

# Maryland Department of Transportation Maryland Port Administration

2700 Broening Highway  
Baltimore, Maryland 21222

Contact Person: [Andrea Williams](#)

(P) 410-633-1148

(C) 410-949-5576

(F) 410-285-0921

## Severe Weather Contingency Plan For Marine Terminals

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**Maryland Department of Transportation**  
**Maryland Port Administration**  
**Severe Weather Contingency Plan**

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**Maryland Department of Transportation**  
**Maryland Port Administration**  
**Severe Weather Contingency Plan**

A. PURPOSE

1. The purpose of this plan is to establish procedures for protecting personnel and securing Maryland Department of Transportation Maryland Port Administration (MDOT MPA) property and equipment in preparation for storm surge, heavy rainfall, and flooding. During Hurricane Season, which runs annually from June 1 to November 30, there is a higher risk from tropical-cyclone related severe weather. The MDOT MPA will provide guidance, act as liaison to the U.S. Coast Guard, and disseminate advisory information to MDOT MPA tenants in preparation for a possible severe weather on Baltimore. The goal is to minimize potential deaths, injuries, and property damage and return MDOT MPA facilities to normal operations as quickly as possible after severe weather impacts the Baltimore area.
2. This plan is advisory and does not supersede any directives or requirements established by the Maryland Department of Emergency Management (MDEM) State of Maryland Emergency Operations Plan (EOP) or those promulgated in the U.S. Coast Guard Captain of the Port (COTP) Sector Maryland – National Capital Region (NCR) Severe Weather Port Contingency Plan  
<https://homeport.uscg.mil/Lists/Content/Attachments/78619/15.%20Enclosure%203%20-%20Severe%20Weather%20Port%20Contingency%20Plan.pdf>

These plans should be consulted, and their policies, directives, and recommendations adhered to, as they apply, in the event of a severe weather emergency.

B. APPLICATION

This plan applies to all MDOT MPA personnel and facilities and includes recommended actions for leasees and port users of MDOT MPA property.

C. DISCUSSION

1. Severe weather poses a threat to life and property on the east and gulf coasts of the United States from high winds, heavy rains, storm surge and flooding. Fortunately, severe weather can be detected, and their movements are closely monitored making the threat they pose relatively predictable. With sufficient notice and preparation, people and property can be protected, and losses minimized.
2. June 1st through November 30th is the period of greatest severe weather activity and is referred to as hurricane season. The Coast Guard COTP will establish and publish port conditions (PORTCONS) in advance of severe weather and primarily based on National Weather Service forecasted arrival of sustained gale force winds (34KT/39MPH) to the Sector MD-NCR COTP Zone. The intent of setting PORTCONS is to provide port stakeholders with sufficient time to address preventive

measures designed to minimize damage from severe weather. The five PORTCONS are:

- A. **NORMAL:** The general condition set outside of Hurricane Season from 01 December to 31 May.
  - B. **NORMAL – SEASONAL ALERT:** The hurricane seasonal alert is set from 01 June to 30 November. Ports shall return to this condition after severe weather passes during Hurricane Season
  - C. **WHISKEY.** Set when gale force winds (34+ mph) is expected to arrive at the Port within **72 hours**.
  - D. **XRAY:** Set when gale force winds (34+ mph) is expected to arrive at Port within **48 hours**.
  - E. **YANKEE:** Set when gale force winds (34+ mph) is expected to arrive at the Port within **24 hours**, and as soon as practical after the storm passes.
  - F. **ZULU:** Set when gale force winds (34+ mph) is expected to arrive at the Port within **12 hours**.
3. The MDTA Police maintains a 24-hour watch and communications system. U.S. Coast Guard will make notification every time there is a change in the **PORTCONS** (via telephone, Maritime Safety **Information** Bulletins, and/or through teleconferences) changes to the MDOT MPA. Notifications and advisories to MDOT MPA tenants will be made using the MDOT MPA eBroadcast system; therefore, it is important to provide current information to the eBroadcast administrator.
  4. The COTP will act to control ship movements based on the prevailing maritime condition. Sector MD-NCR is an inland port and there are several factors to consider when deciding whether to allow a vessel to transit to sea or remain in Port. It takes approximately 8 hours to transit through the C&D Canal and 12 hours to transit the length of the Chesapeake Bay. Also, the COTP must consider what port conditions both Sector Delaware Bay and Sector **Virginia** have set.
  5. The COTP will dispatch harbor patrols into the port during the various maritime conditions to check for any potential hazards and may require facility operators to act to eliminate hazardous conditions.

