow carefully the follow ing rules of safe operation:
 - Operate your heater in a room with a door open to the rest of the house.
 - If you must operate your heater in a room with the door closed to the rest of the house, open an outside window approximately an inch to permit fresh air to effectively dilute the pollutants below a level of concern.
 - Always operate your heater according to the manufacturer's instructions, making sure that the wick is set at the proper level as instructed by the manufacturer.
 - Keep the wick in your heater clean and in good operating condition by following the cleaning and maintenance procedures recommended by the manufacturer.
 - Keep an outside window opened approximately an inch to ensure adequate fresh air infiltration. This is important regardless of whether you use a kerosene heater or some other conventional method of heating if your home is relatively new and tight, or if it is older but has been winterized to reduce air infiltration from the outside.



By Howard J. Doss, Safety Leader, Agricultural Engineering Department, Michigan State University.

Mide Prevention in the Home

North Carolinians are familiar with mildew, that thin growth of fungus that grows on many kinds of surfaces. Mildew grows when the spores of molds settle on a welcoming surface. It commonly develops on areas that are damp, warm poorly ventilated, and dark, and it thrives in warm, humid weather. Bathrooms, closets, basements, and crawl spaces are prime sites. A musty odor often indicates mildew.

Mildew is a greater problem when the weather is warm and the relative humidity is 60 percent or more for several days. It is also a problem when moisture is trapped in an area in your home. Take special precautions to prevent mildew growth if either of these conditions occur.

Prevent mildew by keeping surfaces dry, clean, and well ventilated. To prevent excess moisture:

□ Turn on air conditioners when relative humidity is 50 percent or above. Humidity is given in the weather forecast. Air conditioning helps remove moisture from the air. Make sure air conditioner condensation drains outside and away from the foundation of the house.

□ Install sheets of polyethylene in crawl spaces. Open vents in foundation walls. Cover 70 to 80 percent of the ground under the house with 6-mil plastic.

Weigh the plastic down along the foundation wall.

□ Ventilate the attic. Continuous soffit and ridge vents in combination are recommended. Attic fans may also be used.

□ Use ventilating fans in the kitchen and bathroom. Make sure these fans vent to the outdoors, not to the attic, crawl or living spaces. Run the fans while cooking and bathing, and 15 to 20 minutes after bathing.

□ Combustion appliances can contribute to excess moisture in the home. Vent a gas heater or gas logs to the outside using an approved flue.

□ Vent clothes dryers to the outside of the house, never to the attic, crawl or living spaces.

□ Do not let damp or wet clothes lie around the house.

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□ Clean or wash clothes before storing. Mildew begins on spots and stains.

□ Stretch out a wet shower curtain after every shower.

□ When necessary, use chemicals to control humidity by absorbing moisture. Silica gel, activated alumina, and calcium chloride can be purchased in drug stores and department stores. Put in an open box and place in the closet, but keep it out of reach of children.

□ Keep closet lights on. A 40- to 60-watt bulb uses a very small amount of electricity.

□ Use a dehumidifier. These are especially useful in basements and other naturally cool areas of the house during humid summer months when you may need to run the unit continuously. Make certain that you remove water and clean humidifier daily. Only use a dehumidifier with an Underwriters Laboratories (UL) Seal.

□ Wax leather goods. Wax will protect leather from mildew. Spray-on fungicides are also available for leathers and fabrics. Follow the label instructions.

□ Trim shrubs growing close to the house. They often prevent good air circulation and hold dampness.

□ Thoroughly remove any mildew from the exterior of a house before repainting. If this is not done, the mildew will grow through the new paint coat. Scrub the painted surface with a bristle brush or sponge using the following solution: 1/3 cup of household detergent, 1 to 2 quarts of liquid household bleach (5 percent sodium hypochlorite), and 2 to 3 quarts of warm water. This mixture can also be used to remove mildew from naturally finished or unfinished wood.

WARNING: Do not mix liquid household bleach with ammonia or with any detergents or cleansers containing ammonia. Bleach and ammonia form a lethal gas. Many household cleaners contain ammonia, so be extremely careful what type of cleaner is mixed with bleach.

