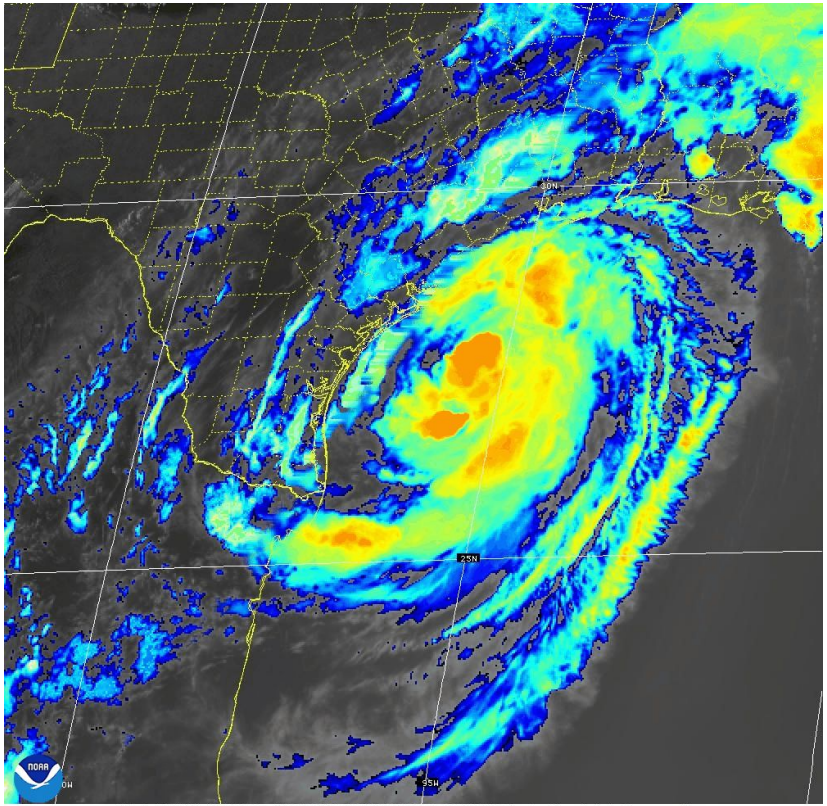
Beryl Briefing

1030 PM Sunday, July 7th, 2024

Lance Wood
NWS Houston/Galveston

Situation Overview: What's New?

- Beryl remains a tropical storm.
- Currently a 70 mph tropical storm.
- Beryl is still forecast to make landfall as a category 1 hurricane.
- Galveston island Hurricane Watch has been upgraded to a Hurricane Warning.
- The threat of a few tornadoes in bands will increase late tonight around time of landfall and continue into Monday.



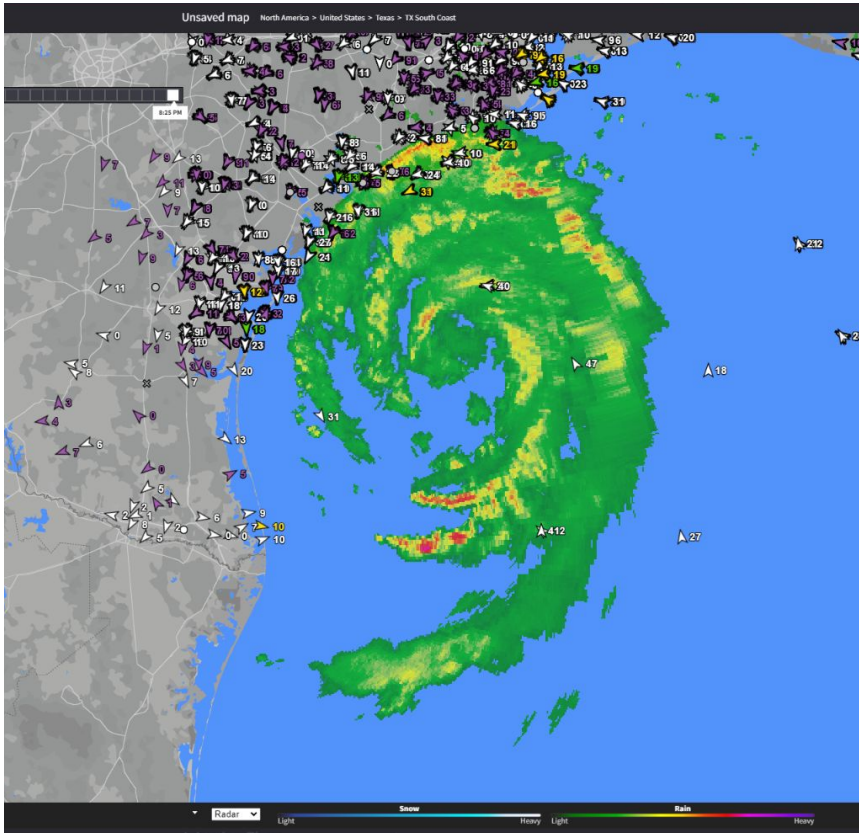
08 Jul 2024 01:14Z - NOAA/NESDIS/STAR - GOES-East - Sandwich Composite

Latest Radar/Observations

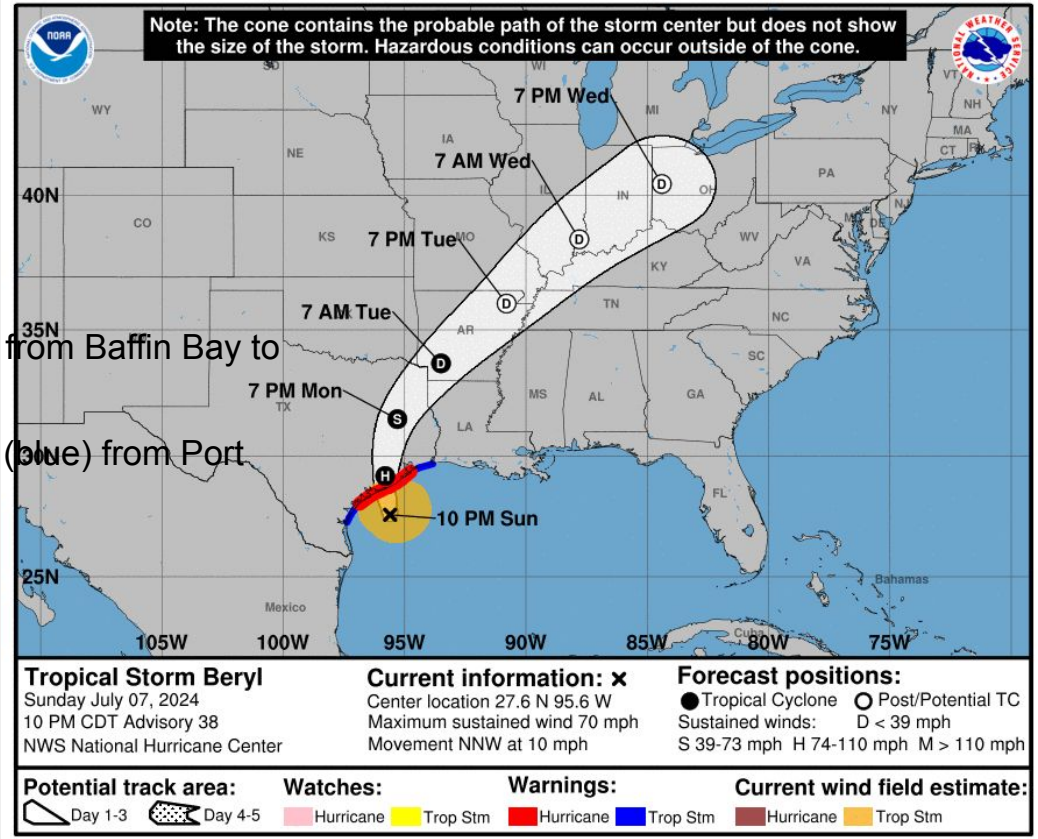
Tropical Storm Beryl seen on radar offshore. Spiral bands increasing, getting better organized.

TS force winds are now on the mid-coast coast in the outer significant rainband.

Aircraft data shows a more vertically aligned storm and more deep convection around then center.