D. VESSEL PREPAREDNESS

1. The MDOT MPA will receive and review weather information and will transmit maritime advisories and preparedness recommendations, through eBroadcast or other means, to tenants, port users, vessel owners, operators, agents, and steamship companies **on record that have registered to receive these notifications from the MDOT MPA.**

2. At **WHISKEY**, advise all vessels that NO VESSEL CAN REMAIN MOORED AT MDOT MPA FACILITIES UNTIL and UNLESS THE FOLLOWING OCCURS.

***Commercial Oceangoing Vessels and Barges Greater than 500 Gross Tons***

- a) Commercial oceangoing vessels and barges greater than 500 gross tons must seek COTP approval and have a COTP verification number for remaining in Port. This requires submission of a written request to COTP, using the USCG's **Request to Remain in Port within 24 hours**; found in **Enclosure 1** of the Sector MD-NCR **Severe Weather Contingency Plan**.  
<https://homeport.uscg.mil/Lists/Content/Attachments/78619/15.%20Enclosure%203%20-%20Severe%20Weather%20Port%20Contingency%20Plan.pdf>
- b) For commercial oceangoing vessels and barges greater than 500 gross tons, permission must be granted by the COTP before MDOT MPA will consider allowing a vessel to remain at its berths. The MDOT MPA requires that the vessel requests permission in writing and submits a completed **Request to Remain in Port**. The MDOT MPA Director of Operations or designee will determine whether to grant permission to the vessel, depending on operational considerations.
- c) The COTP directs vessel movements and usually orders vessels greater than 500 gross tons to an anchorage or back to the sea if conditions permit. Advanced planning and timely coordination with the MDOT MPA and the COTP will be critical in determining the safest course of action for each vessel.

***Vessels with COTP's Preapproval to Remain in Port***

- d) Vessels with COTP preapproval to remain in port should verify that the approved plan remains valid and notify the COTP of their intentions. If any of these vessels are moored at an MDOT MPA facility, The MDOT MPA Director of Operations or designee will determine whether to grant permission to the vessel, depending on operational considerations.

***Vessels Less Than 500 Gross Tons***

- e) Any vessel less than 500 gross tons must complete the USCG's **Request to Remain in Port**, submit to MDOT MPA, and request permission from the MDOT MPA to remain in port. The MDOT MPA Director of Operations or designee will determine whether to grant permission to the vessel, depending on operational considerations.

***Vessels Requesting Permission to Remain at Anchorage***

- f). Vessels electing to remain at anchorage in Baltimore Harbor or the Chesapeake Bay must notify the COTP. These arrangements must be confirmed when maritime condition **YANKEE** has been set or sooner.

**MDOT MPA Schedule 20A, Vessels Seeking Safe Refuge, Section II.B.5 States:**

**“A” 5. Safe Refuge:**

*A Vessel obtaining safe refuge at any MPA pier, if granted by the Administration in its sole discretion, shall accept all risks and full responsibility for any and all damage to property and bodily injury to persons resulting from said Vessel’s safe refuge status while berthing at MPA facilities.*

*In consideration for obtaining refuge, the Vessel, its owners, and Master shall indemnify the Maryland Port Administration and the State of Maryland for all property damage or personal injury emanating from safe refuge status, regardless of negligence on the part of the Vessel.*

*Vessel owners and/or operators, by requesting permission to remain at an MPA terminal through the submission of the Commercial Vessel Authorization Checklist/Survey, are acknowledging that it is subject to the terms in this Section II.B.5 and confirms the terms by which the vessel will be allowed to remain at a MPA terminal.*

**Precautionary Measures for Moored or Anchored Vessels and Barges**

- g) **Expected Precautionary Actions for Vessels and Barges** remaining moored or anchored in port are included in the **Sector MD-NCR Severe Weather Contingency Plan**. Also, owners of vessels and barges should review the **Severe Weather Checklist – Vessels and Barges**; found in **Enclosure 3** of the Sector MD-NCR Severe Weather Port Contingency Plan. <https://homeport.uscg.mil/Lists/Content/Attachments/78619/15.%20Enclosure%203%20-%20Severe%20Weather%20Port%20Contingency%20Plan.pdf>

