

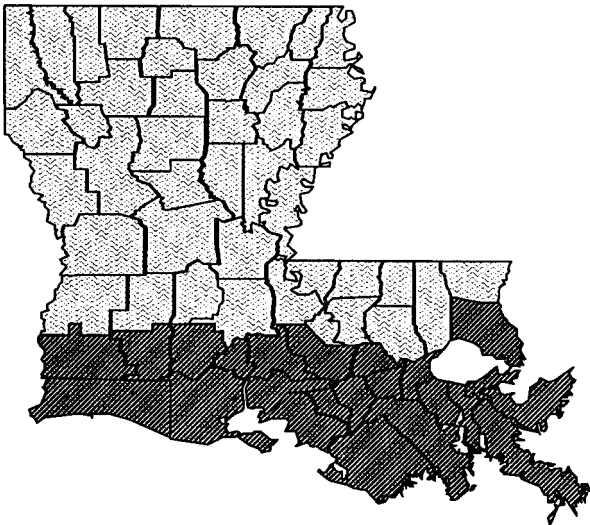
# A South Louisiana Guide to Living with Hurricanes

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From June 1 to November 30 each year, the people of South Louisiana face the possibility of hurricanes:

- WINDS** up to 200 mph at ground level and more than 300 mph above ground;
- TORRENTIAL RAINS**, which cause flash floods and river overflows;
- STORM SURGES** from the Gulf and Lake Pontchartrain;
- TORNADOES**, spawned as a hurricane moves inland, and
- BIOLOGICAL** and **CHEMICAL HAZARDS** dispersed by wind or water.



*A South Louisiana Guide to Living with Hurricanes* will help you

- Understand the risk
- Prepare yourself and your property to minimize hurricane damage
- Know when to evacuate, where to go and what to take with you

The Louisiana Office of Emergency Preparedness and parish emergency managers have emergency response plans to help residents survive hurricanes. They can help you, but remember...

**This publication is primarily for people in SHELTER SECTOR D**  
- the darker area of the map

Diagram based on the Louisiana State Evacuation Plan

**The person most responsible for your safety and well-being is *YOU!***



# Hurricanes in Louisiana: understanding the risk

Most Louisiana residents have been sideswiped, but never hit head-on, by a major hurricane. They just don't know how bad things can get. So, many people don't prepare, and sometimes don't heed warnings. While winds and storm surges tend to diminish as storms move inland, hurricanes can cause significant wind and flood damage anywhere in the state. Much of the damage and loss of life associated with hurricanes can be prevented or reduced by planning, preparation and evacuation.

## Leveed areas can suffer greatest damages

**Levees provide hurricane protection.** They hold back moderate storm surges and reduce the energy of a surge that flows over them into the protected area. But water coming over the top is almost always unexpected, and, once it's in, it may be there for weeks - until it can be pumped out.

The densely populated areas behind hurricane protection levees are some of the hardest areas for emergency personnel to manage. Why?

- **People inside levees generally do not feel threatened, so they don't prepare and are most resistant to evacuation;**
- **It takes a special set of low-probability conditions (not including levee breaks and pump failures) to flood these areas;**
- **Hurricane speed, direction and intensity change constantly; and**
- **Densely populated levee-protected areas have few avenues of escape.**

**Computer simulations show that the storm surge from a hurricane can put deep water inside any of our levee systems, including the levees surrounding New Orleans and Jefferson.**

The storm surge for any set of storm characteristics is fairly predictable using models developed at Louisiana State University. But those characteristics — intensity, speed and direction — aren't so predictable. Even though forecasting has improved in recent years, during the 1993 hurricane season the 24-hour landfall forecast was off an average of 95 miles. In 1995, Hurricane Opal changed course 120 degrees and went from Category 2 to Category 4 overnight!

