



When we think of “Heavy Weather,” many boaters think of raging thunderstorms on the lake or hurricanes along the coast. No matter what you consider “heavy weather,” you need a plan to be prepared. Because they are the most recognizable “heavy weather” storm, we will use hurricanes as a teaching example of heavy weather. Yet, what we say applies to a storm that can strike anywhere in the US.



What Do I Do and When?

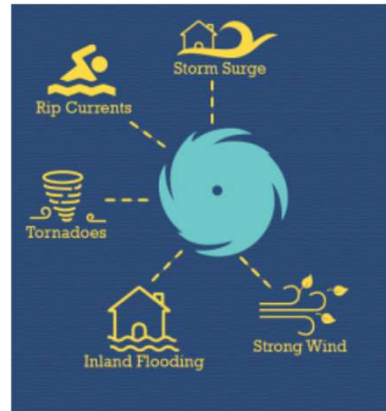
- Three stages of doing something about heavy weather:
 - Pre-storm preparation
 - When the storm hits
 - Recovering from a storm





Pre-storm Preparation

- What you do depends upon where you live.
- Get in the habit of reading weather signs and monitoring the weather.



We will focus on hurricanes because they can spawn many of these hazards. Hurricane impacts can be felt hundreds of miles inland. Hurricanes bring many hazards to US coastlines and inland areas, including storm surge along the coast, inland flooding due to heavy rainfall, tornadoes, strong winds, rip currents, and large waves.



Pre-storm Preparation

Awareness is essential!



You don't want your boat to look like any of these.



Hurricanes Have a Season

- Officially, June 1 through November 30
- Plan early in Hurricane Season
- Gain “local knowledge” where your boat will be safe.



Boat owners on the coast have reason to become edgy in the late summer and early fall: Each year, at least two hurricanes will come ashore somewhere along the Gulf or Atlantic coasts, destroying homes, sinking boats, and upending people's lives for weeks, or even months. And, as we have seen recently, they can affect communities well inland when they spawn floods, tornadoes, etc. That is why every boater needs to be aware of them. In coastal communities, a hurricane "watch" is posted when hurricane conditions threaten a specified coastal area, usually within 36 hours. Some hurricane observers believe that waiting for a watch to be posted may also be too late to head for the marina or move the boat to a safer location.

A hurricane "warning" advisory is posted when sustained winds of 74 mph or higher are expected within 24 hours or less--too late, in most situations, to head for the boat. Securing the house, gathering emergency provisions, and evacuating the family will need attention at this point.



There's Lots to Do Before a Storm Is Forecast

- **Make an Emergency Plan**
 - **Where would the best place be for your boat?**
 - In the water? On land? On a trailer?
- **Will you need assistance?**
- **Do you have marine insurance?**
- **Where and how will you evacuate?**



Your Emergency Plan is a list you make to help you remember what to do. Involve the family when you write this plan, so they know too. Remember, you may have different answers depending on the severity of the storm forecast.

You should consider insurance for your boat just like you have for your car or truck. But it's up to you.



When a Storm is Forecast

- Follow the predicted track carefully
 - How strong will it be?
 - Where will it hit?
 - When?
- Do the models agree?
- What are local experts telling you?



Also, remember that the “eye” of the hurricane may be far away from your area, yet you will feel significant effects of the storm locally. Visit FEMA.gov or www.nhc.noaa.gov.



**DO NOT GO OUT TO SEA
IN A RECREATIONAL
BOAT TO “RIDE OUT” A
HURRICANE!**



Remember, the Saffir-Simpson scale (hurricane categories 1-5) is a hurricane WIND scale. It says absolutely nothing about any of the other hurricane hazards (storm surge flooding, rainfall flooding, tornadoes, large waves, surf, and currents). Each hurricane is unique, and its impacts on a particular geographic location and population depend on numerous factors beyond wind speed alone.



Tropical Depression

- Sustained winds < 39 mph/34 knots
- Some coastal flooding possible
- Poorly secured boats may break away.





Tropical Storm

- Sustained winds 39-73 mph/34-63 knots
- Some coastal flooding possible
- Poorly secured boats may break away.
- Canvas covers, biminis, or sails may tear or blow away.