If mildewed wood is refinished without cleaning the surface, the mildew can grow through the new coating. Then it is usually impossible to control the mildew. The entire paint coat should be stripped, scrubbed with the above solution, rinsed, allowed to dry, treated with a water-repellent preservative, and refinished with mildew-resistant paint.

Mildew Removal

How to Remove Mildew from Fabrics

Mildew most often appears on natural fibers, such as cotton, linen, silk, and wool. It can actually rot the fabric. Remove mildew spots as soon as they are discovered. To avoid scattering the mildew spores in the house, take the fabric outdoors and brush off all surface mildew. Then sun and air the fabric thoroughly. If spots remain, non-washable articles should be dry cleaned promptly. Washable fabrics should be tested for color fastness by trying bleach on a seam or hem. Use one of the following solutions:

1. Make a mixture of lemon juice and salt. Apply to the stain and leave the fabric in the sun to bleach. Rinse thoroughly and dry.

2. Mix one tablespoon of non-chlorine bleach (sodium perborate bleach) with one pint of water. Use hot water if the fabric can take it; otherwise, use lukewarm water. Sponge and soak the stain with the solution. Leave it on for one-half hour; then rinse well. Repeat the process if the stain is not removed the first time.

3. Dilute household bleach as directed on the container. Dip stains in the solution; then rinse. Do not use on silk or wool.

How to Remove Mildew from Leather

Make a diluted alcohol solution by mixing one cup of denatured alcohol with one cup of water. Using a cloth dampened with this solution, wipe mildew off leather. Dry it in a current of air. If mildew remains, clean the article with thick suds of mild soap, saddle soap or a soap containing a fungicide or germicide. Wipe the suds off with a damp cloth and dry in an airy place. Polish the leather with a good wax dressing.

How to Remove Mildew and Mildew Odor from a Rug

A musty odor often indicates mildew in a rug. Brush the rug thoroughly with a broom or use a vacuum cleaner. Empty or change the vacuum cleaner bag immediately to prevent growth of the mold in the cleaner. Sun and air the rug outdoors, if possible, or use an electric heater and a fan to air and dry it. If the mildew remains, sponge the rug with thick suds of detergent or rug shampoo. Rinse with a sponge dampened in clean water. Dry the rug thoroughly.

How to Remove Mildew from Upholstered Furniture

The first step in removing mildew from upholstered furniture is to remove loose, old spores by brushing with a soft-bristled broom. This should be done outdoors to prevent scattering the spores inside the house. Using an attachment, run a vacuum cleaner over the surface of the furniture to draw out more of the mold. If the furniture piece is moist or damp, dry by using an electric fan and electric heater to heat and carry away the moist air. If possible, place the article in direct sunlight and air to stop mold growth. Then do one of the following to remove stains:

1. Sponge with a commercial dry-cleaning solvent.* Blot. Allow to dry. Sponge with water. Mix a Dry Spotter (1 part coconut oil and 8 parts liquid drycleaning solvent* plus a few drops of ammonia). Apply with an absorbent pad. Sponge with water

2. Wipe the stain using a cloth moistened with a diluted alcohol solution made by combining 1 cup denatured or rubbing alcohol and 1 cup water. Blot thoroughly and allow to dry (in the sun and air, if possible).

For safety's sake:

□ Read labels carefully and follow instructions; some products are highly toxic and many are flammable.

□ Use products in well-ventilated areas.

□ Pretest products like bleach solutions on an inconspicuous area.

- □ Be careful with delicate fabrics like silk.
- □ Use rubber gloves.
- □ Close containers tightly when not in use.
- □ Follow label instructions for storage and disposal.