Unfortunately, even small changes can have drastically different consequences in terms of survivability and which areas will be flooded. In a hurricane threat situation, your parish emergency manager has almost exclusive access to the latest weather information and predictive modeling tools. Follow your emergency manager's directions!

**Think about it.** There are few passages out of our densely populated areas, and those roads are vulnerable to high water and winds.

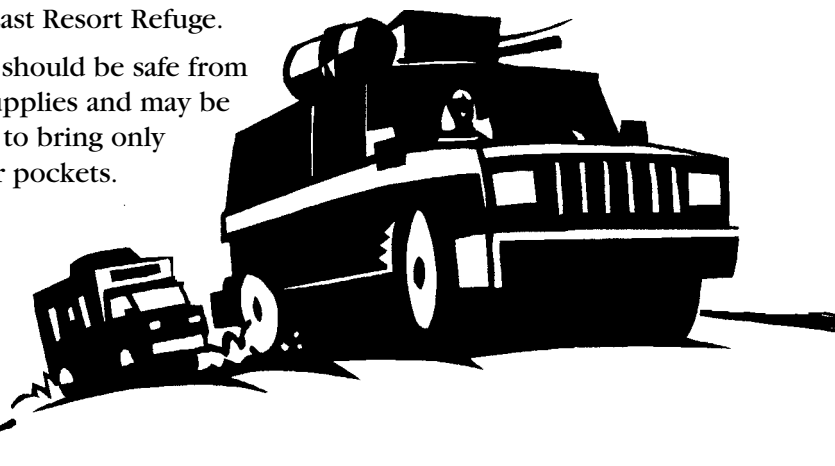
- **high water**
- **strong winds**
- **traffic congestion....**

**By the time most people accept the hurricane threat as real, the chance to evacuate will have been lost.**

As a storm gets closer, and evacuation routes are closed, if conditions warrant, anyone remaining in the area will be directed to a Last Resort Refuge.

**The Last Resort Refuge** will be a place where you should be safe from drowning. It won't have the usual shelter staff or supplies and may be vulnerable to hurricane winds. You may be allowed to bring only water, medicine and whatever you can carry in your pockets.

**Don't wait for this to  
happen.  
LEAVE EARLY!**



## Saffir-Simpson Hurricane Scale

Category	Winds (mph)	Storm Surge (ft)	Damage
<b>1</b>	<b>74-95</b>	<b>4-5</b>	<b>Minimal to vegetation</b>
<b>2</b>	<b>96-110</b>	<b>6-8</b>	<b>Moderate to houses</b>
<b>3</b>	<b>111-130</b>	<b>9-12</b>	<b>Extensive to small buildings</b>
<b>4</b>	<b>131-155</b>	<b>13-18</b>	<b>Extreme structural damage</b>
<b>5</b>	<b>155+</b>	<b>18+</b>	<b>Catastrophic failures possible</b>

Saffir-Simpson is a national hurricane scale. Although it's a useful tool, it can give you a false sense of security. You should know that in Louisiana the speed and direction of a hurricane have a big effect on its damage potential. A slow-moving Category 3 storm can be as devastating as a Category 5.

## Hurricane season is a time for planning

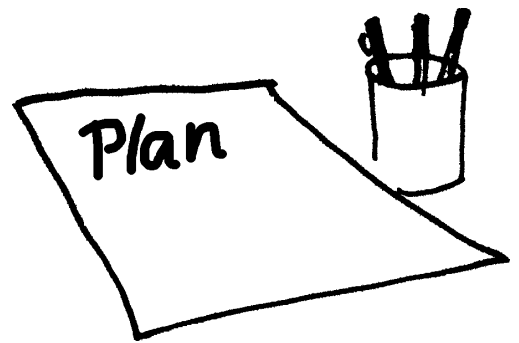
**You can protect your family and home. Here's how:**

Planning may save your life, your pet's life or only the life of your favorite container plant. It may mean the difference between making it - or not making it - to safe shelter, or it may just let you sleep easier through the season, knowing you'll survive - together - as a family. Planning and preparation can reduce damage to your home, help you cope during the storm and help you recover more easily after the storm.