Category 1 Hurricane

- Sustained winds 74-95 mph/64-82 knots
- Dangerous winds/flooding
- Possible damage to roofs, shingles, siding, gutters.
- Boats may break loose and wash ashore
- Trees damaged and uprooted
- Power outages



Damage Estimates:

Agnes – June 1972 - \$2.1B

Irene – August 2011 - \$13.5B

Sandy – October 2012 - \$65B



Category 2 Hurricane

- Sustained winds 96-110 mph/83-95 knots
- Dangerous winds/flooding
- Major damage to roofs, shingles, siding, gutters.
- Boats likely to break loose & wash ashore
- Serious tree damage and uprooting
- Sustained power outages



Damage Estimates:

Floyd – September 1999 - \$6.9B

Ike – September 2008 - \$30B

Sally – September 2020 - \$7.3B



Category 3 Hurricane

- Sustained winds 111-129 mph/96-112 knots
- Devastating winds and flooding
- Major damage to docks, decks, and buildings.
- Boats likely to break loose and wash ashore or sink.
- Trees downed
- Sustained power outages



Damage Estimates:

Opal – October 1995 - \$5.1B

Katrina – August 2005 - \$125B

Rita – September 2005 - \$12B

Wilma – October 2005 - \$22.4B



Category 4 Hurricane

- Sustained winds 130-156 mph/113-136 knots
- Devastating winds and flooding
- Catastrophic damage to buildings & roadways.
- Boats will break loose and wash ashore or sink.
- Sustained power outages in some isolated areas.



Damage estimates:

Hugo – September 1989 - \$7.1B

Harvey – August 2017 - \$125B

Helene – September 2024 - \$78.8B



Category 5 Hurricane

- Sustained winds >156 mph/136 knots
- Catastrophic winds and flooding
- Catastrophic damage to buildings and roadways
- Boats will break loose and wash ashore or sink.
- Some areas rendered uninhabitable
- Significant, widespread power outages



Damage estimates:

Camille – August 1969 - \$1.4B

Andrew – August 1992 - \$27.3B

Michael – October 2018 - \$25B



**A STORM IS
FORECAST, NOW
WHAT?**



Don't Be a Hero

- **It's just a boat!**
 - You may be able to save a boat in a Category 2 or 3 storm.
 - Have you purchased insurance?
- **Protect your family and yourself first!**
 - Be ready to evacuate if necessary.





Develop a Hurricane Plan

- For your family and yourself:
 - What to do?
 - When to go?
 - Where to go?
 - What to bring/leave?
- For your boat:
 - Where will your boat be safe?
 - What to do?
 - When to do it?





Develop a Hurricane Plan

- You don't want to be the least-prepared boat owner who causes all the damage!
- Wishing won't cut it!



Now is the time to begin thinking about what your family will do in the event a hurricane is predicted to be anywhere near you. A day or two before a storm is not the time to begin planning.



Where will my boat be safe?

- In your marina?
 - Do they have floating or wooden docks?
 - If it's on a lift or davits, can you get it on a trailer?
- Evaluate your options:
 - Secure the boat in the marina.
 - Move to a mooring field.
 - Haul the boat to dry land.





Where will my boat be safe?

- **In the water?**
 - Locate a spot where waves or storm surge have the least distance to build up.
 - If you must remain dockside, use heavy-duty fender boards (2' x 6') and pairs of fenders behind the boards.
 - Double up and secure mooring lines.
 - Secure hatches.



Canals may work if lines can be run from both sides so the boat does not pound against the dock.
Don't raft up.



Where will my boat be safe?

- **In a storage area?**
 - If it's on a trailer, can you get it out of the wind or even indoors?
 - Can you at least tie it down?
- **In an indoor facility?**
 - May save your boat in a Cat 3 + storm.
 - Rental storage unit
 - Dry-stack storage



