Hurricane Preparedness
Hurricane Season
June 1 – November 30
Florida 2004

- Tropical Storm Bonnie — August 12
- Hurricane Charlie — August 13
- Hurricane Frances — September 5
- Hurricane Ivan — September 16
- Hurricane Jeanne — September 26
# Hurricane Charley/Frances/Jeanne Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortfall in Tuition and Fees Annualized for FY 04-05</td>
<td>$705,230</td>
</tr>
<tr>
<td>Capital Costs</td>
<td>$931,667</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,636,897</strong></td>
</tr>
</tbody>
</table>
Enrollment Shortfall

- The day prior to Charley, college credit enrollment was up 5.1%. Adult and vocational was still in heavy registration and was level with FY 03-04.

- Subsequent to Frances, college credit and Adult Ed. enrollment were below FY 03-04 and budgeted FY 04-05.

- It is believed that many of our vocational and Adult Ed students temporarily joined the labor force in the aftermath of both hurricanes in cleanup and restoration as work was plentiful, wages were high, and labor was scarce.
# 2015 Atlantic Storm Names

<table>
<thead>
<tr>
<th>Ana</th>
<th>Henri</th>
<th>Odette</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill</td>
<td>Ida</td>
<td>Peter</td>
</tr>
<tr>
<td>Claudette</td>
<td>Joaquin</td>
<td>Rose</td>
</tr>
<tr>
<td>Danny</td>
<td>Kate</td>
<td>Sam</td>
</tr>
<tr>
<td>Erika</td>
<td>Larry</td>
<td>Teresa</td>
</tr>
<tr>
<td>Fred</td>
<td>Mindy</td>
<td>Victor</td>
</tr>
<tr>
<td>Grace</td>
<td>Nicholas</td>
<td>Wanda</td>
</tr>
</tbody>
</table>

Daytona Campus – N29.12, W81.02
<table>
<thead>
<tr>
<th>Category</th>
<th>Wind Speeds</th>
<th>Storm Surge</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>&gt;155</td>
<td>&gt;18’</td>
</tr>
<tr>
<td>4</td>
<td>131-155</td>
<td>13’-18’</td>
</tr>
<tr>
<td>3</td>
<td>110-130</td>
<td>9’-12’</td>
</tr>
<tr>
<td>2</td>
<td>96-110</td>
<td>6’-8’</td>
</tr>
<tr>
<td>1</td>
<td>74-95</td>
<td>4’-5’</td>
</tr>
<tr>
<td>WIND SPEED (mph)</td>
<td>TYPICAL DAMAGE</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td><strong>EF0</strong> 65-85</td>
<td>Minor Damage</td>
<td></td>
</tr>
<tr>
<td>Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF0.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EF1</strong> 86-110</td>
<td>Moderate damage</td>
<td></td>
</tr>
<tr>
<td>Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken. Moving automobiles pushed off of road.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EF2</strong> 111-135</td>
<td>Considerable damage</td>
<td></td>
</tr>
<tr>
<td>Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EF3</strong> 136-165</td>
<td>Severe damage</td>
<td></td>
</tr>
<tr>
<td>Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EF4</strong> 166-200</td>
<td>Devastating damage</td>
<td></td>
</tr>
<tr>
<td>Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EF5</strong> &gt;200</td>
<td>Incredible damage</td>
<td></td>
</tr>
<tr>
<td>Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yds.); trees debarked; incredible phenomena will occur.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Department of Atmospheric Science
Colorado State University

Dr. William M Gray
Dr. Phillip Klotzbach
<table>
<thead>
<tr>
<th>Forecast Parameter</th>
<th>1981-2010 Median</th>
<th>2015 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Named Storms (NS)</td>
<td>12.0</td>
<td>7</td>
</tr>
<tr>
<td>Named Storm Days (NSD)</td>
<td>60.1</td>
<td>30</td>
</tr>
<tr>
<td>Hurricanes (H)</td>
<td>6.5</td>
<td>3</td>
</tr>
<tr>
<td>Hurricane Days (HD)</td>
<td>21.3</td>
<td>10</td>
</tr>
<tr>
<td>Major Hurricanes (MH)</td>
<td>2.0</td>
<td>1</td>
</tr>
<tr>
<td>Major Hurricane Days (MHD)</td>
<td>3.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Accumulated Cyclone Energy (ACE)</td>
<td>92</td>
<td>40</td>
</tr>
<tr>
<td>Net Tropical Cyclone Activity (NTC)</td>
<td>103%</td>
<td>45</td>
</tr>
</tbody>
</table>
Before Hurricane Season
Develop a Personal Family Plan

- Prepare a disaster supplies kit
- Prepare a personal evacuation plan
- Prepare you home
- Know what to do when a hurricane watch is issued
- Know what to do when a hurricane warning is issued
- Contact your insurance agent and review your policy
Have a plan to meet family members
Disaster Supplies
Disaster Supplies Kit