How to Remove Mildew From Wood Floors, Painted Walls or Wood Surfaces

Mold can grow on damp, warm, poorly ventilated wood floors, painted walls, and wood surfaces. Painted surfaces do resist mildew, but even enamel or oil-resin paint can mildew under extreme circumstances. Use heat and improved ventilation to dry mildewed wood. Make a mixture of 4 to 6 tablespoons of a mild alkali, such as trisodium phosphate (TSP) or washing soda, and 1 gallon of water. Scrub the mildewed surface with the solution. A solution of disinfectant, made by mixing 1 ounce of the disinfectant with 1 gallon of water, may also be used. After thoroughly cleaning the wood with one of these solutions, rinse well with water and allow wood to dry as quickly as possible. Remember, however, that too much water on a wood floor can cause shrinkage and swelling problems.

If the mold has penetrated the wood under the paint or varnish, the entire coat of paint should be stripped, scrubbed with 1/3 cup household detergent, 1 to 2 quarts of liquid household bleach (5 percent sodium hypochlorite), and 2 to 3 quarts of warm water. Rinse the surface. Allowed it to dry thoroughly. Treat it with a water-repellent preservative or paint it with mildew-resistant paint. If mildewed wood is refinished without cleaning the surface, the mildew can grow through the new coating. In this situation, it is usually impossible to control the mildew.

Mildew-resistant paint is formulated to help combat mildew. However, paint containing chlorinated phenol, phenyl mercuric compounds, and other fungicides should never be used on surfaces that could reach the mouths of small children, such as windowsills, playpens, or toys. It could be harmful.

How to Remove Mildew from Ceramic Tile

Scrub tile with solution of detergent, Calgon, and warm water. Use a brush for grout lines. A toothbrush or fingernail brush may be helpful. Rinse with water. Follow with a rinse made of a solution of 1 cup of household bleach and 1 gallon of water. Dark spots in corners may need an application of pure bleach; apply with a cotton swab. Allow the bleach to remain on the tile for 30 minutes. Rinse and dry the entire area.

To prevent mildew from reappearing, apply a coat of silicone wax or a good liquid car wax to the tile. Do not wax floors in shower or bathrooms as it may cause dangerous slipping. Transparent silicone waterproofing intended for waterproofing masonry walls may be applied to grout using an artist's paint brush. This will prevent mildew from recurring in the grout.

Originally prepared by

Housing and Home Furnishings Specialists Revised by Sarah D. Kirby, Ph.D., Extension Specialist — Housing

^{*} Look for products containing petroleum distillates or hydrocarbon such as trichloroethane, xylene methylenechloride, methane, benzene and/or naphtha. These chemicals may also be found in spot removers and cleaners.

For more information visit: http://www.ces.ncsu.edu/homecare2/data/hc2.html

Moisture Control and Prevention Guide

Moisture can cause serious damage to the structure of your home. Moisture causes more than \$1 billion in damage to homes annually, from minor damage like peeling paint to major damage, such as rotting, crumbing floor joists.

You can greatly reduce the cost of moisture damage in your home and eliminate the risk of structural loss if you learn how to control for moisture. This publication is designed to help avoid the costly problems associated with excess moisture by helping you to identify and correct moisture problems. The recommendations given are guidelines for homes in North Carolina and may differ from those in other climates.

Wood Moisture Meter Readings

A wood moisture meter may prove a good investment. A meter costs anywhere from \$50 to a couple hundred dollars. They are sold in hardware and home improvement centers. They are simple to use. You insert the probes into the wood and read the indicator. It will tell you the percent of moisture in the surface.

Make sure to take readings from every corner of a crawl space and from areas commonly prone to having excess moisture, such as the areas around plumbing fixtures in kitchens, laundry rooms, and bathrooms; the sills under sliding glass doors; and places where chimneys, porches, garages, and patios attach to the house. If you do not want to do the inspection yourself, you can hire a building inspector to do the job for you. If you have a moisture control contract with a pest control company, make certain that they take periodic moisture readings.

- Fungi will only decay wood with a moisture content above the fiber saturation point, which is 30 percent by weight for most species used in construction.
- Wood with a moisture content of 20 percent and above is susceptible to decay.
- If the moisture meter reads below 20 percent, the wood is unlikely to decay.
- A moisture meter reading of 20 to 24 percent is in the caution zone. Look for sources of the excess moisture and correct the problems.
- If the moisture meter reads 25 to 30 percent, decay and damage will most likely be present. Look for sources of the excess moisture, correct problems, and replace decayed wood.