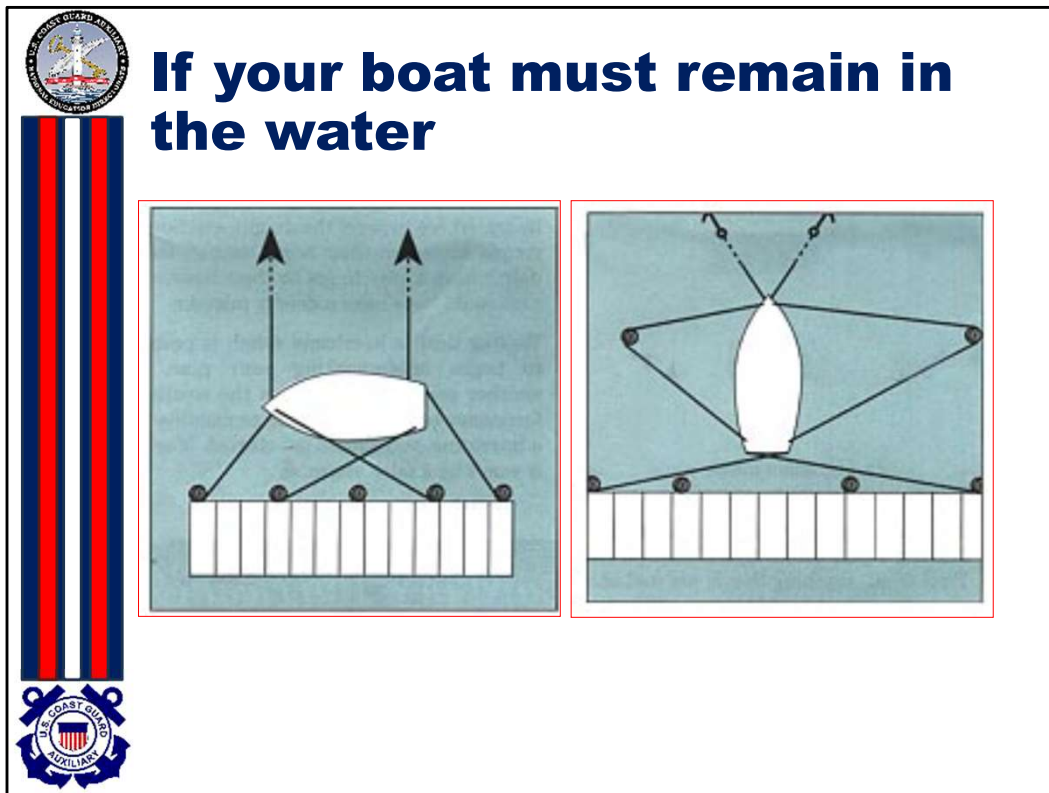


Where will my boat be safe?

- On davits or lifts?
 - Move to a safer location, if possible.
 - If it is on a lift, lower the lift 2 feet, tie off the boat to pilings, and then raise the lift to put tension on those lines.
 - Open the drain plug.
 - Make sure that your battery is charged.



The battery should be charged to activate the bilge pump, if installed.



If you must leave your boat at a dock, you'll need to devise a docking plan that is likely to be far different than your normal docking arrangement. By the time preparations are completed, your boat should resemble a spider suspended in the center of a large web. This web will allow the boat to rise on the surge, be bounced around by the storm, and still remain in position.



Other Considerations

Use New Dock Lines

- Choose lines made of nylon, either two- or three-strand, larger than what you normally use.
- Install chafing gear.
- Consider:
 - Dock lines with a thimble splice, and
 - Mooring compensators or snubbers





Other Considerations

- If you must anchor, find a “hurricane hole.”
 - “Hurricane holes” are areas where the water is deep, the bottom is sandy, and boats are protected from wind in most directions.
- There will be other boats there.





Other Considerations

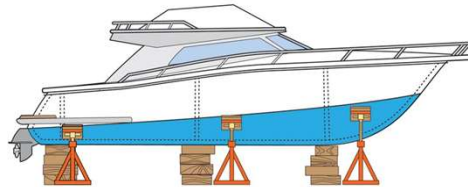
- Reduce windage:
 - Sailboats
 - Remove dodgers, furling genoa sails, and mainsails.
 - Lash halyards.
 - Powerboats
 - Remove cockpit covers and biminis.
- Tape plastic covers over hatches.





If You Can Store on Land

- Coordinate moves with your marina and insurance agent.
- Locate jack stands at points along the hull that are reinforced by bulkheads.
 - Tie or chain jack stands together.



Wooden boats had ribs extending to the keel that acted much like wall studs. In modern, molded fiberglass boats, bulkheads can serve the same purpose.



If You Store on a Trailer

- If needed, find a safer area.
- Be sure your tow vehicle and trailer are capable of moving the boat.
- Tie down using blocks or ground augers.