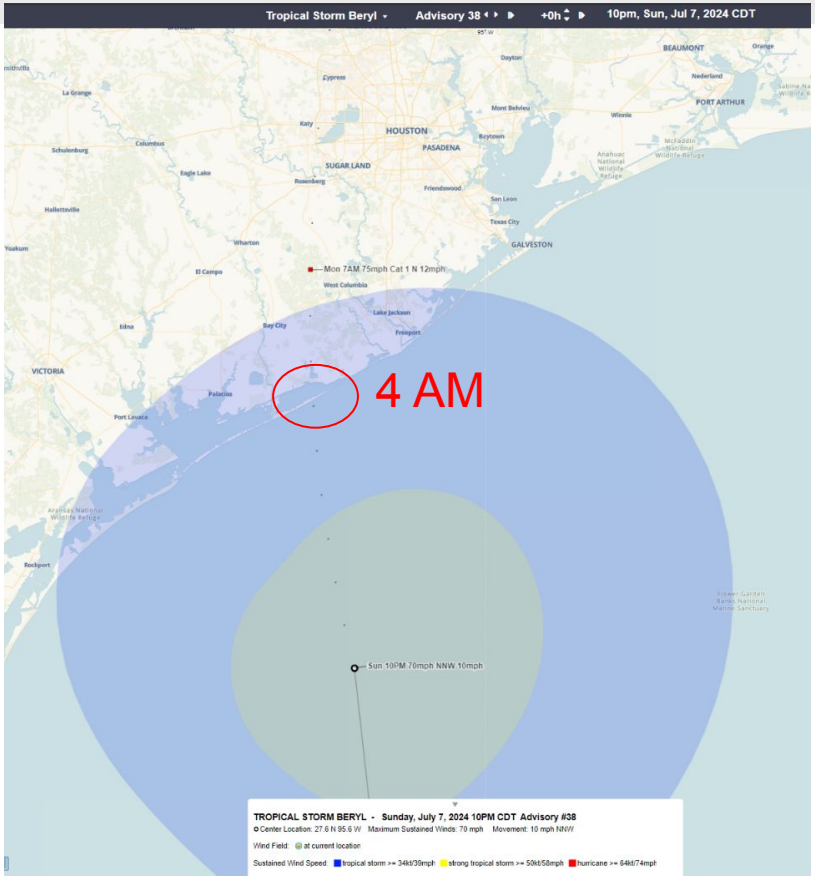


Tropical Storm Beryl



from Baffin Bay to

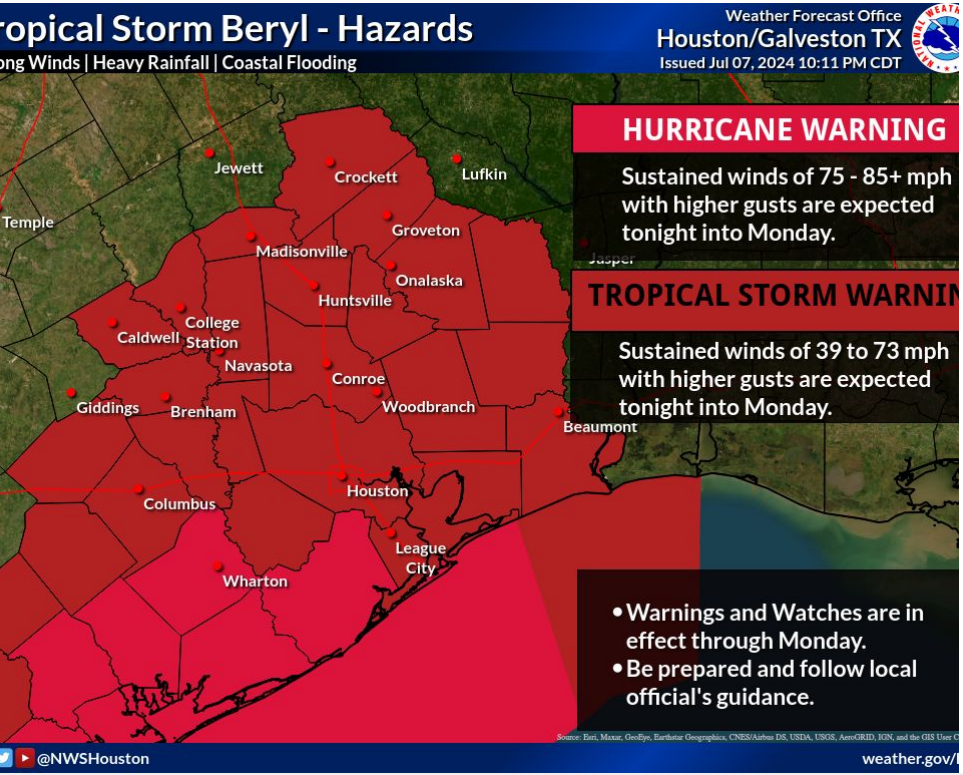
(blue) from Port

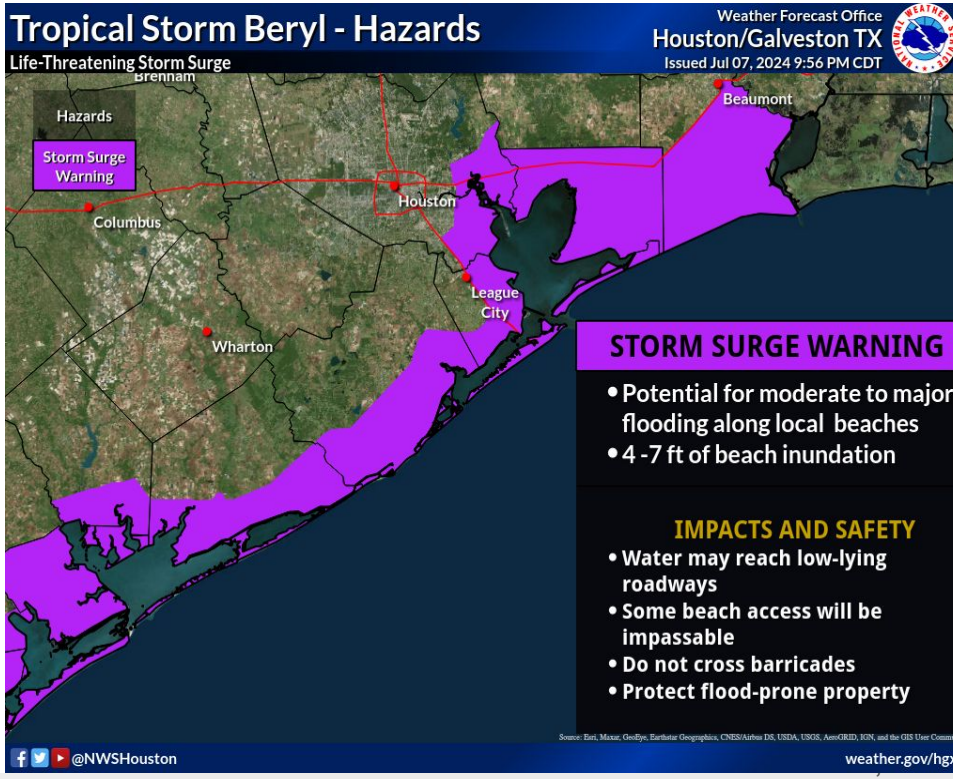


National Weather Service - Houston/Galveston, TX

Watches and Warnings

Maps Showing Various Wind and Surge Flooding Related Warnings and Watches



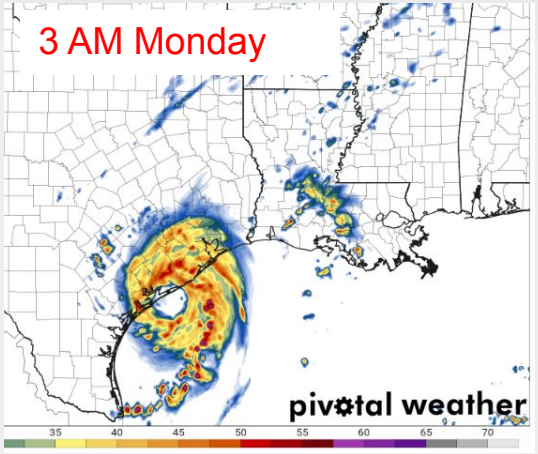


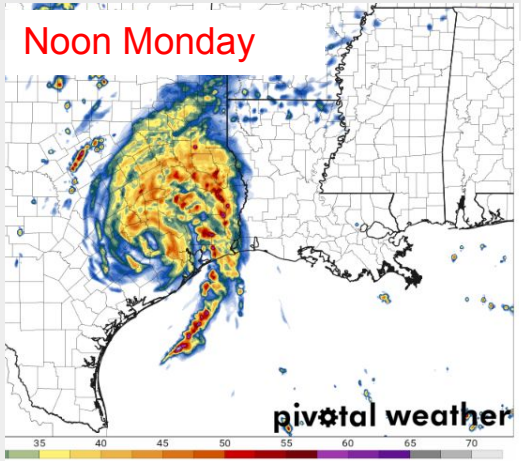
Simulated RADAR

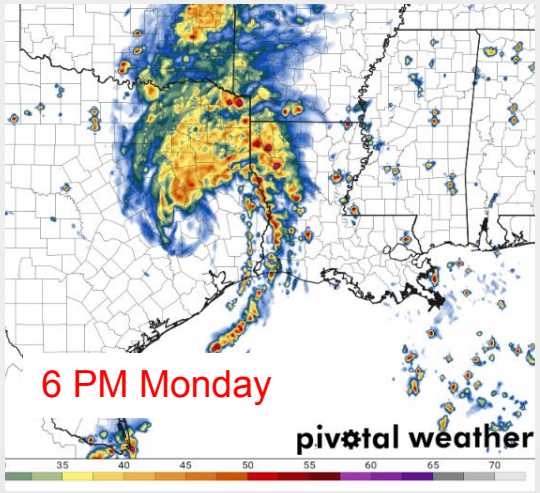
Model forecasted radar from 7 PM run of HRRR model.

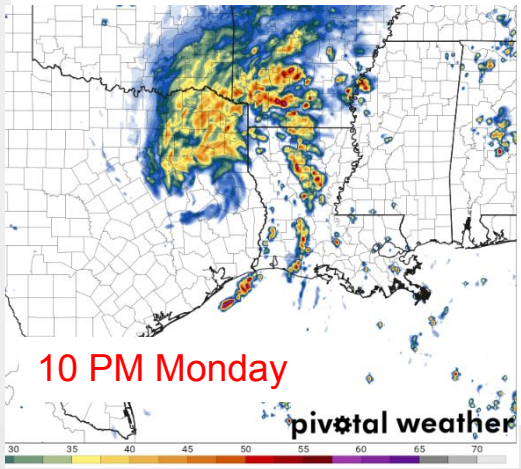
Don’t focus on details - but can get a sense of the timing, structure, banding.

Morning commute could be difficult with heavy rain, high winds and surge coastal areas.