3. When **XRAY** is set, the following is required:
  - a. Vessels with COTP pre-approval to remain in port should verify that the approved plan remains valid and notify the COTP and the MDOT MPA of their intentions.
  - b. Other vessels intending to remain at their moorings in port must obtain the COTP’s permission and the MDOT MPA’s approval.
4. When **YANKEE** is set, all vessels intending to remain moored at an MDOT MPA facility should have COTP and MDOT MPA permission.
5. At maritime conditions **XRAY** and **YANKEE**, the MDOT MPA Operations Department will notify the USCG of all vessels and barges arriving and departing MDOT MPA facilities.
6. When **ZULA** is set, COTP’s team will ensure that all vessels are moored or anchored in preparation for the **severe weather**.
7. **Post Severe Weather:** Vessel operators should be aware that after a **severe weather** passes, all navigation channels must be surveyed for possible submerged hazards to navigation and navigational aids must be checked to ensure they are functioning

properly and in their proper location. The COTP may not permit vessel movement in the Port of Baltimore until these precautionary measures are completed. This could delay vessel arrivals and departures for several days after a **severe weather**. Any decision to keep a vessel in port during a **severe weather** should be made with this in mind.

#### E. FACILITY PREPAREDNESS

1. In preparation for a tropical storm or **severe weather**, the MDOT MPA will monitor the National Hurricane Center (NHC) advisories and site-specific weather information and distribute information through eBroadcast, as appropriate.
  2. The MDOT MPA will review **and implement** its severe weather contingency plans **and checklists**.
- **WHISKEY:** The MDOT MPA, through eBroadcast, will transmit the following to MDOT MPA departments, its tenants, and/or other port users **that are on record that have registered to receive these notifications from the MDOT MPA.:**
    - a) Review **Severe Weather Contingency** Plan for Marine Terminals.
    - b) Prepare (MDOT MPA) to initiate work order for **severe weather** preparedness.
    - c) Advise vessels that want to remain moored at an MDOT MPA facility of the requirement identified under the Vessel Preparedness Section.
    - c) Advise tenants to review their severe weather preparedness plans.
    - d) Normal facility operations may continue during maritime condition WHISKEY.
    - e) Monitor fuel levels in the tanks at the fuel island and if low, secure delivery of fuel.
  - **XRAY:** The MDOT MPA, through eBroadcast, will transmit the following to MDOT MPA departments, its tenants, and other port users **that are on record that have registered to receive these notifications from the MDOT MPA.:**
    - a) Normal facility operations may continue during maritime condition X-RAY
    - b) Begin clearing missile hazards such as loose gear, equipment, dunnage, sheet metal, pallets, trash, drums, etc.
    - c) Plan for moving and securing dangerous cargo and hazardous materials to a safe location. Advise the COTP of any concerns regarding dangerous cargoes or hazardous materials.
    - d) If practical, prepare stacking plan for empty and full containers. The COTP may require this action for containers with hazardous materials. Each tenant is to

survey its area and use appropriate judgment as to the safest manner in which to store containers and other cargoes.

- e) Survey moored vessels and notify the COTP of any potential problems.
- f) Advise vessels who want to remain moored at an MDOT MPA facility of the requirement identified under Vessel Preparedness Section.
  - Vessels with COTP pre-approval to remain in port should verify that the approved plan remains valid and notify the COTP of their intentions.
  - Other vessels intending to remain at their moorings in port must obtain the COTP's permission and the MDOT MPA's approval.
- g) Review schedules of inbound and departing vessels and barges. Notify the COTP of any vessels arriving or departing the Port of Baltimore within the next 48 hours.
- h) Where possible, engineering should photograph construction projects and facility improvements for use as verification of **severe weather** damage.
- i) Keep abreast of weather conditions.
- j) Consider the possibility of flooding and prepare to take measures to mitigate the damage as much as possible (e.g. sandbag doors, move critical equipment, documents, and records to a higher location such as the second floor of a multi-story building or on top of tables or desks, etc.)
- k) Monitor fuel levels in the tanks at the fuel island and if low, secure delivery of fuel.
- l) Check and test backup generators, including fueling.
- **YANKEE:** The MDOT MPA, through eBroadcast, will transmit the following to MDOT MPA departments, its tenants, and other port users **that are on record that have registered to receive these notifications from the MDOT MPA**. Some items will be for MDOT MPA only.
  - a) Normal operations may continue.
  - b) Plan for the possible termination of cargo operations.
  - c) Various terminal operators' weather preparedness plans may vary and have other requirements. These plans may be more stringent than the MDOT MPA but must not be less stringent.