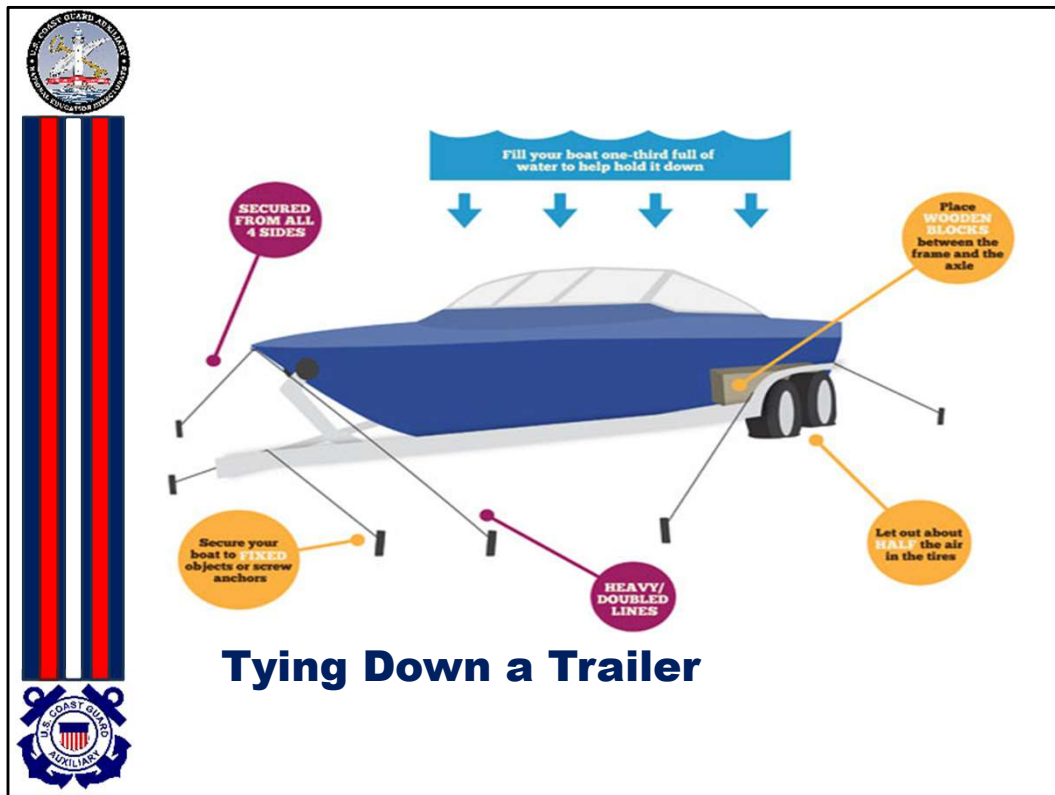


Check trailer tires, bearings, and axle long before the storm.

Once at the safe place, insert blocks under the trailer, let out half the air from the tires, and fill the boat 1/3 with water to add weight and help hold it down.

Secure the boat to the trailer and the trailer to screw anchors.

Remember trees are often blown over during a storm.



Pick your best spot for the storm.

Get the boat as close as you can to a strong building — anything to break the wind.

Place blocks beneath the trailer frame on either side of the wheels and then deflate the tires to 1/2. Use auger-type tie-down anchors to secure to the ground. Tie the boat to the trailer, then to those anchors.

Avoid being near trees, power poles, or construction sites that are known to create flying debris.



Check the Flood Zones in Your Area

- Boats should be stored on high ground above the anticipated surge.



Note: Please feel free to use the flood map from your local area if available.




Check the Flood Zones in Your Area

CHARLOTTE COUNTY
EVACUATION ZONES & SHELTERS



USING YOUR COUNTY MAP

1. Know evacuation routes and shelter locations.
2. Evacuate when you are in an evacuation zone, and if you want, leave before.
3. If you are in an evacuation zone, or inside hurricane force winds area and are not within an evacuation zone, leave before it starts.
4. Know the location of nearest shelter for evacuation zone.
5. Evacuate before the evacuation zone starts development.
6. Go to a public shelter.
7. If a shelter is full, leave the area early.
8. If you need to be a public shelter, use your county map to locate shelter in zone.
9. If possible, leave before the shelter is open before you go.

HURRICANE THREAT

- The National Hurricane Center is responsible for forecasting. Storm surge is the most dangerous threat to life and property.
- Storm surge is a wall of water, up to 10 feet high, that can destroy homes and businesses.
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When our office, Charlotte County Emergency Management, calls for evacuations it will be by evacuation zone color. It is imperative that you **KNOW YOUR ZONE**. Our office along with community volunteers, have installed over 5,000 reflector stickers on signs and in door signs in all major intersections throughout the county. You can locate your zone on a signpost near you. Another source is the county website www.CharlotteCountyFL.gov and selecting "KNOW YOUR ZONE". Then, verify your zone and address and name to locate your colored evacuation zone. When our office calls for evacuations it will be by color, not by zip code. It is imperative that you **KNOW YOUR ZONE**. For those without access to a computer, simply call our office at 1-813-453-5000 for assistance.

Note: Please feel free to use the flood map from your local area if available.



Pre-storm Preparation

A boat is no place to be during a hurricane!



You don't want your boat to look like any of these.