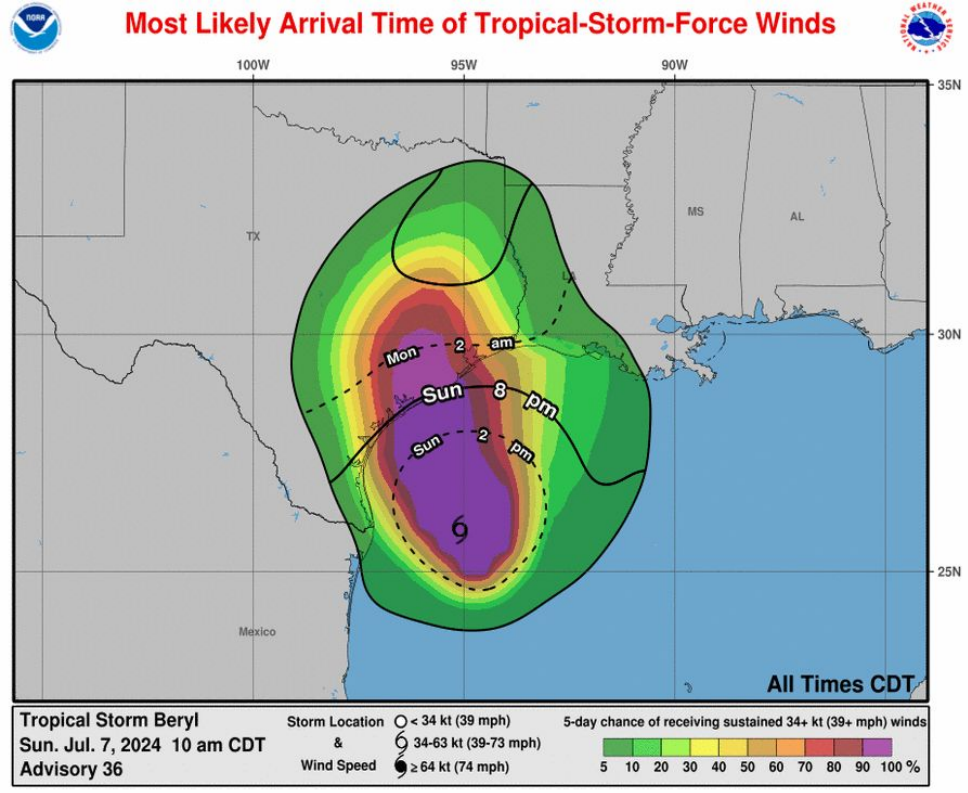






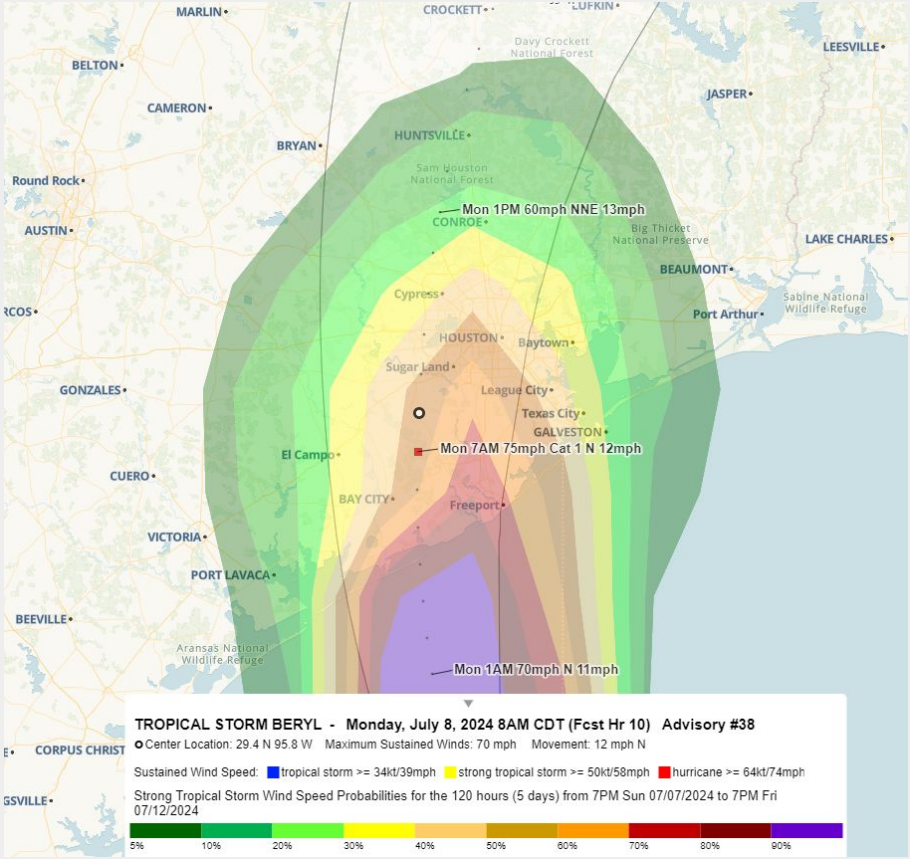


Most Likely Time of Arrival of TS Force Winds



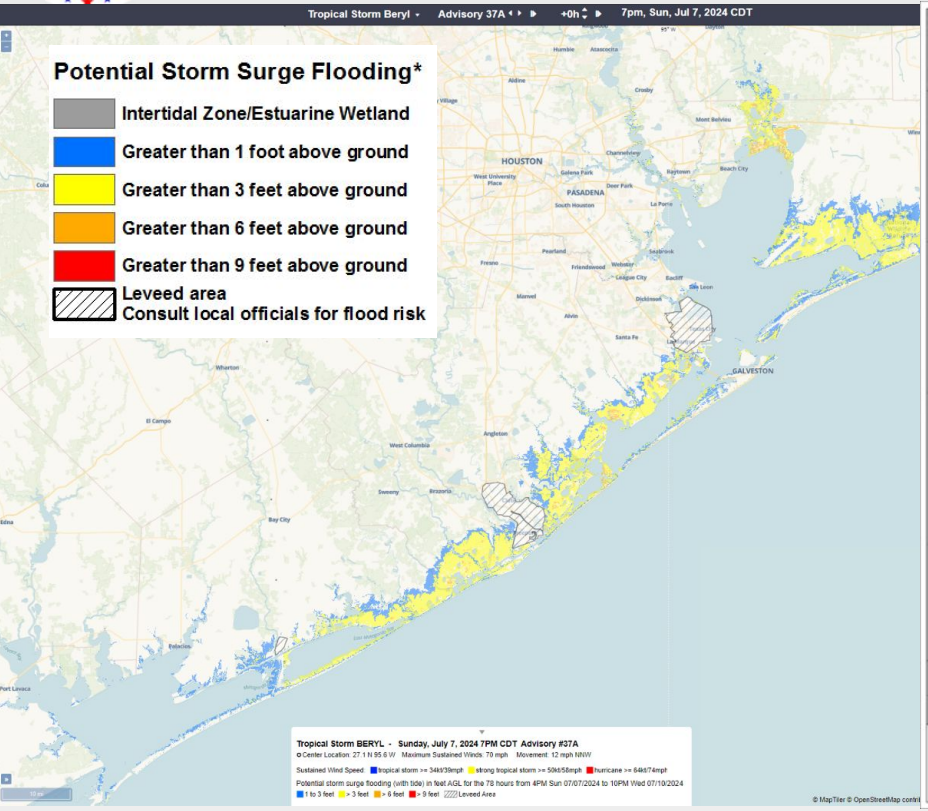
- Most likely time of arrival of TS force winds will be this evening at the coast, overnight inland
- Note the high probabilities cover a large area and extend well inland! Storm is larger than forecast yesterday morning, wind probabilities reflect that.

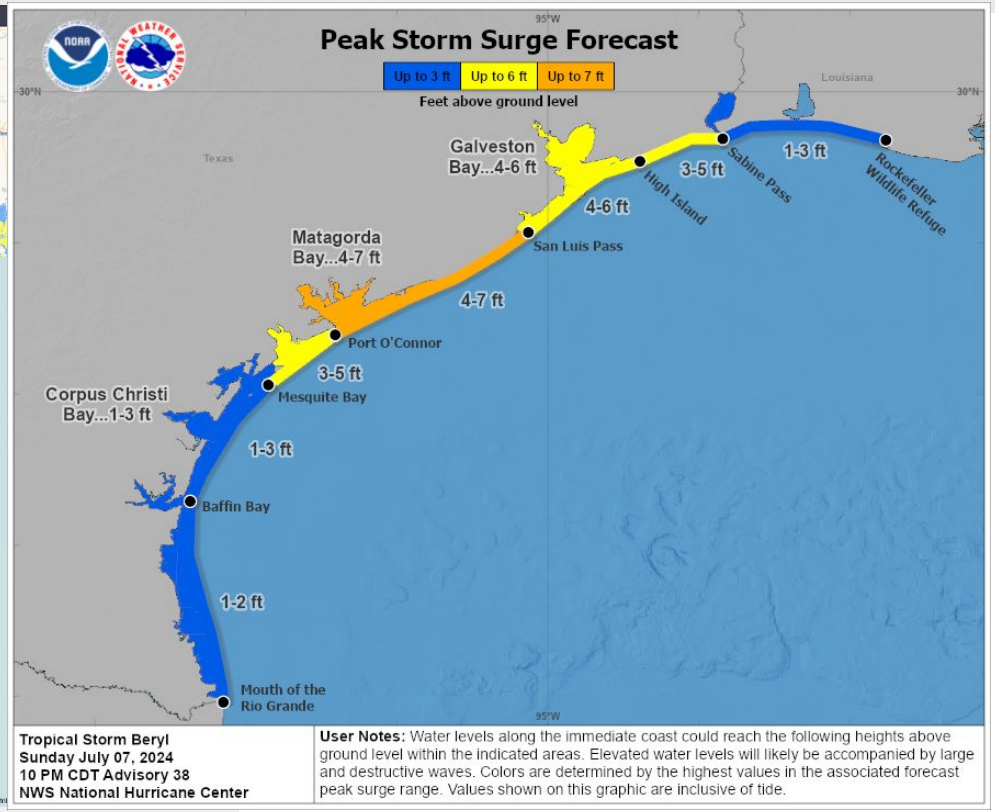
Probability of Strong TS Force Winds: 58 MPH or greater



This wind speed threshold (58 mph) correlates well to a higher potential for power outage areas.

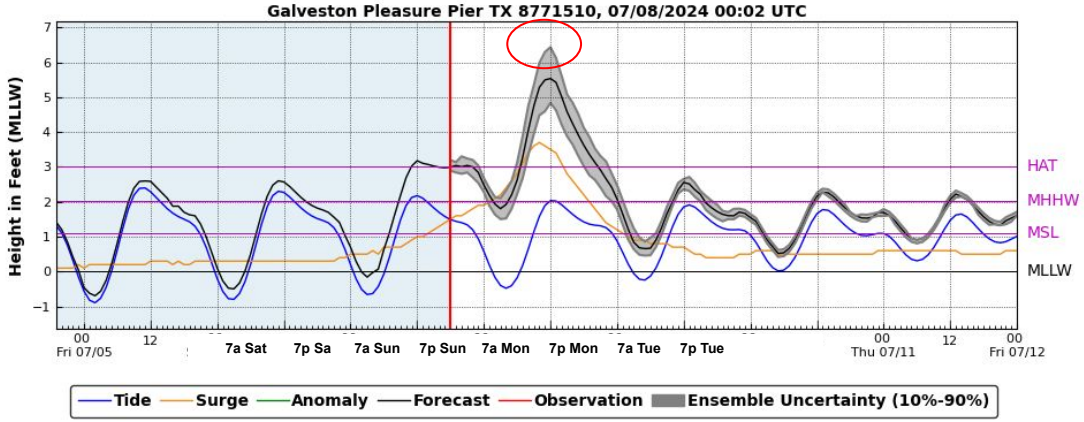
Potential Storm Surge Flooding, Peak Surge Above Ground





Tide Forecast – Probabilistic Model (PETSS)

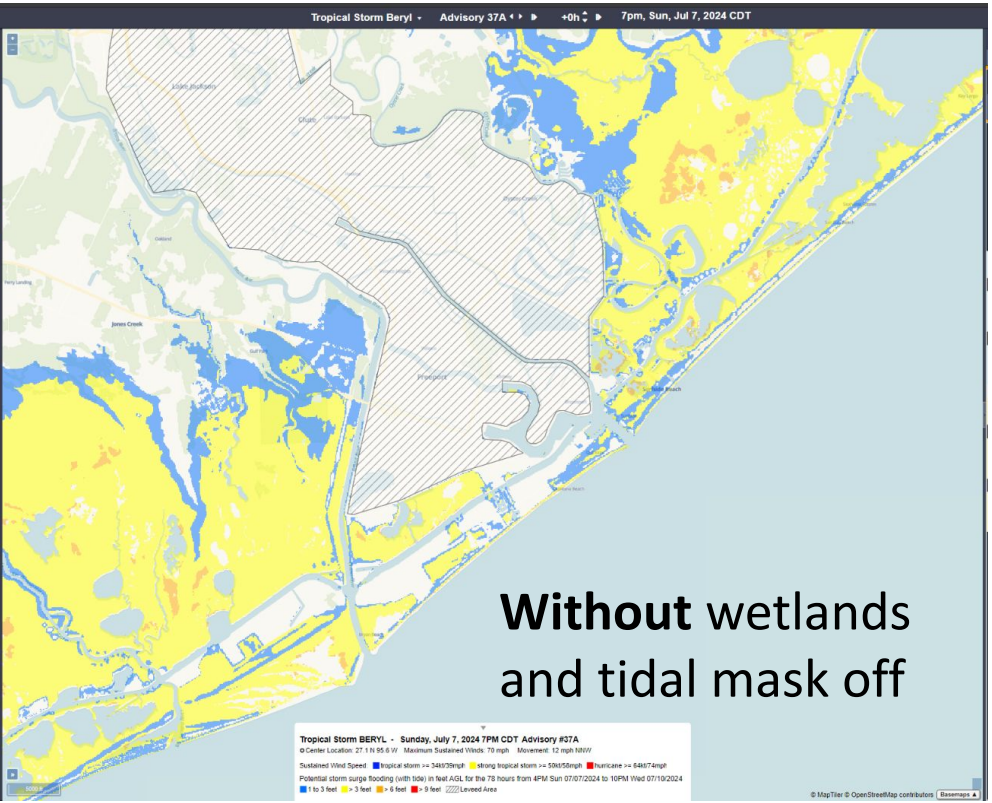
Peak Surge at high tide could result in 7 feet above MLLW Tomorrow morning.

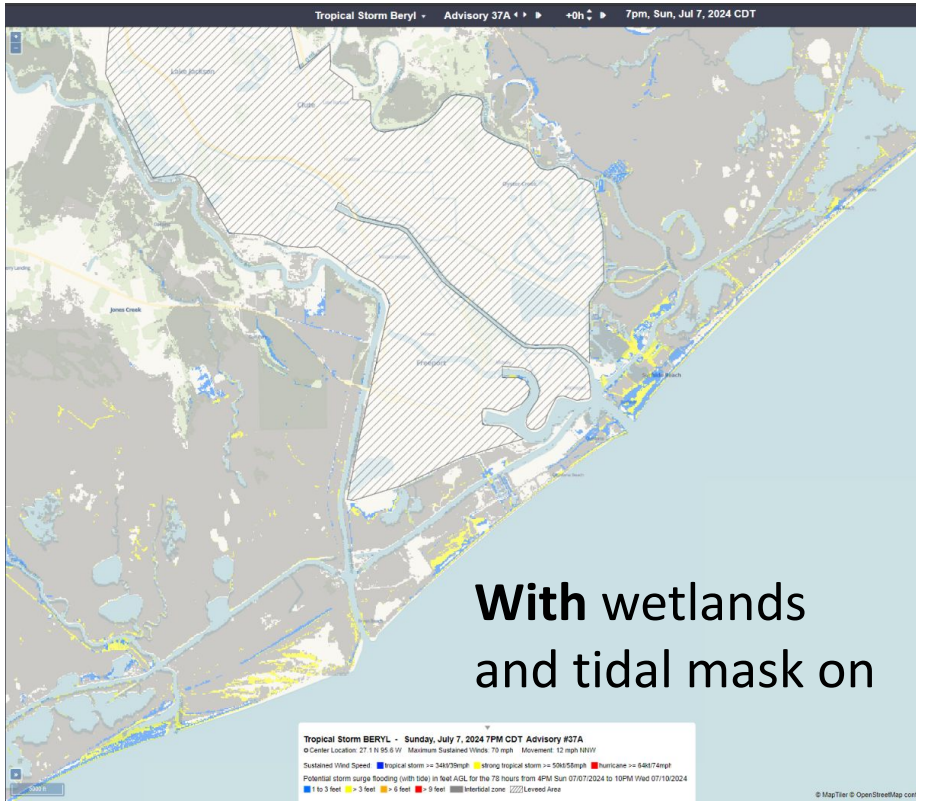


- Elevated tides are expected tonight, but the highest water levels are expected on Monday morning.
- Graphics are meant to show timing. For peak values refer to National Hurricane Center guidance which is superior for this type of storm.