- First aid kit and essential medications.
- Canned food and can opener.
- At least three gallons of water per person.
- Protective clothing, rainwear, and bedding or sleeping bags.
- Battery-powered radio, flashlight, and extra batteries.
- Special items for infants, elderly, or disabled family members.
- Written instructions on how to turn off electricity, gas and water if authorities advise you to do so.
- Important Family Documents
<table>
<thead>
<tr>
<th>Item</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scissors</td>
<td>Assorted sizes of safety pins</td>
</tr>
<tr>
<td>Thermometer</td>
<td>2&quot; sterile gauze pads (4-6)</td>
</tr>
<tr>
<td>Tweezers</td>
<td>4&quot; sterile gauze pads (4-6)</td>
</tr>
<tr>
<td>Needle</td>
<td>2&quot; sterile roller bandages (3 rolls)</td>
</tr>
<tr>
<td>Sunscreen</td>
<td>3&quot; sterile roller bandages (3 rolls)</td>
</tr>
<tr>
<td>Cleansing agent/soap</td>
<td>Triangular bandages (3)</td>
</tr>
<tr>
<td>Latex gloves (2 pairs)</td>
<td>Petroleum jelly or other lubricant</td>
</tr>
<tr>
<td>Tongue blades (2)</td>
<td>Sterile adhesive bandages in assorted sizes</td>
</tr>
<tr>
<td>Moistened towelettes</td>
<td></td>
</tr>
</tbody>
</table>
Family Medical Needs

- Insulin
- Prescription drugs
- Denture needs
- Extra eye glasses
- Contact lenses and supplies
- Heart and high blood pressure medication
Non-Prescription Drugs

- Laxative
- Anti-diarrhea medication
- Aspirin or non-aspirin pain reliever
- Antacid (for stomach upset)
- Activated charcoal (use if advised by the Poison Control Center)
- Syrup of ipecac (use to induce vomiting if advised by the Poison Control Center)
Food

Minimum three-day supply of non-perishable food that requires no refrigeration or preparation and little or no water

- Dry cereal
- Peanut butter
- Canned fruits
- Canned vegetables
- Canned juice
- Ready-to-eat canned meats
- Ready-to-eat soups (not concentrated)
- Quick energy snacks, graham crackers
For Infants

- Formula
- Bottles
- Powdered milk
- Diapers
- Medication
Important Family Documents

- Important telephone numbers
- Record of bank account numbers
- Family records (birth, marriage, death certificates)
- Inventory of valuable household goods
- Copy of will, insurance policies, contracts, deeds, stocks and bonds
- Record of credit card account numbers and companies
- Copy of passports, social security cards, immunization records
Portable Pet Supplies Kit

- Medications and medical records (stored in a waterproof container) and a first aid kit.
- Sturdy leashes, harnesses, and carrier
- Current photos of your pets in case they get lost.
- Food, potable water, non-tippable food and water containers, cat litter pan.
- Vaccinations records, medical conditions, behavior problems, and contact info of your veterinarian in case you have to foster or board your pets.
- Pet beds and toys, if easily transportable.
Other Supplies
Sanitation

- Disinfectant
- Soap, liquid detergent
- Feminine supplies
- Toilet paper, towelettes, paper towels
- Tincture of iodine or water purification tablets
- Household chlorine bleach
- Personal hygiene items
- Plastic bucket with tight lid
- Plastic garbage bags, ties (for personal sanitation uses)
Clothing and Bedding

- Sunglasses
- Hat and gloves
- Blankets or sleeping bags
- One complete change of clothing & footwear per person
- Rain gear
- Sturdy shoes or work boots
- Thermal underwear
Tools and Supplies

- Fire Extinguisher
- Camera and Film
- Crowbar
- Paper, pencil
- Medicine dropper
- Needles, thread
- Signal flare
- Shut-off wrench, to turn off household gas and water
- Whistle
- Aluminum foil
- Plastic sheeting/Tarp
- Compass
- Matches in a waterproof container
- Pliers, screwdriver, hammer
Tools and Supplies

- Assorted nails, wood screws
- Plastic storage containers
- Cash or traveler's checks, change
- Tape, duct and plumber's tape or strap iron
- Patch kit and can of seal-in-air for tires
- Heavy cotton or hemp rope
- Non-electric can opener, utility knife
- Mess kits, or paper cups, plates and plastic utensils
- Map of the area (for locating shelters)
- Insect repellent
Before the Storm
Hurricane Watch

Review your family plan. Allow time for long lines at stores and gas stations

OUTSIDE YOUR HOME

- Locate storm shutters, garage door supports and any hardware or tools necessary for installation.
- Install shutter and supports. Install second story and other difficult shutters first.
- Fill all vehicles with gas and park them in garage or close to the side of your house.
- Turn off propane gas at the tank before evacuating.
- Check with your natural gas provider whether to turn off before leaving.
Hurricane Watch
INSIDE YOUR HOME

- Review your family plan.
- Check your hurricane supply list.
- Have a conventional cord telephone that will work in case of power outage.
- Charge up your cell phones and have a car adapter.
- Monitor television, online, or radio for weather updates and evacuation orders.
Hurricane Watch

INSIDE YOUR HOME

- Check medical supplies and prescription medicines and have a minimum two week supply on hand.