Gather Your Records

- The boat insurance policy
- Recent photos of your boat/trailer
- State registration
- Equipment inventory
- Documents with your marina/storage operator
- Important telephone numbers:
 - Insurance agent
 - Marina operator/harbormaster
 - Neighbors
 - Local law enforcement
 - U.S. Coast Guard



Take Time to Read Your Boat's Important Documents

- **Your contract with your marina/storage operator**
 - Some marinas require that you haul your boat in advance of a storm to protect your boat and the marina.
- **Your boat's insurance policy**
 - Your policy may cover some of the cost of hauling or moving your boat prior to a hurricane.
 - Call your agent with any questions.





If You Choose to Evacuate

- **Gather your supplies:**
 - Clothes, medicine, pets, face masks, snacks, portable radio
 - Charge your mobile phone
- **Know where you are going**
- **Take copies of important documents**
- **Tell neighbors and family where you are going**



**YOU'RE CAUGHT
IN A STORM, NOW
WHAT?**



What if you're caught out in a storm?

- At the first sign of heavy weather, seek shelter.
- Don't let passengers remove life jackets.
- Keep them low and centered.
- Call the USCG on Channel 16 at the first sign of trouble.



If your boat swamps, stay with it. Once you're in the water, lash everyone together. This accomplishes several things: it conserves body heat, keeps track of everyone, and builds morale. If you have enough time before the boat goes down, make sure you grab your "ditch kit" with flares, a life jacket, a portable radio, etc.



**AFTER THE
STORM, NOW
WHAT?**



After the Storm

- Determine if there is damage to the boat as soon as possible:
 - Take actions that a prudent person would take to save and preserve your property.
 - If repairs can be made, obtain estimates and act quickly to get back on the water.





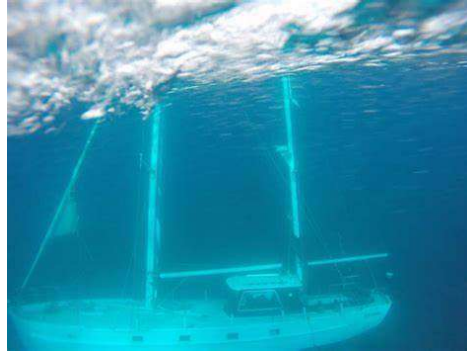
After the Storm

- **If you tied up in a canal, be sure to move your boat as soon as possible.**
- **Beware of looters who may be helping themselves.**
 - **If you experience theft, call the police or sheriff to make a report.**
 - **Get a copy of the police report, including the report number, to share with your insurance company.**



After the Storm

- If you fear the vessel is a total loss, consult with your insurance company.
 - The boat may have to be moved to a salvage yard's storage area.





What about after the storm?

- Don't try to board a partially sunken boat; seek salvage assistance.
- If the boat is washed inland, do not approach until authorities say it is safe.
- Do only what can be done safely and what authorities permit.
- Watch out for and report oil, gasoline, or chemical spills to the USCG and local emergency agencies.





What about after the storm?

- Check your state law. In many states, you can't be kicked out of a marina or storage area.
- But you could be responsible for damage caused by your boat.





Making an Insurance Claim

- Photograph the damage
- Undertake only repairs necessary to prevent further damage.
- Call your insurance agent:
 - Be ready with your information
 - A surveyor will be assigned to review the damage.



Call your insurance agent.

Be ready with your information

Inventory.

Receipts.

A surveyor will be assigned to review the damage.

The review goes to:

The insurance company, and

You.



Making an Insurance Claim

- You will select a repair company.
- If you agree to the insurance company's estimate, a check made out to the repair yard and the owner/mortgagee will be issued.
- You have the right and authority to determine what work is to be done to or on your boat.



Making an Insurance Claim

- **Remember:**
 - There will be many boat owners with damaged vessels.
 - Repair facilities will be busy.
 - You will likely have to do the necessary preliminary work to get your boat repaired quickly.





Post-Hurricane Cleanup

- **Be careful during cleanup: wear gloves and protective clothing**
- **Do not touch electrical equipment if it is wet or you are standing in water**
- **Avoid wading in floodwaters**
- **Save phone calls for emergencies**
- **Document property damage with photographs**
- **Be Safe!**



Why Do You Prepare?

What You Want to See After the Storm





Why Do You Prepare?

What You Don't Want to See After the Storm





Takeaways

- **Before heavy weather arrives:**
 - You need boat insurance.
 - Plan for a storm to protect your boat.
- **Heavy weather is forecast.**
 - It's only a boat!
 - Save your family and yourself!
 - It's only a boat!



Here's what you need to know

Boat Insurance is a must.

A Plan is a must.

Weather information is a must.



RESOURCES

- www.weather.gov/forecastmaps
- www.weather.gov/wrn/hurricane-preparedness
- <https://msc.fema.gov/portal/home>
- www.nhc.noaa.gov





Any questions?