- d) Continue clearing missile hazards such as loose gear, equipment, dunnage, sheet metal, pallets, trash, drums, etc.
- e) Begin securing buildings and equipment for heavy weather, if necessary.
- f) Begin securing containers, both empty and full, if appropriate.
- g) Secure non-essential fuel and chemical storage and supply facilities (close valves, secure openings, etc.), if appropriate.
- h) Advise vessels who want to remain moored at an MDOT MPA facility of the requirement identified under the Vessel Preparedness Section.
  - Notify the COTP of any vessels still moored at a terminal.
  - Advise all vessels intending to remain moored at an MDOT MPA facility that they should have COTP and MDOT MPA permission.
- i) Survey terminal areas for any potential hazards. Notify the MDTA Police and the COTP if any hazards are found.
- j) Ensure all hazardous cargo is secured and protected from damage as much as possible, if appropriate.
- k) Review the MDOT MPA Crane Operating Procedures during Forecast and Actual Winds and Passenger Boarding Bridge Operations during Severe Weather Conditions.
- l) Consider the possibility of flooding and prepare to take measures to mitigate the damage as much as possible (e.g. sandbag doors, move critical equipment, documents, and records to a higher location such as the second floor of a multi-story building or on top of tables or desks, etc.)
- m) Normal telephone service may not be available after a **severe weather**. Review radio procedures and protocols and ensure radio batteries are available and charged.
- n) The MDTA Police will patrol MDOT MPA facilities and report any problems or hazardous conditions noted to the responsible terminal operator and the MDOT MPA Operations Department
- o) Once Condition YANKEE is set, an MDOT MPA Command Post may be established. Request ISD to prepare the command post.
- p) MDOT MPA Command Post Procedures dictate who should be present.
- q) Office of Safety and Risk Management or designee should make regular status reports to the MDEM.

- r) State Emergency Operations Center (SEOC) or DOTOps in accordance with Appendix 3 to Annex C of the Maryland EOP.
  - s) Continue to evaluate weather conditions and amend plans as necessary.
  - t) Monitor fuel levels in the tanks at the fuel island and if low, secure delivery of fuel.
  - u) Fuel all mission critical vehicles, trucks, equipment, generators, and tanks for engine driven fire suppression system
  - v) The MDOT MPA Ops Department will request more frequent weather reports from the weather service provider.
  - w) MDOT MPA will identify & schedule personnel who will be required to report to DOTOps and CP.
  - x) MDOT MPA will identify & schedule personnel who may be required to remain at or near the facility.
  - y) Ensure procedures are in place so that MDOT MPA and tenant 'essential personnel' can get onto the terminal.
  - z) Ensure that employee phone numbers are available to the Command Post.
  - aa) Where possible, engineering should continue to photograph construction projects and facility improvements for use as verification of **severe weather** damage.
8. ZULU: The MDOT MPA, through eBroadcast, will transmit the following to MDOT MPA departments, its tenants, and other port users **that are on record that have registered to receive these notifications from the MDOT MPA:**
- a) Prepare for possible termination of cargo operations. Determine the time for termination and broadcast.
  - b) Establish the MDOT MPA Command Post with pre-designated personnel. Refer to Command/Communication Post Procedures.
  - c) Continually evaluate weather conditions and amend plans as necessary.
  - d) Ensure all final preparations to secure buildings and equipment are in place.
  - e) Backup computer files and applications.
  - f) Continue clearing missile hazards such as loose gear, equipment, dunnage, sheet metal, pallets, trash, drums, etc.
  - g) Secure all fuel and chemical storage and supply facilities (close valves, secure openings, etc.)