- Check all battery-operated TV’s, radios, flashlights and lanterns. Make sure they are in good working order with fresh batteries.

- Have enough cash for up to a week. ATM’s may be out of cash or not working if power is out.

- Consider sending copies of important documents to a family member.
Hurricane Warning

OUTSIDE YOUR HOME

- Cover or brace all windows and door openings.

- Remove a door or one screen panel on each side of your pool enclosure to allow wind to flow through, and cutting down wind resistance. This could save your pool enclosure.

- Disconnect propane gas at the tank.

- Bring your bar-b-que grill and propane tank inside – this may be your only means of cooking during a power outage.
Hurricane Warning

Swimming Pools

- Drain swimming pools 6”-12” to allow for possible heavy rainfall – do not drain completely.
- Shock the pool by adding additional chlorine to water.
- Disconnect power to your pool pump but do not wrap in plastic. If there is flooding, water will collect in the plastic and ruin the pump.
- Stock up on chlorine to keep your pool water clean. In the event of a prolonged power outage you will not be able to run the filter.
- Use your own discretion about throwing outdoor furniture in the pool. If it sinks to the bottom, it will not blow away but you risk damaging the pool’s finish. Do not throw in any metal furniture that is subject to rust.
Hurricane Warning

Inside Your Home

- Turn your refrigerator and freezer to coldest setting.
- Freeze water in plastic jugs to help keep freezer cold when power goes out.
- Stock up on jugs of bottled water – at least seven gallons per person – one gallon per person per day.
- Fill bathtub with water for non drinking use.
- Prepare your safe room. Stock it with a battery-powered TV and/or radio with spare batteries, sleeping bags, pillows, chairs, snacks & drinking water, and games for children.
- Have a mattress nearby to get under in case your home suffers structural damage.
Hurricane Warning

Inside Your Home

- Have a mattress nearby to get under in case your home suffers structural damage.
- Place valuables and personal papers in water proof containers or zip lock bags.
- Follow advice of local officials on whether to evacuate.
Evacuation

Your evacuation plan should include

- where you will go (choose several alternatives such as friends and relatives and motels)
- road maps,
- and your disaster supplies kit.
Evacuation
If you are told to evacuate:

- Leave as early as possible
- Avoid going to shelters unless absolutely necessary
- Be prepared for delays, traffic, and to take alternate routes.
- Stay away from flood waters. If you see water on the road, turn around and go another way
- Bring bedding and clothing, including sleeping bags and pillows
- Bring your portable disaster supply kit, including your documents and medications.
During the Storm
During the Storm

- Stay inside until the hurricane passes. Make sure the storm has completely passed before going outside your house.

- Stay tuned to your local news for updates.

- Turn off circuit breakers if the power goes out. Leave one circuit breaker on with a lamp so you will know when power is restored.

- Do not use candles or kerosene lamps during the storm.

- As winds become more intense, go to your safe room and do not expose yourself to the hurricane’s winds.
During the Storm

- Keep windows closed. It is a myth that opening a window on one side of the house will equalize pressure.

- If your house begins to sustain damage, cover yourself with a mattress and pillows. If your safe room is a bathroom with a bathtub, get in the tub under a mattress.

- Use the phone for urgent calls only. Don’t use the phone if you hear thunder.

- If you’re in a tall building, avoid the top floors as wind speeds are stronger the higher you go. Go to a safe room.
After the Storm
Use extreme caution. There may be dangerous situations all around you!

If your house is damaged, move carefully to get out. Do not return until inspected by officials.

Always supervise children.

Do not drink the tap water until officials have announced it’s safe.

Avoid driving if possible because of debris and road blockage.
After the Storm

- If power is out, gasoline will be in short supply and filling stations will have long lines.

- At intersections with stop lights out, treat it as a 4-way stop and use extreme caution.

- Phone lines and cell towers will be damaged or overloaded. Try making calls at “off peak” times.

- If power remains out for an extended period, FEMA will set up relief stations to provide free ice, water and other necessary items.
Citizen’s Information Hotline for shelter information
866-345-0345

HELPFUL WEBSITES

* Volusia County Emergency Management
  http://volusia.org/emergency/

* Flagler County Emergency Management Information
  http://www.flagleremergency.com/

* Florida Division of Emergency Management
  http://www.floridadisaster.org

* WESH Hurricane Page

* Weather.com Hurricane Central
  http://www.weather.com/newscenter/hurricanecentral/

* National Weather Service National Hurricane Center
  http://www.nhc.noaa.gov/
Damage to Daytona State College (then Daytona Beach Community College) from Hurricanes Charley, Frances, and Jeanne
Hurricane Katrina - 2005
The deadliest U.S. Hurricane since 1928 and the costliest natural disaster (in terms of financial cost) in U.S. history.