Potential Storm Surge Inundation

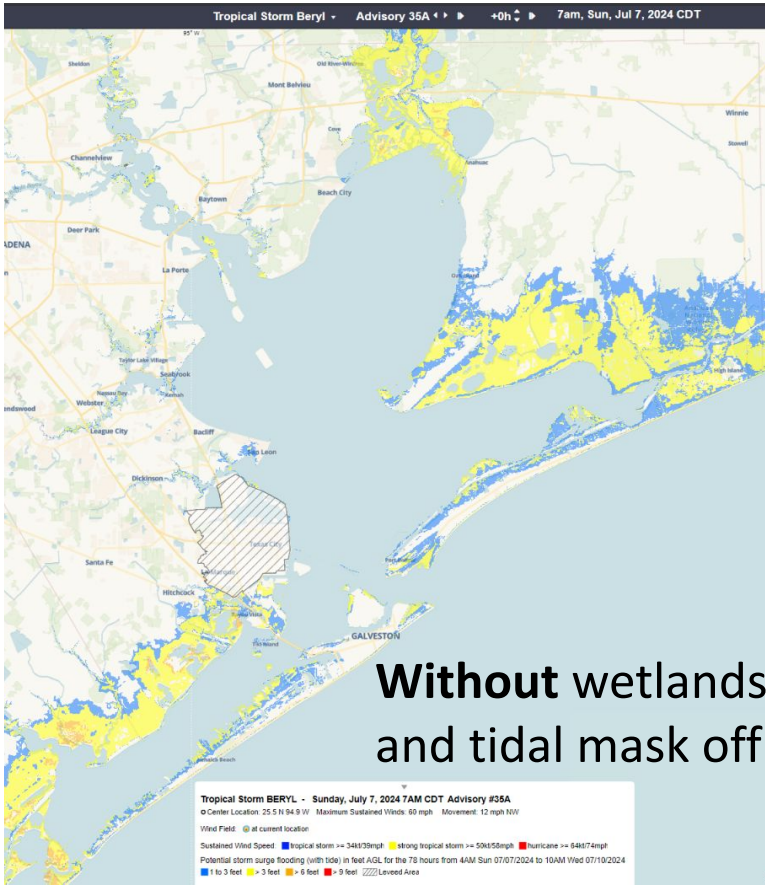
Tropical Storm Beryl - Freeport

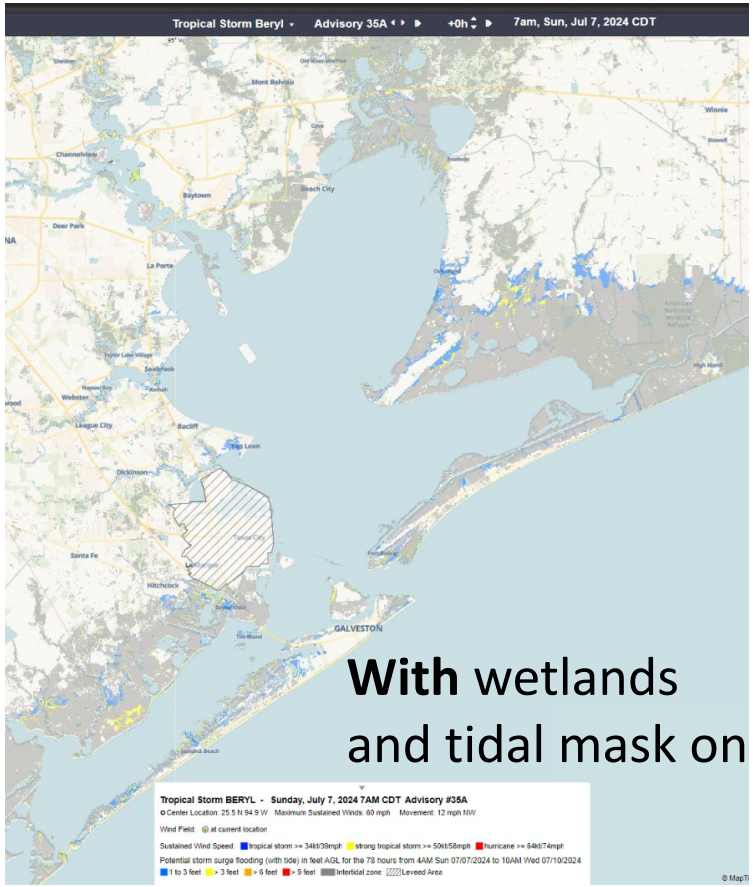




Potential Storm Surge Inundation

Tropical Storm Beryl - Galveston Bay

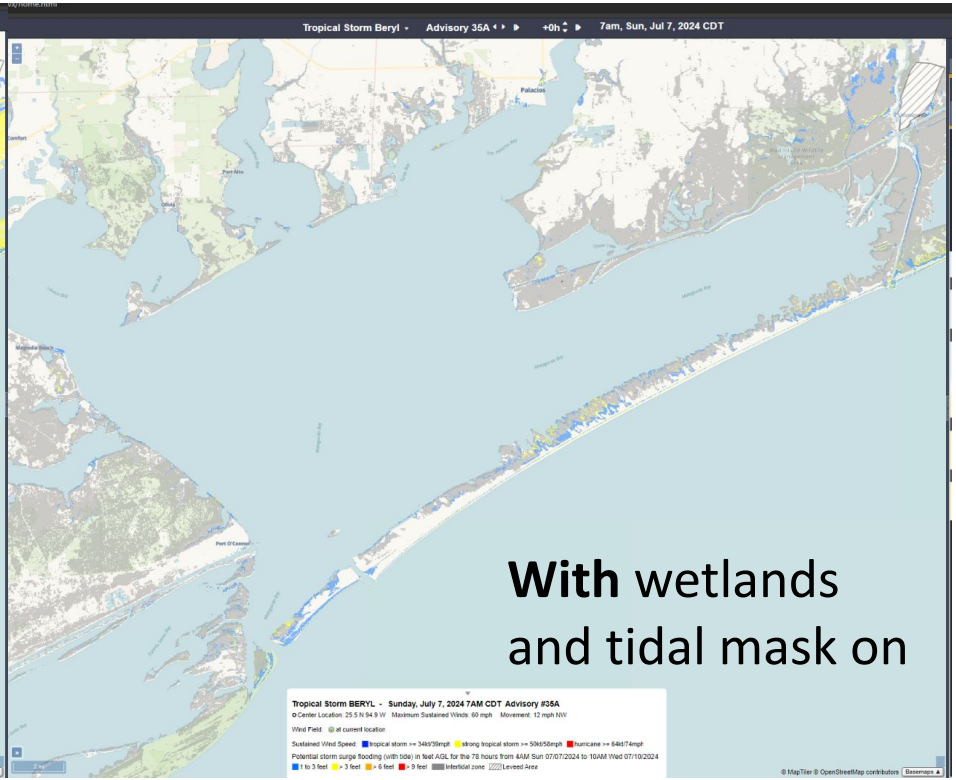




Potential Storm Surge Inundation

Tropical Storm Beryl - Matagorda Bay

Without wetlands and tidal mask off



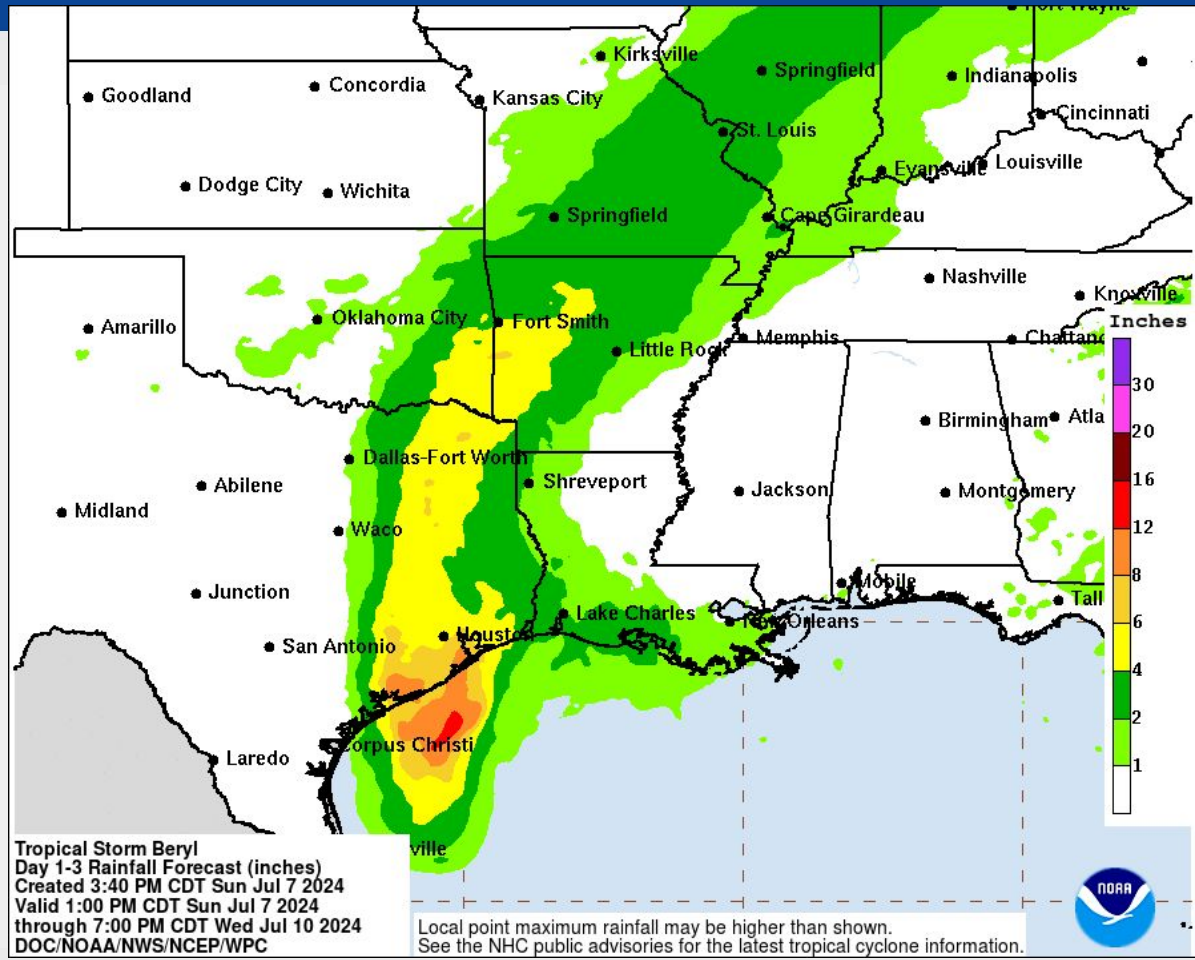
With wetlands and tidal mask on

Rainfall Forecast

Storm total rainfall amounts of 5 to 10 inches with localized higher amounts expected. Beginning today (some bands already ongoing).