**Make sure you are properly insured.** While you are planning and preparing to reduce damages, review your insurance coverages (see page 4). Insurance pays even when the President doesn't declare a disaster or you aren't in the declared area. If you have received disaster assistance for a previous flood, having flood insurance may determine your eligibility for flood disaster assistance the next time there's a Presidential declaration.

**Planning takes a little time, a little imagination, paper and pencil.** You will be making lists, making decisions while you are thinking clearly and not in a panic, and organizing some of your belongings for safekeeping and ease of retrieval. You may even make structural modifications to your property so it will be more resistant to damage by wind and water.

**A good plan is worth everything you put into it.**



Use and keep the checklists on pages 5-9 to help you plan, prepare and respond:

- **Remembering Dorothy and Noah**  
*Planning to prevent wind and water damage*
- **There's a Hurricane Forming**  
*Using your family disaster plan to prepare when a hurricane is headed your way*
- **Take It or Leave It**  
*Emergency supplies, evacuation needs*

**Complete your family's emergency plan by answering these questions.**

- What is your emergency broadcast station frequency?
- Where will you meet, or whom will you call, if you get separated?
- Who will you tell, in the neighborhood and out of town, when you are going to evacuate?
- Where will you go, if not to a shelter? (Don't count on getting a hotel room.)
- What route will you take? (Contact your parish emergency manager for an evacuation plan.)
- How will you provide for your pets' care and safety?

**Where are you going to keep the plan?**

# Insurance helps

You have to buy it, adjust your coverage limits to match increased property values, keep up the premiums and purchase the right kinds of coverage.



## Homeowner's insurance

Homeowner's insurance may cover wind damage and water damage caused by blowing rain or water entering through a storm-torn roof. It may pay the cost of living elsewhere while you make repairs. In the standard policy, contents are covered only for

depreciated replacement cost. Replacement cost coverage on contents is optional.

You cannot purchase wind coverage when a hurricane is in the Gulf.



## Flood insurance

Flood insurance will cover damage from local rain floods, rising river or canal water and hurricane storm surge.

Flood insurance doesn't take effect until 30 days after you purchase it, unless it is purchased in connection with making, increasing, extending or renewing a loan on the insured property and paid for at or prior to closing. There is no waiting period if the policy is purchased during the one-year period following issuance of a revised flood map for the community.

Flood insurance covers some costs of emergency measures you take to protect your insured building or insured contents from flood damage. (See Article 5 Sections B and C of the policy.)

Replacement cost coverage for contents is not available on a flood policy.

## Renters

If you are renting, you can buy renters' insurance and flood insurance to protect your personal property, not the building itself.

## Coverage Limits

To realize the full benefit of homeowner's or flood insurance for your primary single-family residence, you should buy a limit of coverage at least 80 percent of the value of the insured building; if you don't, claims settlements may be reduced.



## Household Inventory

Having a good inventory of your property (with video or pictures) will make it easier to make damage claims when the time comes.

# Remembering Dorothy and Noah

## Planning to prevent wind and water damage

Picture Dorothy, the little girl from Kansas, who rode a tornado to the Land of Oz. Remember all that stuff flying through the air? The Oz part was fiction; the flying debris was real. Imagine that kind of wind blowing around your house.

**Look around your grounds** for container plants, hanging baskets, tools, lawn furniture, toys, bicycles, bird feeders, wind chimes, barbecue pits, pirogues, tree houses, playhouses and doghouses. Even a boat on a trailer can become airborne.