- h) Ensure all hazardous cargo is secured and protected from damage as much as possible, if appropriate.
- i) Notify the COTP of any vessels still moored at a terminal.
- j) Survey terminal areas for any potential hazards. Notify the MDTA Police and the COTP if any hazards are found.
- k) Refer to the MDOT MPA Crane Operating Procedures During Forecast and Actual Winds Passenger Boarding Bridge Operations during Severe Weather Conditions.
- l) Prepare for flooding and take measures to mitigate damage as much as possible (e.g. sandbag doors, move critical equipment, documents, and records to a higher location such as the second floor of a multi-story building or on top of tables or desks, etc.).
- m) Move vehicles and equipment to higher ground.
- n) MDOT MPA owned boats:
  - (1) Secure all boats with additional lines.
  - (2) All vessel-mooring lines should be lengthened to accommodate for exceptionally high tides and forecasted storm surges.
  - (3) Ensure electrical service to small boats is maintained for bilge pumps.
  - (4) Assign personnel to the facility after normal working hours to address any unforeseen occurrences, if appropriate.
- o) The MDTA Police will patrol MDOT MPA facilities and report any problems or hazardous conditions noted to the responsible terminal operator and MDOT MPA Command Post.
- p) Test radios, radio procedures and protocols, and ensure batteries are available and fully charged.
- q) Review evacuation plans.
- r) The MDOT MPA Office of Safety and Risk Management should make regular status reports to the MDEM SEOC or DOTOps in accordance with Appendix 3 to Annex C of the Maryland EOP.
- s) Dispatch persons to DOTOps, if required.
- t) Post schedule for MDOT MPA employees required to remain on the terminal.
- u) Plan schedule for replacements at MDOT MPA Command Post.

- v) Ensure that CP has an up-to-date list of employee names and contact information and names from tenants of “essential personnel,” those who may remain onsite or will need access to the site after the weather event has subsided.
- w) Provide options and information regarding home preparation to employees, as appropriate.

rF. POST-SEVERE WEATHER ACTIVITIES

1. The MDOT MPA, through eBroadcast, will publish advisories to MDOT MPA departments, tenants, and port users that are on record that have registered to receive these notifications from the MDOT MPA, regarding their responsibilities for their own and MDOT MPA's equipment and property.
2. The MDOT MPA CP will establish ICS and adhere to the principles of ICS.
3. Preliminary actions of CP:
  - Select the best-qualified Operations Section chief and Deputy.
  - Select other key Command and General Staff.
  - Establish telephone and/or radio communications with the MDOT MPA CP.
  - Verify the status of all personnel. Report findings/problems to the MDOT MPA CP.
  - Request that on-scene personnel survey terminal areas for any dangerous conditions (e.g. fire/explosion hazards, oil/hazardous material spills, etc.) Report problems to MDOT MPA CP. Advise the COTP of the facility's status and any hazardous conditions.
  - Determine if “essential” tenants can be allowed on terminals.
  - Contact tenants/port users, that are on record that have registered to receive these notifications and advise them of the situation and status of reopening terminals via eBroadcast.
  - The MDTA Police and MDOT MPA Maintenance Departments and MDOT MPA tenants should cooperate to clear roadways of debris and restore transportation routes.
4. Operations Section Chief:
  - Select Inspection Teams, consisting of Engineering, Operations, & Maintenance (Others as appropriate – ISD, Safety and Risk Management, Security)
  - Assign appropriate teams to infrastructure areas:
    - Piers, Berths, Decking, & Fenders
    - Cranes
    - Passenger Boarding Bridge
    - Roadways
    - Rail lines
    - Electrical Distribution

- Communication
  - Building Structures & Fire Suppression Systems
  - Vehicles & Equipment
  - Fencing & Security
  - Sanitary & Ejectors
  - Potable Water
  - Environmental (ASTs, O/W, Stormwater structures)
  - A representative from PAC will participate on the team/or be available for inspection of SMT/ICTF/Point Breeze.
- Teams will inspect terminal structures and equipment for damage and document damage.
  - Teams will assess damage and estimate of time to restore.
  - Operations Chief will recommend priority for the restoration of infrastructure.
  - Operations Chief will brief the Command Post and Incident Commander.

#### 6. Other General and Command Staff Activities

- The MDOT MPA Office of Communications will prepare news releases of the terminal situation, condition, and employees' work status.
- MDOT MPA Human Resources will provide guidance on MDOT MPA employee issues.
- Marketing will contact customers and update them on the status of the terminal and operations.
- The MDOT MPA Office of Safety and Risk Management should make regular status reports to the MDEM SEOC or DOTOps in accordance with Appendix 3 to Annex C of the Maryland EOP.