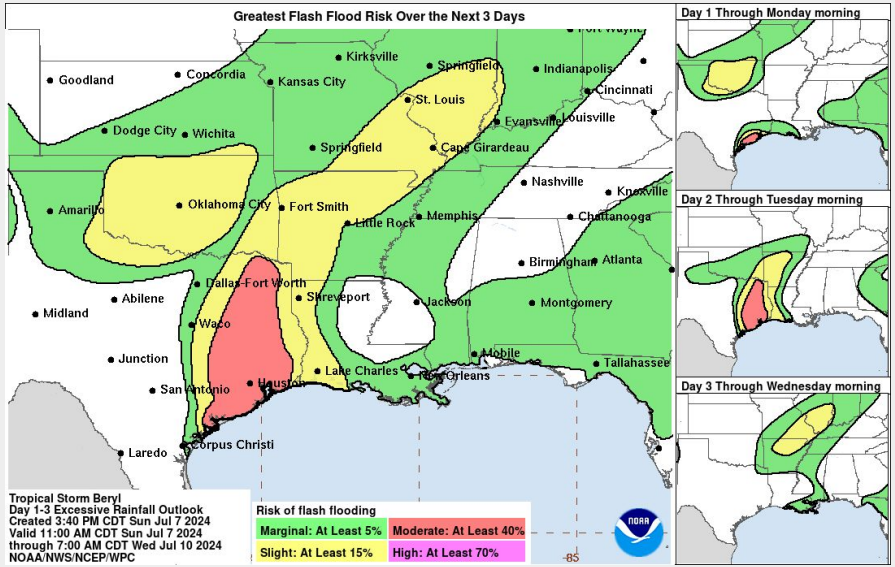
Period of heaviest rain tonight and Monday.

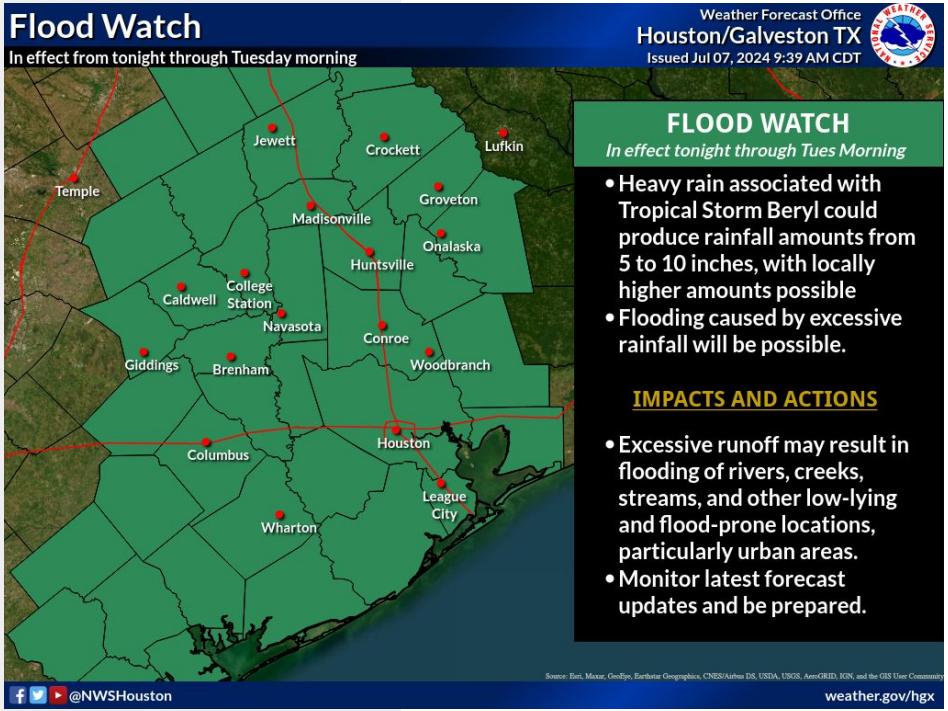
The heaviest band will be generally near or right of the center track.



Excessive Rainfall Outlook/Flood Watch

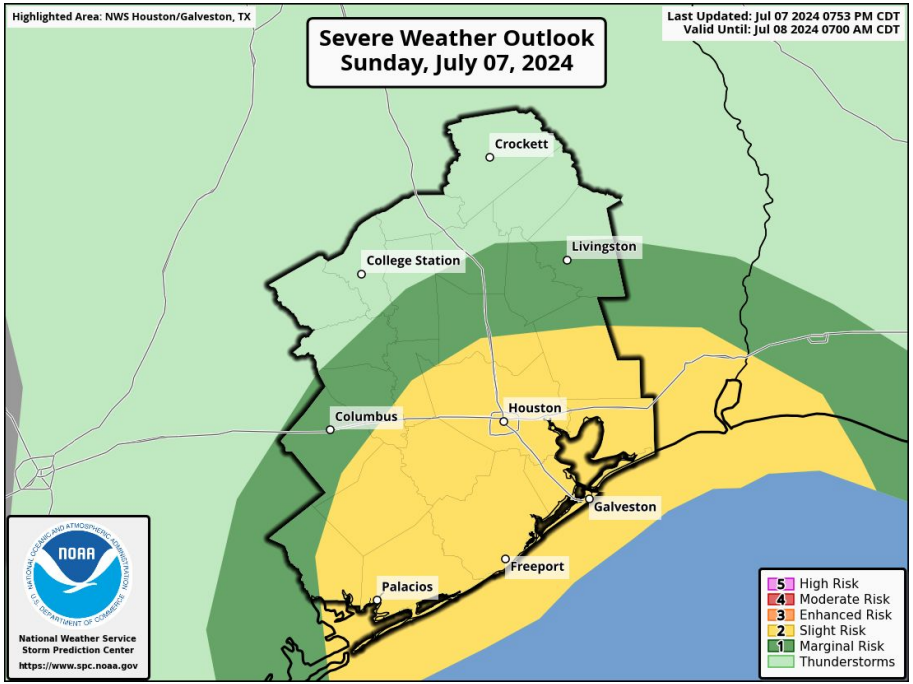
Main heavy rain/flash flood threat will be tonight into Tuesday for the local area. Risk rated as Moderate for western counties which will be closer to the track, highest rainfall.

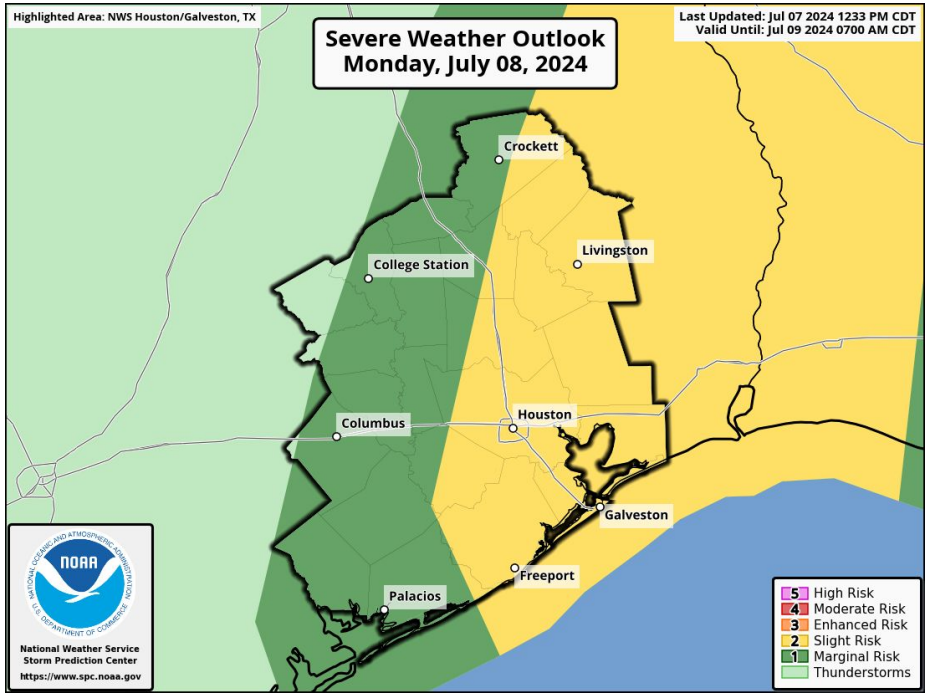




Tornado Risk

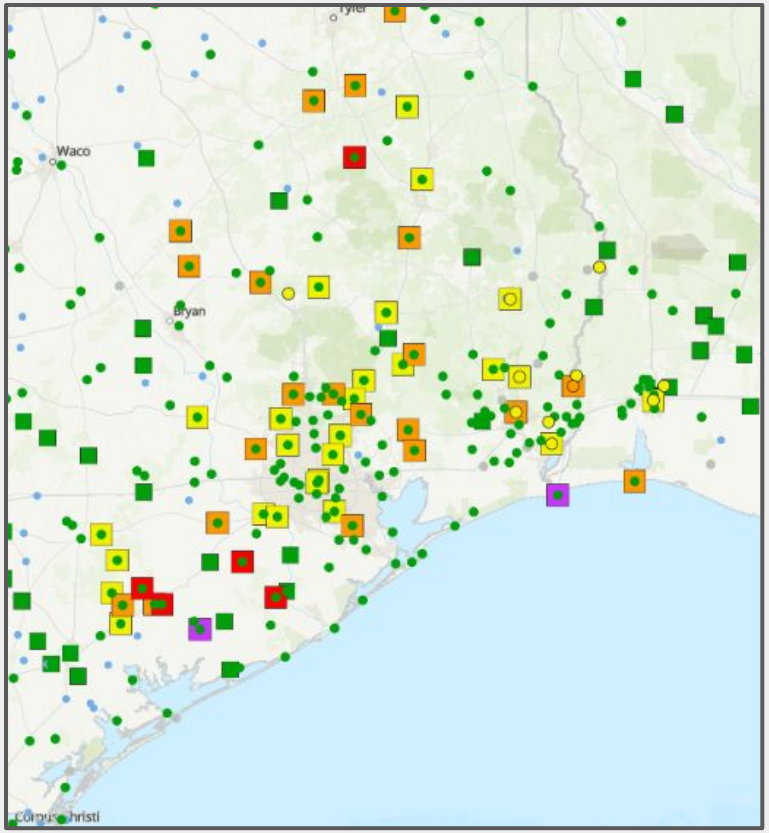
Isolated tornadoes are possible in spiral bands tonight through Monday.





River Forecasts

48-Hour QPF



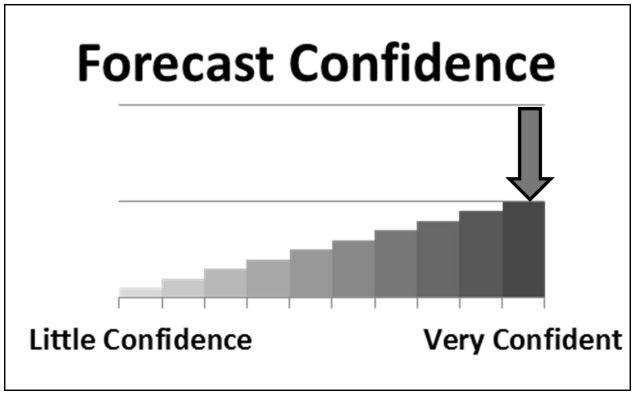
Not much change. River flooding expected to begin early tomorrow morning and extend into late week.