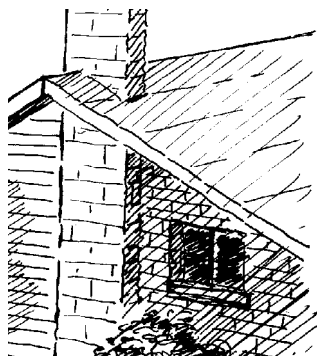
- Make a list of things that need to be brought inside and where to put them.
- Make a list of things that need to be tied down.
- Buy the necessary equipment, including anchors.
- Estimate how long it will take to secure things.

Make these lists part of your family's emergency plan.

**Plan to cover your windows** with 1/2-inch exterior-grade plywood, screwed to the reinforced part of the window frame.

- Measure and cut the pieces.
- Mark which cover goes over which window.
- Pre-drill screw holes every 18 inches.

Do it now, and store the pieces. If you wait until you're under a storm watch, you may run out of time and the building supply store may run out of materials. Masking tape may reduce shattering of broken glass, but it won't keep glass from breaking.



**Have your roofing inspected.** Replace any loose or worn shingles; secure metal roofing.

**Check or add tie-downs** and anchors for mobile homes and storage buildings.

**Check your building** for weakening by termite damage.

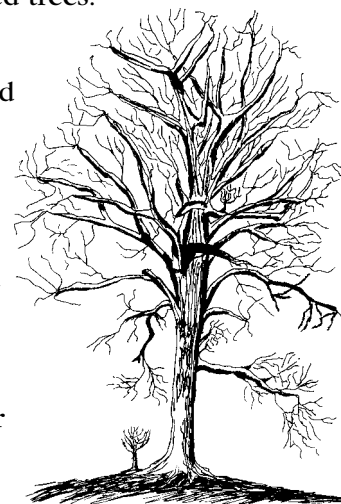


### Was that a tree that just flew by?

Here are some tips for protecting trees and nearby structures.

- Re-stake newly planted trees.
- Remove dying trees.
- Prune decayed or dead branches.

Hurricanes tend to affect tall pines and pecan trees more than others. The trunks of tall pines snap easily, sometimes sending the tops spear-like into rooftops. Pecan trees, on the other hand, tend to fall over, roots and all. Consider removing these trees from the area right around the house.



Even a healthy tree may need attention.

- Remove heavy growth to allow for better wind movement through trees.
- Trim excess growth from the heavy side of a tree to reduce its tendency to fall over when the ground is saturated from heavy rains.
- Check for weakening by Formosan termite activity. Inspect trees for mud tubes, termites or exit holes where winged termites have emerged. If you suspect infestation, contact an arborist to assess the injury and treat the tree.



## Picture Noah... and all that water

Hurricanes can cause flooding where it has never flooded before - in minimal-risk flood zones - even inside levee systems. It doesn't take a levee break, pump failure or much rain. It takes only a moderate hurricane on a critical path. So, even if you think it can't happen, imagine that it will and that you've got only two hours until the water comes through the door.

### Which items in your home could you raise on blocks or move to a higher floor or attic?

- Get the blocks (concrete, not wood) and store them.
- Learn how to disconnect your appliances.
- List the things you want to save in order of their importance to you.

### What important papers and documents, photo albums and other irreplaceable items are stored in low cabinets or shelves or on the floor in closets?

- Move important papers now, or add a list to your plan so you'll remember to move them when the time comes.  
Really important documents, such as birth and marriage certificates, mortgage papers, insurance policies, etc., should be kept in a safety deposit box. Any you still have at home and copies of those in the safety deposit box should be put in waterproof pockets and kept with your plan. In a catastrophic disaster, the official depository may be damaged or closed. A waterproof/fireproof storage container is even better. Keep your household inventory list (for insurance), along with photo and video documentation, with these other important papers.

When you're identifying flood-safe storage locations, don't count on putting things on wood furniture, cabinets and counters. This furniture often floats and overturns in a flood. Particleboard may dissolve.

### Noah took the animals with him.

Depending on where you are going in an evacuation, you may or may not be able to take animals.