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Gutter Management

A gutter system helps protect against excessive moisture, but only if it is properly designed and maintained.

- Overhangs should be at least 18 inches wide. Drip edge flashing should be installed at the roof edge.
- Gutters should be cleaned, inspected, and repaired regularly.
- Downspout to drainpipe systems are preferred for removing rain water from the gutters. Make certain they are clear of debris. Splash blocks are not recommended as they release water too close to the home.
- Clay tile or flexible pipe should be used to conduct gutter water underground to a suitable release outlet at least 10 feet downhill and away from the house.
- Suitable release sites from downspout drainage systems are storm water drains, dry wells, or surface outlets.

Landscape Planting

Landscaping can add beauty and value to your home as long as you plan ahead to avoid moisture problems.

- Landscape plants should not block free air flow through the crawl space vents.
- Plants should be placed beyond the drip edge of the roof, and foliage should be at least 5 feet from the foundation.
- Finished planting beds and mulches should be lower than the ground level in the crawl space and should slope away from the house.
- Keep any organic mulch or ground cover at least 12 inches away from the foundation.

Crawl Space Grading

- Crawl space grade should be higher than outside surface grade.
- Maintain an 18-inch minimum clearance from the bottom of joists to the soil surface, preferably 2 to 3 feet.
- CABO (Council of American Building Officials) Building Code requires that outside surface grade away from the foundation will fall a minimum of 6 inches within the first 10 feet.

• Vent wells should be used if foundation vents are partially or fully below exterior grade.

Sump Pumps

- Install a sump pump only in extreme cases where drainage is too difficult or would cost too much to correct.
- Locate the sump pump at the lowest point in a basement or crawl space.
- Sump water must be discharged into a storm drain, dry well, or a surface outlet.

Insulating Heating and Cooling Ducts

- Insulate exposed heating and cooling ducts (likewise hot and cold water pipes) to at least R-6. This will prevent condensation that could wet the surrounding insulation. Wet insulation holds water next to structural parts of a house, which over time promotes wood decay.
- If you use central air conditioning over long periods of time, check for air leaks at joints in the duct work, which may cause ducts to "sweat." Repair any leaks.
- Properly sealed ducts should all be insulated to R-6. This amount can be doubled to R-11 if only the outer layer of insulation is backed with a vapor barrier.

Controlling Moisture in the Crawl Space*

- Leave foundation vents fully open year round unless they must be closed in winter to prevent frozen water pipes. A better solution is to insulate water pipes to prevent freezing.
- CABO Building Code specifies ventilation openings of not less than 1 square foot for each 150 square feet of crawl space area. There are exceptions to this rule, however. Ventilation openings may be reduced to 1/1,500 of under-floor area where the ground surface is treated with a vapor barrier and one ventilation opening is within 3 feet of each corner of the building. Review the CABO Building Code for other exceptions. You can get a copy of the building code from the North Carolina Department of Insurance.

- Vents should not be obstructed by duct work, items stored in the crawl space, or landscape plants.
- Cover the crawl space with 6 mil polyethylene to keep soil moisture from vaporizing and reaching the wood substructure.
- Floor insulation should be installed with the vapor barrier against the subfloor.

*Currently, there is considerable debate in the building science community about the use of crawl space and attic ventilation. The guidelines presented in this publication are 1998 recommended practices for crawl space and attic ventilation.

Other Sources of Moisture

- All dryer vent systems must be vented to the outdoors. Do not vent clothes dryers into basements, crawl spaces, or attics.
- Bathrooms, kitchens, and laundry rooms should be fitted with exhaust fans that vent moisture-laden air to the outside, not into attics or wall voids.
- Kerosene heaters, gas logs, and other combustible appliances should be vented to the outside, too, because they produce water vapor as a byproduct of combustion.
- Plumbing, both in the living area of the house and underneath in the crawl space or basement, should be inspected regularly for leaks.
- Pipe condensation from air conditioning units away from the foundation, and release it where it will run downhill away from the house.
- The moisture level in the home should fall within 25 to 50 percent. A hygrometer may be used to help monitor the relative humidity in a home. Use ventilation to control relative humidity. If ventilation fails to reduce humidity, a dehumidifier can be used.

