



NAVAL SAFETY COMMAND

SAFETY AWARENESS DISPATCH



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Pierside Heavy-Weather Mishaps

We're well into the 2024 hurricane season, which the National Weather Service (NWS) predicts will be an active one. But as you'll read here, you don't need to be in a tropical cyclone to be affected by damaging winds or seas at the pier. As our "weathered warriors" learned the hard way, many heavy weather-related mishaps occur during local severe weather conditions not associated with hurricanes. Have a read and evaluate your heavy weather plans and equipment so you may best "weather the storm," literally.

- **Who's Going to Tell the Boss?** A boat unit completed underway testing in the evening and moored two boats at adjacent piers. The crew completed all post-operation procedures following the established checklist. An hour later, crewman 1 conducted rounds on both craft. He called two other crewmen to inform them that winds were from 30-35 knots and that he tightened all lines, did a complete walkthrough of both craft, inspected all bilges and crew compartments and added spring lines and extra fenders on one of the boats. Due to the configuration of boat 1, he couldn't put a break line on the craft to hold it off the pier. The winds pushed the boat into the pier, but he felt comfortable with the setup of the fenders and lines. A few hours later, crewman 1 returned to the piers to check on the boats. He discovered boat 1 was completely underwater, approximately 3-5 feet below the surface, with the mooring lines still attached. Water entered the boat through the hatches and into the bilge. The report notes that the bilge pumps were disabled and wires from a trolling motor were running into one of the access ports (just inches above the waterline), leaving room for water to intrude through the gap. —*There are two basic principles for keeping a boat from sinking: 1) Keep water from entering it, and 2) Have a means to remove water if it does enter the boat. This crew did everything but the two key things that could have prevented a 3-million-dollar boat from sinking. And no, \$3 million wasn't a typo.*

- **Hope is Not a Plan.** A few days before an aircraft carrier's port visit, the NWS predicted that "a large northerly swell could bring more hazardous conditions early to mid-next week." On the Friday before the visit, the port's dock master provided a mooring plan showing the docking arrangement and barge's position to hold the carrier off the wharf (standard operations for carriers regardless of the weather). Additional NWS forecasts said, "Around Tuesday or Wednesday, a long-period north swell will quickly build across the region from a frontal system." Weather models predicted seas of 10-12 feet and 15-25 knot winds gusting to 30 knots by mid-week. On Sunday morning, the carrier moored ahead of the expected inclement weather in calm winds and seas. In the early evening on Tuesday, the predicted heavy weather arrived, and soon after, the port operations manager reported fenders being shredded and fenders with broken lines. Port operations replaced fenders and lines for the next four days, eventually using tires due to fender shortages until the carrier departed port on Saturday morning. The estimated damage to the carrier, barges and wharf was more than \$800,000. Port operations personnel incorrectly thought the breakwater would protect the carrier at the wharf from the northerly swells. They also didn't have enough extra fenders to replace the destroyed ones. Other carriers also reported similar issues during earlier port visits. —*With a history of heavy swells during certain months, port operators should seriously consider their preparation for ship visits, while ships should consider adjusting port visit dates. We know what a pain that is, but it could be a safer and less costly choice. Know the weather in and around your port and plan for it. Hoping the weather will be nice during the ship's visit shouldn't be an option.*



USS Fort McHenry participates in Hurricane Exercise / Citadel Gale 2018 in Mayport, FL.

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- **Keep a Weather Eye out.** While floating in the drydock, a U.S. Navy ship experienced high winds at 30 knots, gusting to 40-50. It was holding position with a combination of ship's lines, shipyard lines, and shipyard wire grip hoists. As the winds continued to increase, the ship parted its port bow headline, and then the shipyard's port bow headline parted. Ship's force and shipyard labor responded immediately to replace the lines. The ship's brow broke loose, becoming wedged between a winch and a flight deck net. Later that morning, shipyard personnel discovered that the shipyard's port quarter wire grip hoist and shipyard forward port line also parted. The ship's force secured more lines, holding the ship in place until the winds abated later that afternoon. —*The high winds lasted only several hours, but it shouldn't have been a surprise. The report noted a lack of ORM in preparation (or lack of it) for the high winds. Being in extremis isn't the time to break out extra lines. Watch the weather and be ready.*
- **“Come on! You Call this a Storm?!”** —LT Dan. As a hurricane approached, a ship was at the pier and could not sortie to sea due to an engineering casualty. Additional crew were recalled to the ship a few days before the storm made landfall. They completed “all attainable actions” for heavy weather, which were accomplished per the ship's instruction and the emergency checklist. The ship received two tugs to help hold it to the pier, and they used seventeen mooring lines of mixed sizes and construction and both bow anchors. At the height of the storm, while winds were sustained at 40-50 knots with gusts to 65 knots, mooring lines parted and the ship allided with the pier, causing Class B-level damage to the ship and pier. Although satisfying the operational commander's heavy weather requirements, the existing mooring lines were a hodge-podge of sizes and strengths and weren't doubled as needed. Additional challenges included: There weren't enough crewmembers onboard to work the bow and stern lines simultaneously; the ship's parent command requested to shift it to a more favorable mooring before the storm but was denied, citing (*ironically*) potential risk to the pier; and the ship requested a third tug as the winds worsened, but by then the access gate was closed because of the heavy weather, so tugs couldn't get there. —*This mishap was a collective failure between the ship, its parent command, and the base. Being “ready” on paper after the annual hurricane exercise (HURREX) isn't enough. The safety of large ships in port during heavy weather takes a team effort and solid (rehearsed) planning. If you only go through the motions during a HURREX, you may suffer unwanted motions (and damage) during an actual storm. Plan, verify the plan, and rehearse the plan.*
- **Don't Tempt Mother Nature.** While moored, a submarine experienced strong winds that caused high seas at the pier, leading to seawater and sand from sandbags entering the aft escape trunk (*that wasn't secured*). The water intrusion wetted all main feed pumps and a high-pressure air compressor, causing more than \$600,000 in damage and losing three weeks of operational time. The report noted that the ship didn't receive the gale warning for the local area, but historical data shows that the incident occurred after several hours of heavy winds with gusts (*so someone in the crew might've noticed*). —*As in our first narrative, the crew paid an extremely high price in dollars and operational time for not securing all topside hatches. Be your best weather observer and make extra rounds when heavy weather is predicted (or, as in this case, is happening already because you didn't see the prediction).*

Key Takeaways

1. **“Know the...weather; your victory will then be total.”** —Sun Tzu. Navy Meteorological and Oceanography Commands are an excellent resource for all things weather. Still, with accurate local weather forecasts at our fingertips (*and our own observations – sometimes it pays to look outside*), we should all be able to recognize incoming inclement weather and take action to protect our assets. However you receive your weather data, know it, act on it, and achieve total meteorological victory.
2. **HURREX isn't a check in the box.** Only one of our examples was hurricane-related, so being prepared 24x7, 365 days a year, is a must. Capitalize on annual HURREXs to check and perform preventative maintenance on your mooring lines, check fenders, and scrutinize your heavy mooring plans. Work with your port operations team to ensure everyone is on the same page and prepared for the inevitable inclement weather, whether from hurricanes or local squalls. Be prepared!

And remember, “Let's be careful out there.”