### Chemicals

**Do you store cleaning chemicals under the sink in the kitchen or bathroom? Where are your insecticides, pesticides and motor fuels? You might not mind losing these things in a minor flood, but they can be hazardous and could injure your family if spread through your house by floodwater.**

- Put "move cleansers, insecticides and fuels" high on your list of things to do as a hurricane approaches. Be specific about "From..." and "To..." in your plan for each storage area.

(Hint: You could leave this off the list if you routinely store these items on high shelves.)



- Find out if your shelter allows pets. If it doesn't, explore the possibility of making arrangements to board your pet during a flood.
- If you will have to leave your pet at home, think of how it will be protected from floodwater and how it will be fed, assuming your building remains essentially intact.
- Take a picture of yourself and your pet together for future identification. If possible, put a collar with identification on the animal. (Hint: Put the picture in the packet with other important papers.)

# There's a hurricane forming... ...time to pull out your family disaster plan.



## Even if you don't have one, there are still things you can do!

Offshore workers and people in low-lying coastal areas and on coastal islands will be evacuated as a precaution. People in mobile homes, if not evacuated, should find more substantial housing. People inside densely populated, leveed areas should consider taking a business trip or visiting relatives to the north. Others may be able to wait for evacuation orders.

**WHEREVER YOU ARE**, tune the radio to your emergency broadcast station. Use power as long as it is on, and save your batteries.

### If the threat is still uncertain:

- Change emergency drinking-water supplies if older than six months. It's OK to fill clean containers with tap water.
- Update phone numbers, addresses, meeting locations and priorities in your family disaster plan.
- Check and refresh your ***Gear for Primitive Living***. \*
- Check and refresh your ***Life's Necessities***. \*
- Collect items you wanted to bring ***When You Evacuate*** \*; pack one bundle per person.
- Locate your window protection panels and the hardware needed to install them.
- Fill the car's gas tank.
- Keep a tire repair kit, small shovel and maps in the car.
- If you have a home garden, harvest all the vegetables that are ripe or close to being ready. (The crop may be destroyed by wind. Vegetables exposed to floodwaters must be discarded.)
- Start bringing unsecured items indoors or lashing them down. (Use your lists.)

- Find the concrete blocks for raising furniture and appliances. Water may wick up the blocks, so put plastic between the blocks and articles placed on top.
- Protect your property from flooding as the threat becomes more certain. (Use your lists.)

### As the storm approaches, evacuation may be recommended for

- People who live outside levee protected areas
- People who live in mobile homes or recreational vehicles
- People who live inland, in low-lying or floodprone areas
- For certain hurricanes, anyone south of I-10/12. Quickly put the plan to work (see other side) and leave as soon as you can.

If you leave when evacuation is recommended and are not going to a shelter, you may be able to take your boat and pets. Mandatory evacuation will be more restrictive.

\* see following pages for these lists

## Leave Early!

### Listen to Local Officials

Each community subject to a hurricane threat has a hurricane safety plan. Find out about your community's plan, and make it part of your family plan.

The local emergency management officials have the most up-to-date information for your area.

Follow their recommendations before, during and after a hurricane.

# The hurricane is coming your way... ...time to put your plan to work

Keep the radio tuned to your emergency broadcast station for the latest weather reports, road conditions, shelter locations and evacuation news. Information on what to bring, pre-evacuation measures and re-entry requirements will be given. As the storm gets closer to the risk area, information will be issued every two hours.

For your final preparations, use this guide and your plan. It may keep you from forgetting something important.

## As you prepare, assess how much you can do before you must leave for safe shelter.

- Prepare the house for loss of electricity.
  - Lower temperature in refrigerator/freezer. Consider buying dry ice; put it on newspaper on the top shelf of the freezer.
  - Fill refrigerator/freezer with containers of water or ice. Use plastic jugs and milk cartons. (Full refrigerators and freezers hold their temperature much longer than half-full appliances.) Make as much ice as you can.
- Fill your bathtubs with water for cleaning and flushing.
- Install your window panels securely. A poorly installed cover can cause more damage than no cover at all.
- Close and lock windows and doors so wind vibrations will not open them.
- Pull curtains and drapes over unprotected glass areas to prevent injury from flying glass. Tape won't keep the glass from breaking, but it may help restrain broken glass.
- Place folded towels along the bottoms of doors to prevent water from being blown under them.

