

**United States Coast Guard
Waterways Management
Sector Houston-Galveston
*2021 Hurricane Season***





Pre-Storm Operations



- ***Minimize Risks of the Storm***
 - *Alert the maritime public*
 - *Conduct port assessments*
- ***Reposition & Protect Coast Guard Capabilities***
 - *Reposition assets to safe havens*
 - *Prepare for post-storm response*



Post-Storm Operations

- **Rescue & Assess**
 - *Rescue & Evacuation*
 - *High-risk Port Hazard Reconnaissance*
 - *Access & Repositioning*
 - *Assessment & Triage*
 - *Maritime Law Enforcement*
- **Respond**
 - *Forward Operating Capability*
 - *Oil & Hazardous Materials Response*
 - *Channel-clearing & Salvage*
 - *Navigation Restoration*
- **Recovery**
 - *Normal Operating Capability*
 - *Oil & Hazardous Materials Response*
 - *Channel-Clearing & Salvage*
 - *Navigation Restoration*



Port Conditions

Pre-Season:

- ***June 1 – November 30***
- ***Review industry plans/contact***
- ***Maintain PCT roster with VTS Houston-Galveston***
- ***Send pre-season MSIB***



Port Conditions

Heavy Weather Port Conditions

	WARNING	MODIFIED TRACK	TRADITIONAL TRACK
Triggers	Heavy Weather predicted for AOR.	Certainty below 20% of any tropical storm conditions or any chance of only low intensity tropical storms.	Certainty above 20% of any tropical storm condition except low intensity tropical storms.
MSIB	Heavy Weather (when known)	Heavy Weather (when known) Modified WHISKEY (72 hrs) - Begin planning w/ preventative measures - Initiate stay in port checklists	Heavy Weather (when known) WHISKEY (72 hrs) - Begin planning w/preventative measures - Temp safety zone established - Initiate stay in port checklists - Remain-in-Port Checklist submitted to SHG - Vessels begin seeking shelter away from the port - Port closure expected 12 hours out from tropical storm conditions.
		Modified XRAY (48 hrs) - Temp safety zone established - Port not closing due to low probability of sustained Tropical storm force winds (39-73 mph) - Finalize all stay in port checklists	XRAY (48 hrs) - Temp safety zone in effect - Ocean going vessels begin making plans for immediate departure if Yankee is established - Smaller vessels seek shelter - Finalize all stay in port checklists - Port closure expected 12 hours out from tropical storm conditions.
		Modified YANKEE (24 hrs) - Temp safety zone in effect - Clear all vessels from Bolivar Anchorage - Suspend bunkering and lightering - Suspend all cargo transfers w/ winds \geq 40mph - Disconnect transfer hoses/arms w/ winds \geq 50mph	YANKEE (24 hrs) - Suspend all inbound transits - Clear all vessels from Bolivar Anchorage - Suspend bunkering and lightering - Suspend all cargo transfers w/ winds \geq 40mph - Disconnect transfer hoses/arms w/ winds \geq 50mph - Inland tows properly moored - Port closure expected 12 hours out from tropical storm conditions.
			ZULU (12 hrs) - All cargo/bunkering operations must cease - Port Closed to all transits



Port Conditions

Port Condition Whiskey:

72 hrs prior to arrival of tropical storm force winds associated with tropical cyclone activity – PORTS OPEN

Modified WHISKEY (72 hrs)

- Begin planning w/ preventative measures
- Initiate stay in port checklists

WHISKEY (72 hrs)

- Begin planning w/preventative measures
- Temp safety zone established
- Initiate stay in port checklists
- Remain-in-Port Checklist submitted to SHG
- Vessels begin seeking shelter away from the port
- Port closure expected 12 hours out from tropical storm conditions.

- Send MSIB
- Draft safety zone
- Cease offshore lightering
- Commence PCT calls

- Conduct port assessments: Review Facility Update Readiness Survey, Complete Declarations of Intent to Remain in Port; Consolidate list of ships with special needs



Port Conditions

Port Condition X-Ray:

48 hrs prior to arrival of tropical storm force winds associated with tropical cyclone activity – PORTS OPEN

Modified XRAY (48 hrs)

- Temp safety zone established
- Port not closing due to low probability of sustained Tropical storm force winds (39-73 mph)
- Finalize all stay in port checklists

XRAY (48 hrs)

- Temp safety zone in effect
- Ocean going vessels begin making plans for immediate departure if Yankee is established
- Smaller vessels seek shelter
- Finalize all stay in port checklists
- **Port closure expected 12 hours out from tropical storm conditions.**

- Send MSIB
- Consult with bridge & ferry operators
- Participate in Texas Joint Hurricane Response Team and USACE Navigation Restoration Team calls



Port Conditions

Port Condition Yankee:

24 hrs prior to arrival of tropical storm force winds associated with hurricane force storm – *PORTS CLOSED INBOUND*

Modified YANKEE (24 hrs)

- Temp safety zone in effect
- Clear all vessels from Bolivar Anchorage
- Suspend bunkering and lightering
- Suspend all cargo transfers w/ winds \geq 40mph
- Disconnect transfer hoses/arms w/ winds \geq 50mph

YANKEE (24 hrs)

- Suspend all inbound ship transits
- Clear all vessels from Bolivar Anchorage
- Suspend bunkering and lightering
- If vsIs approved to stay in port, then suspend all cargo transfers w/ winds \geq 40mph
- Disconnect transfer hoses/arms w/ winds \geq 50mph
- Inland tows properly moored
- *Port closure expected 12 hours out from tropical storm conditions.*

- Send MSIB
- Effect traffic control measures
- Continue interagency calls



Port Conditions

Port Condition Zulu:

12 hrs prior to arrival of tropical storm force winds associated with hurricane force storm – PORTS FULLY CLOSED

ZULU (12 hrs)

- All cargo operations cease
- Port Closed to all transits

- Send MSIB
- Continue interagency calls
- Internal vessel movements until 12 hrs prior to arrival of hurricane force winds
- Confirm completion of cargo handling operations & heavy weather arrangements preparation



Port Conditions

Port Recovery:

Post storm passage – PORTS OPEN

- ***Continue interagency calls***
- ***Confirm ATON & Obstruction Survey***
- ***Establish parameters for & effect vessel traffic management***
- ***Conduct port assessments (facilities, ATON, critical infrastructure)***



Notable Changes Lessons Learned



- ***Port Condition Matrix (Modified Track)***
- ***Facility & Vessel Storm Preparation Interface***
- ***Publicize and Utilize PCT Representatives***
- ***Fleeting Areas***
 - ***Additional measures taken to secure fleets***
 - ***Guidance provided prior to storm arrival***
- ***Waterway Obstructions***