## Comparison of Civilian, Maritime and Military Hurricane Conditions

<i>Projected Storm Path and Seasonal Considerations</i>	<b><i>Maritime Hurricane Conditions</i></b>	<b><i>Civilian Hurricane Conditions</i></b>	<b><i>Military Hurricane Conditions</i></b>
1 December - 31 May	NONE	NONE	NONE
1 June - 30 November	SEASONAL ALERT (set automatically)	HURRICANE SEASON (set automatically)	SEASONAL ALERT (set automatically)
Hurricane force winds are expected within <b>72 hours</b> at (geographic point)	CONDITION <b>WHISKEY</b>	HURRICANE WATCH	CONDITION FOUR
Hurricane force winds are expected within <b>48 hours</b> at (geographic point)	CONDITION <b>XRAY</b>	HURRICANE WARNING	CONDITION THREE
Hurricane force winds are expected within <b>24 hours</b> at (geographic point)	CONDITION <b>YANKEE</b>	HURRICANE WARNING	CONDITION TWO
Hurricane force winds are expected within <b>12 hours</b> at (geographic point)	CONDITION <b>ZULA</b>	HURRICANE WARNING	CONDITION ONE
After the storm passes or when the projected storm path has storm not impacting (geographic point)	Return to SEASONAL ALERT	Return to HURRICANE SEASON	RESPONSE & RECOVERY

**Attachment 1**

**Maryland Department of Transportation  
Maryland Port Administration  
Severe Weather Contingency Plan**

**List of Essential Telephone Numbers**

<u><b>Department/Agency</b></u>	<u><b>Telephone Number</b></u>
Baltimore City Fire Department Ops Center	410-396-3086
Baltimore County Fire Department	410-887-4592
Chesapeake and Delaware Canal Operator	410-575-6714
Maryland Department of the Environment	410-537-3975
MDE Emergency Response Team	1-866-633-4686
Maryland Department of Emergency Management	410-517-3600
State Emergency Operations Center	410-517-3600
MDTA Police Department Communications Section	410-537-7911
MDTA Police Detachment Commander	410-631-1071
MDTA Police Detachment, Asst. Commander	410-633-1070
MDTA Police Detachment, On Duty Supervisor	410-633-1130
Deputy Executive Director	410-385-4829
Director of Operations	410-633-1124
Deputy Director, Crane, Facility and Fleet Maintenance	410-633-1051
General Manager, Terminal Operations	410-633-1018
Manager, Terminal Operations	410-633-1121
MDOT MPA Security Office	410-633-1150
MDOT MPA Office of Communications	410-385-4483
MDOT MPA Safety and Risk Management	410-633-1148
MDOT MPA Terminal & Vessel Operations Department	410-633-1077
Cruise Operations	410-633-1054
Rail Operations	410-633-1048
Steamship Trade Association of Baltimore, Inc.	410-248-3377
U.S. Coast Guard Captain of the Port, Baltimore, MD	410-576-2693 or 410-576-2525
Vessel Information Telephone	410-576-2517
USCG Recorded 24/7 Message	410-576-2682
USCG Crisis Action Center (CAC)	410-576-2699
<b>Vessel Information Fax</b>	<b>410-576-2524</b>
U.S. Coast Guard Captain of the Port, Hampton Roads, VA	757-441-3302
U.S. Coast Guard Captain of the Port, Philadelphia, PA	215-271-4881

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**Storm Surge**

**Elevation:** Fixed structure elevations are based on Baltimore City vertical datum.

**Floodwater Elevation:** Potential floodwater elevation at time of severe weather arrival is calculated by adding predicted tide level (NOAA website) at time of arrival, at Baltimore, MD., Site #8574680 (Fort McHenry) plus 0.8 feet at WTCB plus average storm surge for predicted severe weather category (expected in Baltimore at time of arrival) from Saffir-Simpson Hurricane Scale.

Example:

+2.5 feet - Fort McHenry Tide Prediction (standard prediction, excluding storm surge)

+0.8 feet - Adjustment at WTCB

+4.5 feet - Avg. Storm Surge Category 1 Hurricane (Saffir-Simpson Hurricane Scale)

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+7.8 feet - Flood Water Elevation

**Saffir-Simpson Hurricane Scale:** See Below

<b>Saffir-Simpson Hurricane Scale</b>			
<b>Scale No. (Category)</b>	<b>Sustained Winds (mph)</b>	<b>Damage</b>	<b>Storm Surge</b>
1	74-95	Minimal: Unanchored mobile homes, vegetation and signs.	4-5 Feet
2	96-110	Moderate: All mobile homes, roofs, small crafts, flooding.	6-8 Feet
3	111-130	Extensive: Small buildings, low-lying roads cut off.	9-12 Feet
4	131-155	Extreme: Roofs destroyed, trees down, roads cut off, mobile homes destroyed. Beach homes flooded	13-18 Feet
5	> 155	Catastrophic: Most buildings destroyed. Vegetation destroyed. Major roads cut off. Homes flooded.	> 18 Feet