## Before you leave, if there's time

- Turn off all lights, gas, water heaters, household appliances and heating, cooling and ventilation systems.
- Turn off the water supply main valve.
- Leave the refrigerator and freezer on unless told otherwise.
- Tell a neighbor and someone out of town (or away from the disaster) when you're leaving, how you're traveling, where you're going and who is with you.
- Leave food and water for your pets, if you haven't boarded them and are not taking them with you.

**Beware the passing eye.** If the calm "EYE" of the storm passes over you, don't leave shelter. After the eye passes, winds will change direction and quickly return to hurricane force.

**When you are deciding whether to evacuate or ride it out,  
remember this...**

**No piece of property is worth risking your life for!**

### Tropical Storm Watch:

*Tropical storm conditions are expected in the specified area of the Watch, usually within 36 hours. A tropical storm is named when sustained winds reach 39 mph.*

### Tropical Storm Warning:

*Tropical storm conditions are expected in the specified area of the warning, usually within 24 hours.*

### Hurricane Watch:

*Hurricane conditions are expected in the specified area of the Watch, usually within 36 hours.*

### Hurricane Warning:

*Hurricane conditions are expected in the specified area of the warning, usually within 24 hours.*

The appropriate response to these watches and warnings depends on where you live. People in some areas can continue preparations until a hurricane warning is issued and still get away. For most people in southeast Louisiana, trying to leave after a tropical storm warning may be too late. With our present system of roads and bridges, evacuation of the Jefferson/Orleans population centers would take at least 72 hours. Evacuation would likely be halted 24-36 hours before landfall, as gale force winds cause bridges to be closed.

**Don't get trapped!  
Get out early!**



# Take It or Leave It

## Planning your emergency supplies and evacuation needs

**During a hurricane, you need some supplies just to survive. You may have to leave home, and you may find yourself spending a night, or several nights, in a car. After a hurricane, you may be housebound for a week or longer, probably with no electricity. Water may be off or contaminated. Stores may be closed.**

Early in hurricane season, gather what you'll need and keep it in a central location - above potential flood level. Don't forget about your pets' needs.

Consider buying an electrical generator to meet your emergency requirements for power. This is particularly important if you must operate medical equipment. It may be the best way to protect your investment in frozen foods.

## Gear for primitive living

**...at home or evacuating by car**

- Battery-operated flashlights with extra batteries and bulbs
- Hurricane lamps, lanterns and camp stoves, along with appropriate fuel (Try to avoid candles.)
- Insect repellent
- Matches in a waterproof container
- Portable radio with extra batteries
- First aid kit and manual
- Fuel for your electrical generator and outdoor grill
- Ice chest
- Disposable plates, cups, utensils, etc.
- Diapers, wipes, plastic bags
- Toilet paper and feminine products

## Life's Necessities:

**At home, on the road or in a typical shelter**

Items listed here have a long shelf life, but will disappear from stores quickly when hurricane warnings are issued. Gather these supplies now; you'll need to make other preparations as the storm approaches.

### Drinking water:

At least 2 quarts per person per day; a gallon per person is better.

### Food:

Nonperishable foods requiring little or no cooking and no refrigeration. Can or jar sizes should be appropriate for one meal with no leftovers.

- Baby food
- Special dietary requirements
- Hand-crank can opener

*If you live in a densely populated, levee-protected area, keep low-volume, high-energy foods on hand, such as granola bars, raisins and peanut butter.*

### Prescription medicines:

Keep ample supplies and a list of prescription numbers, doctors and pharmacists along with their phone numbers.