Focus is on Lavaca/Navidad, Tres Palacios, and San Bernard Rivers.

Need to monitor tributaries of Brazos and Trinity Rivers, as well as San Jacinto River/Houston Bayous for any training.

Key Take-Aways

- Beryl remains a tropical storm, still forecast to strengthen to a category 1 hurricane before landfall.
- Beryl will bring a variety of hazards including high winds, heavy rains and storm surge flooding to low lying coastal area.
- Isolated tornadoes will be possible.
- Looks to be a very stormy night and Monday morning with potential for damaging winds, flooding rains and storm surge flooding near the coast. Improving conditions Monday afternoon and evening.



Confidence overall is high on significant impacts from Beryl, all hazards. Still some question whether or how much Beryl will intensify before landfall.

Local Resources

Next Webinar Briefing:
None Planned
Method: Email

Web: weather.gov/houston

Phone: 281-337-5074

E-mail: sr-hgx.nws@noaa.gov

Facebook: facebook.com/NWSHouston/

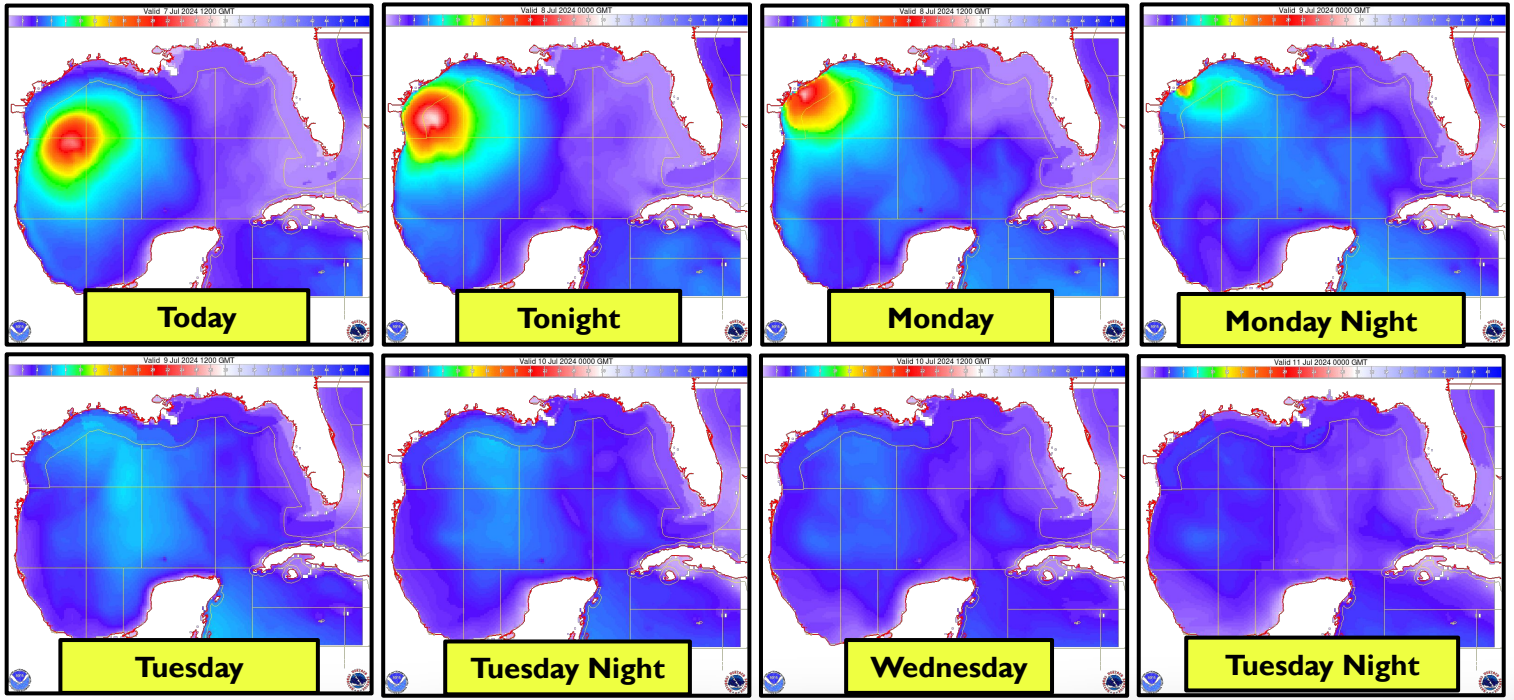
Twitter: twitter.com/NWSHouston

YouTube: youtube.com/nwshouston

Forecast Wave Heights: Gulf of Mexico

See http://www.hurricanes.gov for the latest on the tropics or any active storms

Offshore wave heights of up to 30 ft possible as Beryl nears the Texas Coastal Bend and South Texas on tonight and Monday.



Wave Height (ft) 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40

National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
NWS Houston

For Marine Planning Purposes…

Tropical Storm Beryl

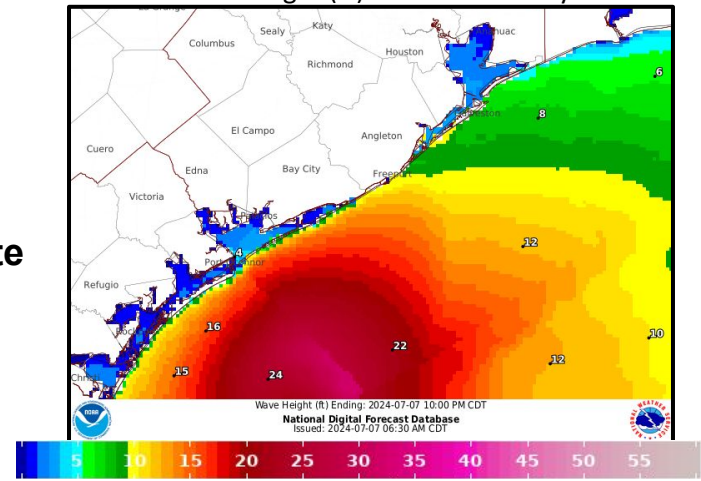
Seas:

- ❑ Arrival of 6+ foot seas: **within 20 nm this morning**
- ❑ Arrival of 15+ foot seas: **this afternoon >20 nm offshore, within 20 nm tonight**
- ❑ Peak seas: 20-30 feet near mid-Texas coast.
- ❑ Potential improvement (seas < 6 feet nearshore): **Tuesday morning**

Winds:

- ❑ Onset of sustained TS winds (34kt+): **this evening for mid coast, late evening/early tonight for upper coast.**
- ❑ Onset of hurricane force winds (64kt+): **Monday night for mid coast**
- ❑ Potential improvement (winds <30 kt): Speeds decreasing **late afternoon/eve Monday for coast.**

Wave Height (ft) at 10 PM Sunday



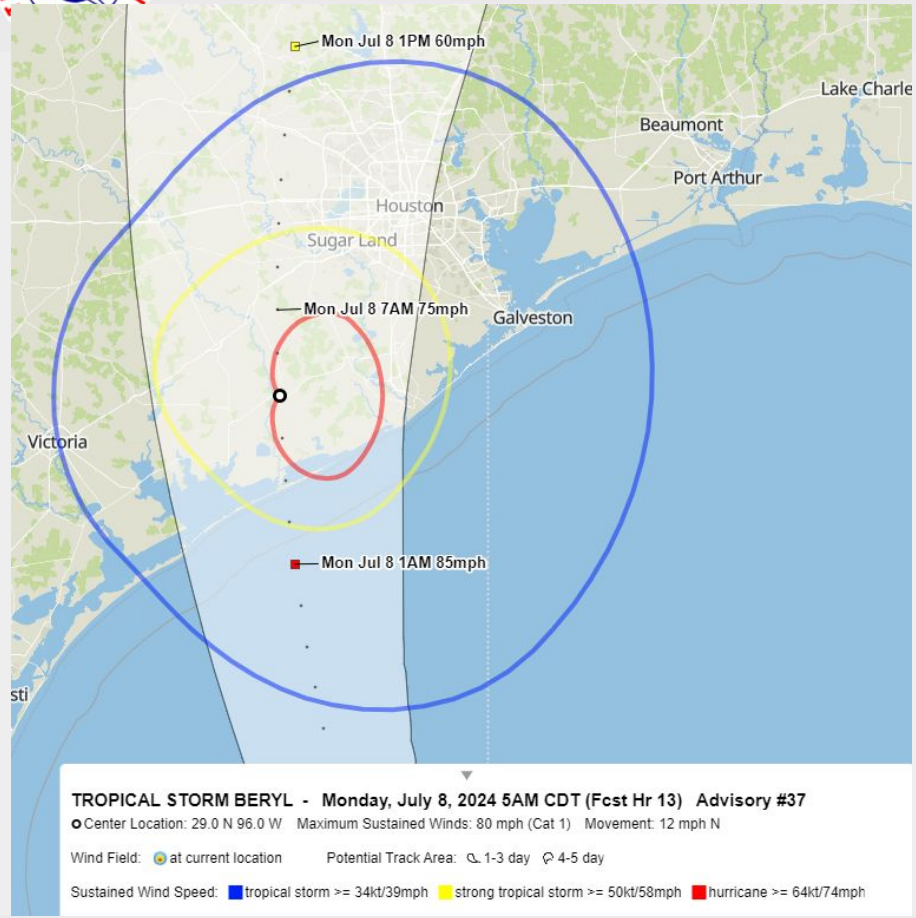
Coastal flooding / surge:

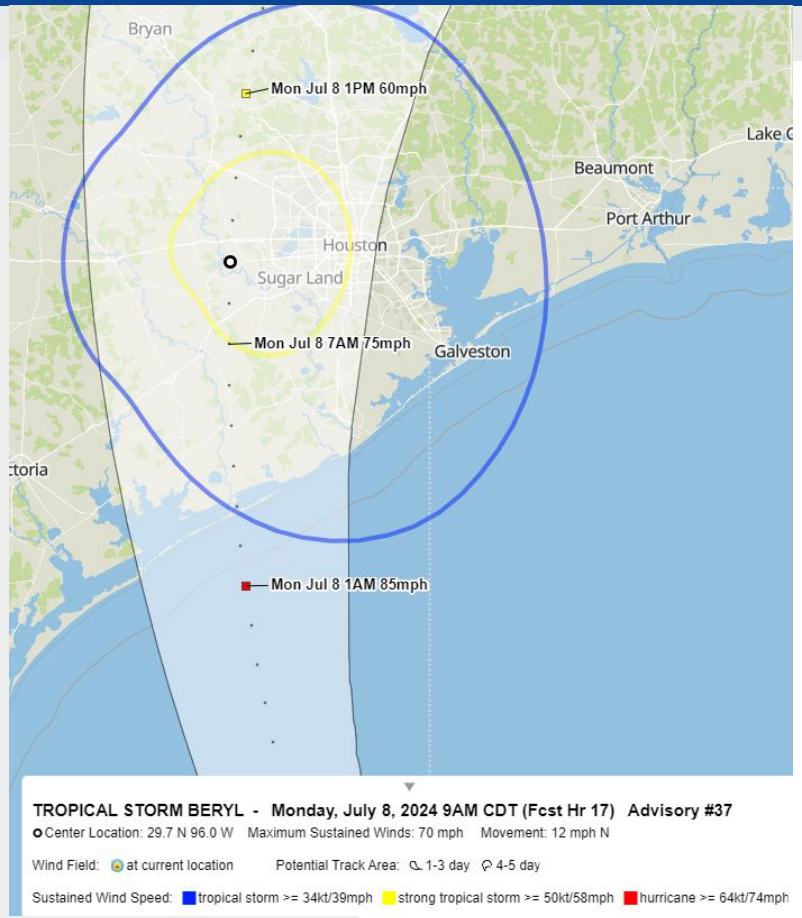
- ❑ Water levels will likely begin to **rise on today, peaking Monday morning**.