Managing Rainwater Without Gutters

- Drip edge flashing should always be installed at the roof edge, even when gutters are used.
- Overhangs should be at least 30 inches wide to protect siding from rainfall and to keep roof water away from the foundation.

- To control back splash, the ground surface underneath the roof edge should be covered with gravel or some other ground cover that will absorb the runoff rain water and reduce the splash.
- Porches, patios, or decks should slope away from the house to promote good drainage.

Flashing

Flashing is sheet metal or plastic that is used to cover joints and openings and protect against water seepage.

- Drip edge flashing should be applied to all roof edges and the tops of all exposed windows and doors.
- Flashing should be installed wherever roofing meets siding. Siding should be cut short of the roofing shingles by approximately 1 inch, and any cut wood edges sealed against water entry.
- Joints in siding materials should be flashed, or the ends of the wood treated with a water repellent preservative to prevent water entry.
- Include flashing underneath all exterior doors and windows.
- Flash the top of foundation walls to prevent water from wicking up through the foundation block and wetting the wood in the substructure.
- Prefabricated chimneys should have a cap of flashing that extends several inches down on all sides.

Attic Ventilation*

- Soffit vents should be installed in combination with at least one other vent at the top of the roof. A combination continuous soffit and continuous ridge vent is preferred.
- Items stored in the attic should not interfere with cross-ventilation.
- Insulation must extend over the top plate of the wall and be fitted tightly to the top plate. Make certain that attic insulation does not block soffit vents. Use baffles to keep insulation from obstructing ventilation.

*Currently, there is considerable debate in the building science community about the use of crawl space and attic ventilation. The guidelines presented in this publication are 1998 recommended practices for crawl space and attic ventilation.

Wood and Soil Contact

- Untreated wood siding should never be closer than 6 inches from the soil or mulch surface.
- Untreated wood, such as sills, joists, plates, etc., should be no closer than 8 inches from the surface of the soil or mulch.
- All pressure-treated wood is not the same. When pressure-treated wood is used, choose the proper retention level or exposure condition: above ground, ground contact, wood foundation, or salt water.
- Wooden stairs and decks and all other exposed wood should be built of the appropriate pressure-treated wood and sealed with a water repellent preservative or semi-transparent oil-based stain.

Adapted from Redmann, L.L. and Rowe, R. (1991). *The Billion Dollar Thief: Moisture*, Cooperative Extension Service of Clemson University.

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Prepared by Sarah D. Kirby, Extension Specialist — Housing M. Cassandra Wiggins, Extension Associate — Environmental Housing

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Onslow	910-455-5873	
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Perquimans	252-426-5428	
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Randolph	336-318-6000	
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North Carolina Cooperative Extension

Cooperative Extension is an educational outreach of North Carolina State University and North Carolina A&T State University. Located in every county and the Cherokee Reservation, Cooperative Extension uses research to develop educational programs and to assist communities in addressing issues and needs. Learn more about Cooperative Extension at **www.ces.ncsu.edu**. To reach Cooperative Extension faculty in your county, find your county's listing on page 47-49.

Our Mission

North Carolina Cooperative Extension is an educational partnership helping people put research-based knowledge to work for economic prosperity, environmental stewardship and an improved quality of life.

Learn More

This handbook focuses on helping your family prepare for emergencies. For guidelines on dealing with the aftermath of a disaster, such as dealing with creditors, filing insurance claims and dealing with damage to property, contact your local Cooperative Extension Center. See pages 47-49 or access **www.ces.ncsu.edu/disaster**.

For Spanish Speakers

A version of this handbook is available in Spanish upon request or access it at the Web site listed above.

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