### Medical devices, such as pacemakers:

List styles and serial numbers.

*These are things you'll be glad you brought*

## When you evacuate

*...in addition to Life's Necessities:*

- Clean clothing, towels and blankets** - enough for the family for 3-4 days. Be sure to include children's clothing and sturdy, comfortable shoes for everyone.
- Toiletries:** Soap, toothbrushes, toothpaste, hair brushes, hair ties, bands or clips, moist towelettes.
- Entertainment:** Games, reading material, knitting or sewing, toys and writing, drawing or needlework materials to help pass the time.
- An extra set of car keys**
- Credit card, cash or travelers checks**  
If possible, set aside a credit card you don't use often - one with enough credit available to sustain you for a few days or a week
- Special items** for infants, the elderly and family members with disabilities
- Identification** showing your address

Re-entry to a disaster area is often restricted to residents of the area. Keep proof with you.

# Parishes in Shelter Sector D Mandatory Evacuation



FOR INFORMATION  
TUNE RADIO TO  
870 AM  
101.9 FM

State evacuation routes are designated with blue signs like the one shown. Each one shows the emergency broadcast frequencies for that area.

Evacuation efficiency will be enhanced by turning two out-bound lanes into three wherever possible. Re-entry into the risk area will be limited. Evacuation will be halted in time for roads to be cleared before gale force winds reach the area. People remaining in the area will be directed to a Last Resort Refuge.

The Extension Service has educational materials on emergency and permanent methods you can use to protect your home or business from low levels of flooding.

For information on disaster safety, cleanup, recovery and safe food handling, ask your parish Cooperative Extension Service office for free disaster recovery fact sheets or visit our website at

<http://www.louisianafloods.org>

*The mission of the Louisiana Cooperative Extension Service is to help the people of Louisiana improve their lives through an educational process which uses research-based knowledge focused on issues and needs. LCES program areas include agricultural and natural resources, environmental education, nutrition, family and consumer education, leadership development and youth development.*

Developed by the Louisiana Cooperative Extension Service Emergency Preparedness Committee, Pat Skinner, Chair  
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## Emergency Management Offices

Acadia	(337) 783-4357
Ascension	(225) 621-8360
Assumption	(985) 369-7386
Calcasieu	(337) 721-3800
Cameron	(337) 775-5511
Iberia	(337) 369-4427
Iberville	(225) 687-5140
Jefferson	(504) 349-5360
Jefferson Davis	(337) 821-2100
Lafayette	(337) 291-5075
Lafourche	(985) 446-8427
Orleans	(504) 658-8700
Plaquemines	(504) 682-0081
St. Bernard	(504) 278-4267
St. Charles	(985) 783-5050
St. James	(225) 562-2310
St. John the Baptist	(985) 652-2222
St. Martin	(337) 394-3071
St. Mary	(337) 385-2600
St. Tammany	(985) 898-2359
Terrebonne	(985) 873-6357
Vermilion	(337) 898-4308

## Louisiana Cooperative Extension Service Parish Offices

Acadia	(337) 788-8821
Ascension	(225) 621-5799
Assumption	(985) 369-6386
Calcasieu	(337) 475-8812
Cameron	(337) 775-5516
Iberia	(337) 369-4441
Iberville	(225) 687-5155
Jefferson	(504) 838-1170
Jefferson Davis	(337) 824-1773
Lafayette	(337) 291-7090
Lafourche	(985) 446-1316
Orleans	(504) 278-7495
Plaquemines	(504) 433-3664
St. Bernard	(504) 278-4234
St. Charles	(985) 785-4473
St. James	(225) 562-2320
St. John the Baptist	(985) 497-3261
St. Martin	(337) 332-2181
St. Mary	(337) 828-4100
St. Tammany	(985) 875-2635
Terrebonne	(985) 873-6495
Vermilion	(337) 898-4335