Beach:

- ❑ Increasing surf and threat for dangerous rip currents: **beginning today**.

Wind Radii, Timing, Cone





Hurricane Beryl

Latest updates from the National Hurricane Center: Hurricanes.gov

What We Know

Track

- Hurricane Beryl will cross the Yucan and reemerge out over the Gulf later today.
- The storm will likely reach the South Texas coast early Monday as a hurricane.
- Move into the Bay of Campeche/Southwest Gulf this weekend

Strength

- Currently a Major Hurricane
- Will be moving into a more hostile environment over the next few days leading to gradual weakening
- Land interaction with the Yucatan Peninsula will likely further weaken Beryl into a Tropical Storm as it moves into the SW Gulf

What we DON'T Know

Track

- Where Beryl goes after moving into the SW Gulf
  → the current most likely spot will be making landfall somewhere in Northeastern Mexico or Southern Texas

Strength

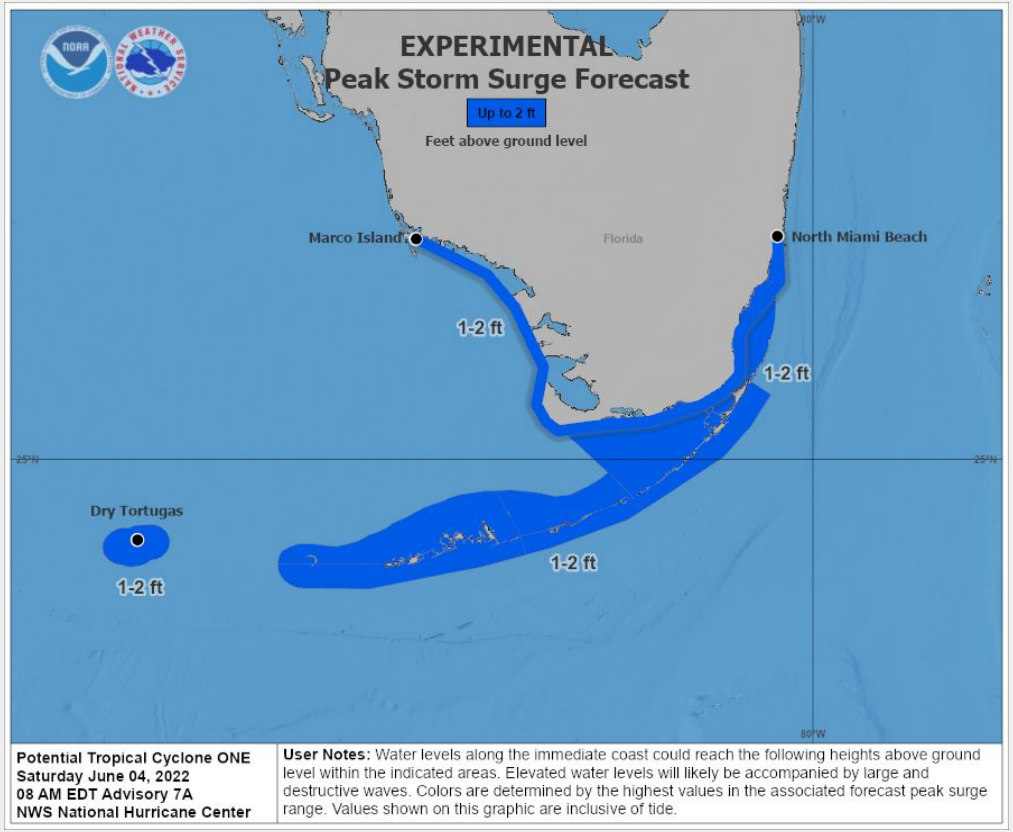
- If Beryl will restrengthen after moving into the SW Gulf
  → the current most likely scenario is it remains a Tropical Storm before landfall

Most Likely Impacts for SE Texas

Increased risk for strong rip currents beginning this weekend
Long period swells in the waters and elevated tides

Peak Storm Surge

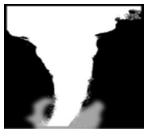
Hurricane Kay



Last updated: 9/8/2022 11:10:07 AM

Situation Overview

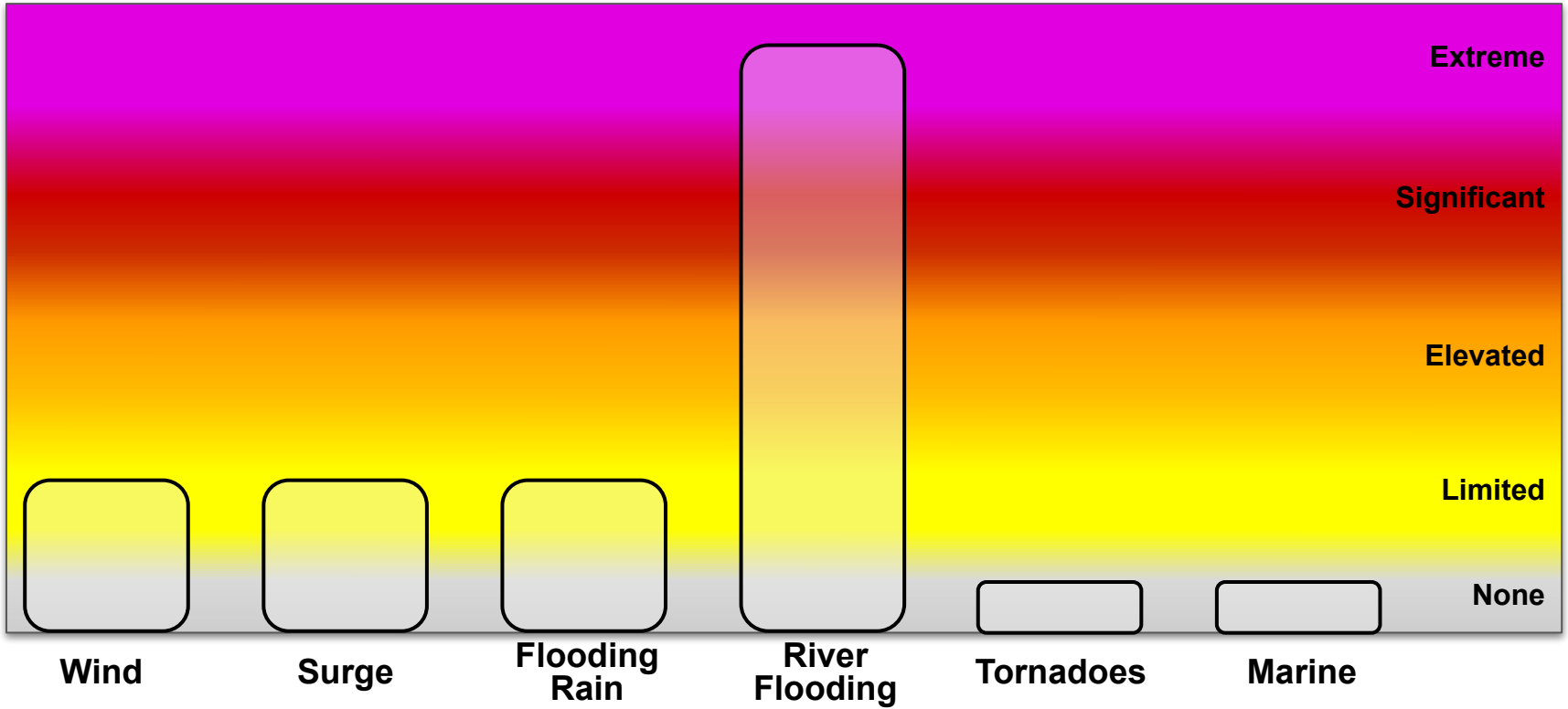
Hurricane Beryl

Hazard	Impacts	Location	Timing
 Wind			
 Storm Surge & Inundation			
 Flooding Rain			
 Tornado			
 Marine			

Threat Levels

None

For information on specific hazards in this area, please go to: https://www.weather.gov/srh/tropical?office=bro



Threat Levels

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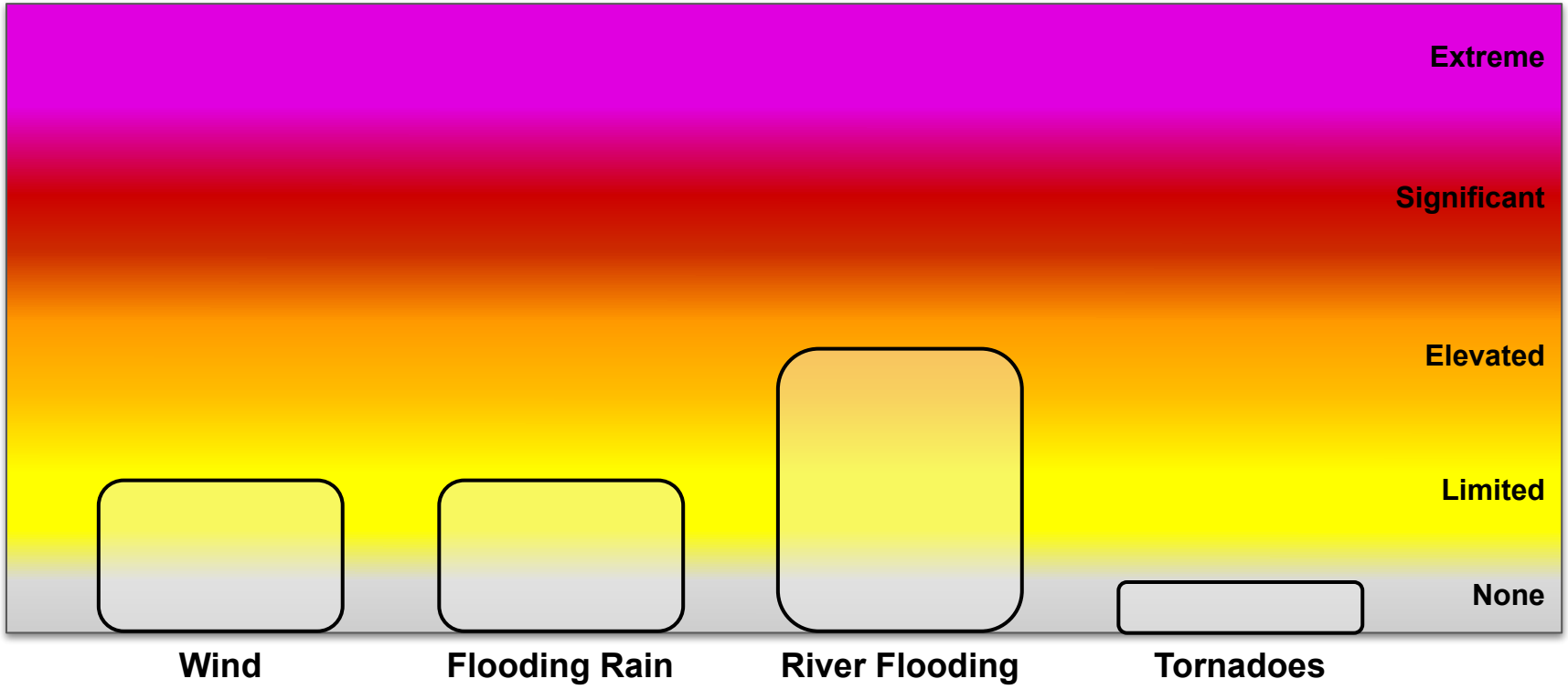
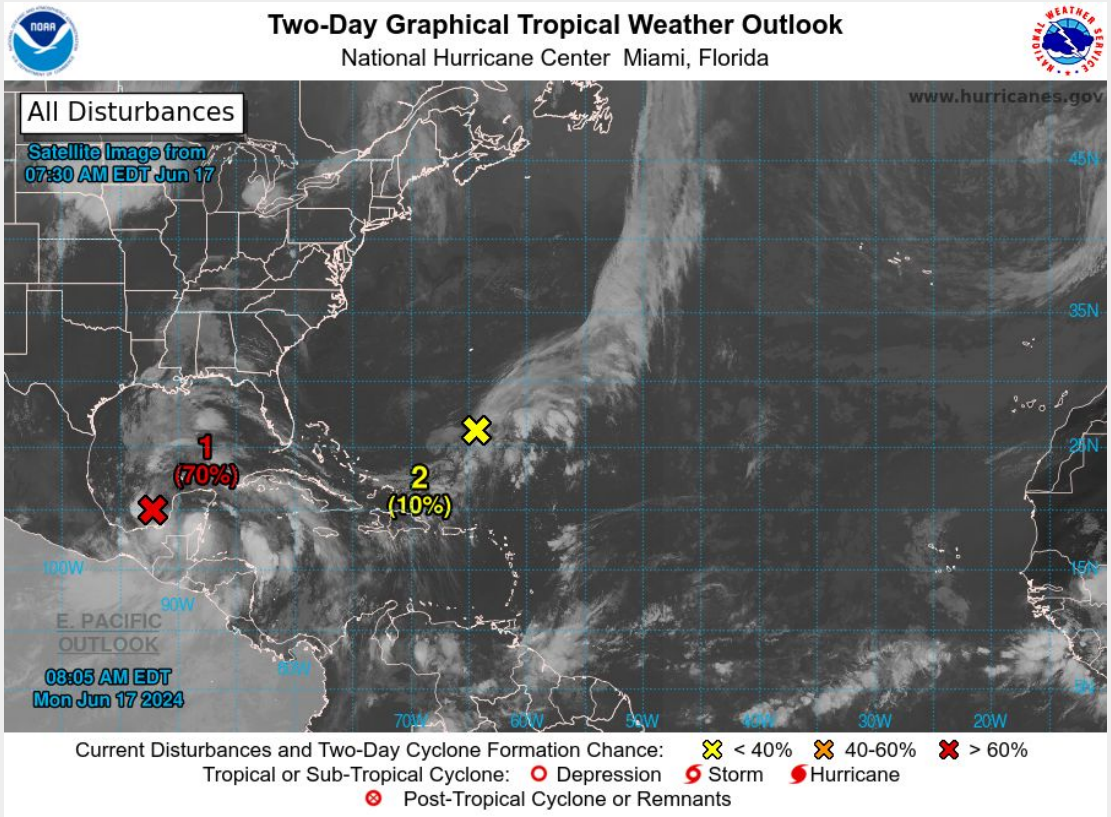


Tropical Weather Outlook

None

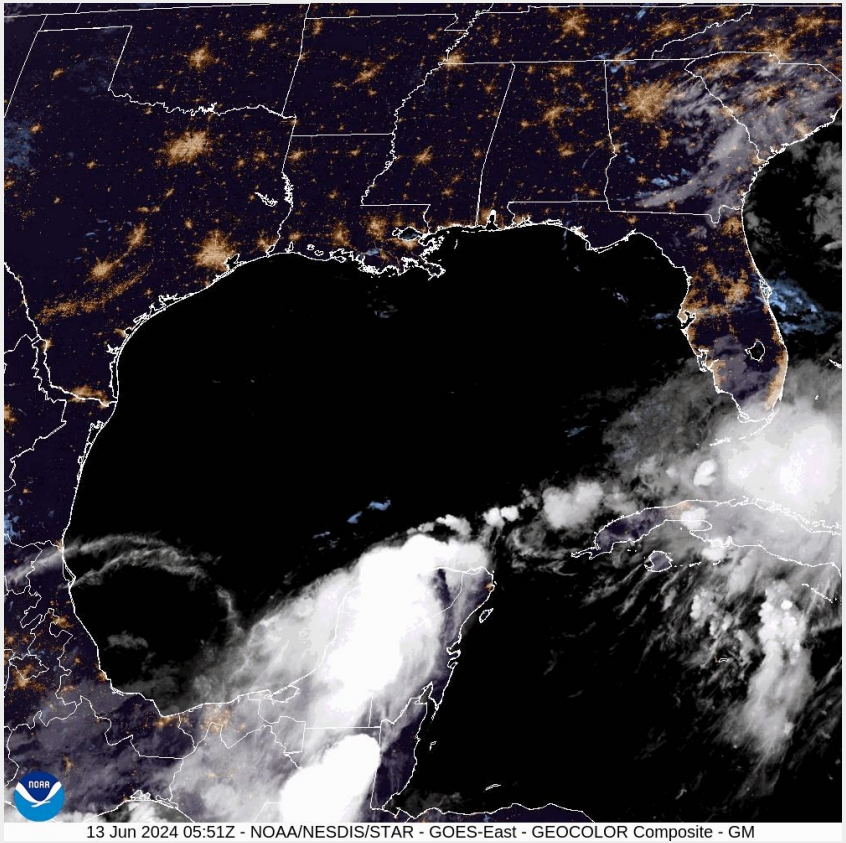


- Area of interest in the southwest Gulf of Mexico now has a 40% probability of development into a tropical cyclone over the next 7 days.
- Anticipated impacts to SE Texas at this time are similar whether a tropical cyclone forms or not - gustier winds, higher chances for rain and storms, increased potential for rip currents and high tide levels, and rougher seas.

- Reminder: The hatched area represents a possible development area, not the system's path after development occurs.

Current Satellite View

None



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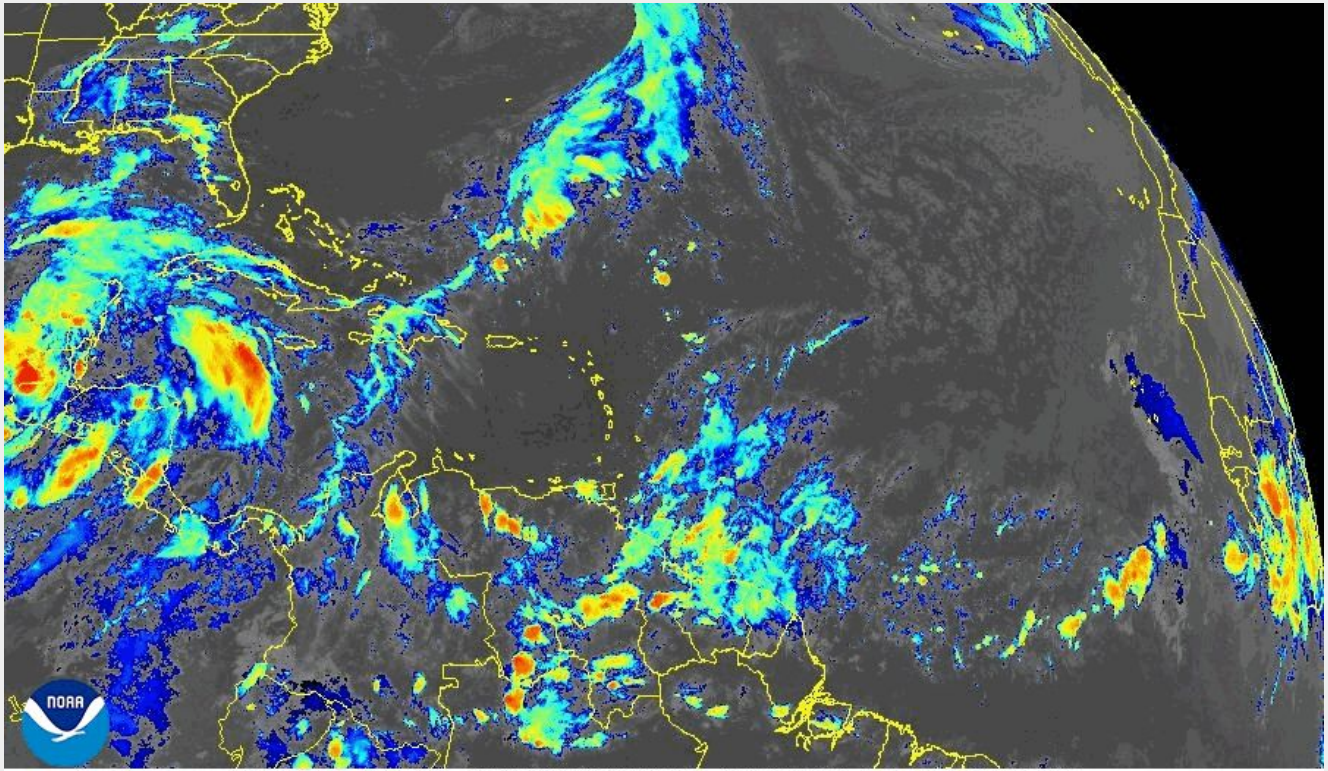
National Weather Service - Houston/Galveston, TX

Current Satellite View

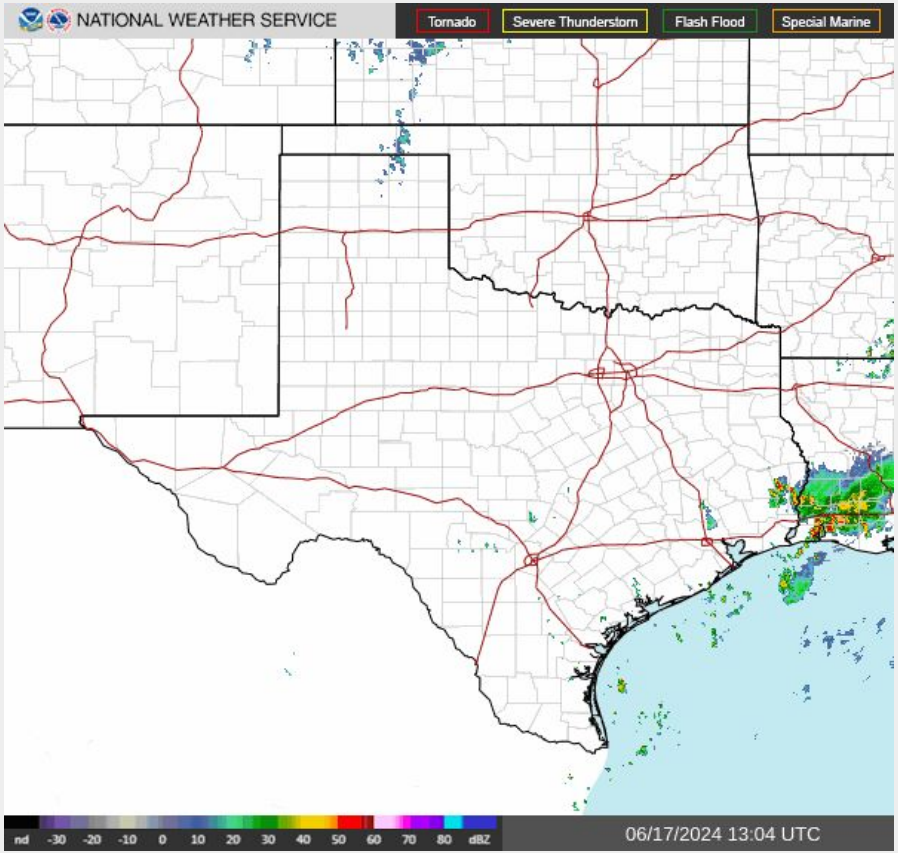
None



17 Jun 2024 02:30Z - NOAA/NESDIS/STAR - GOES-East - Sandwich Composite

Current Radar View

None



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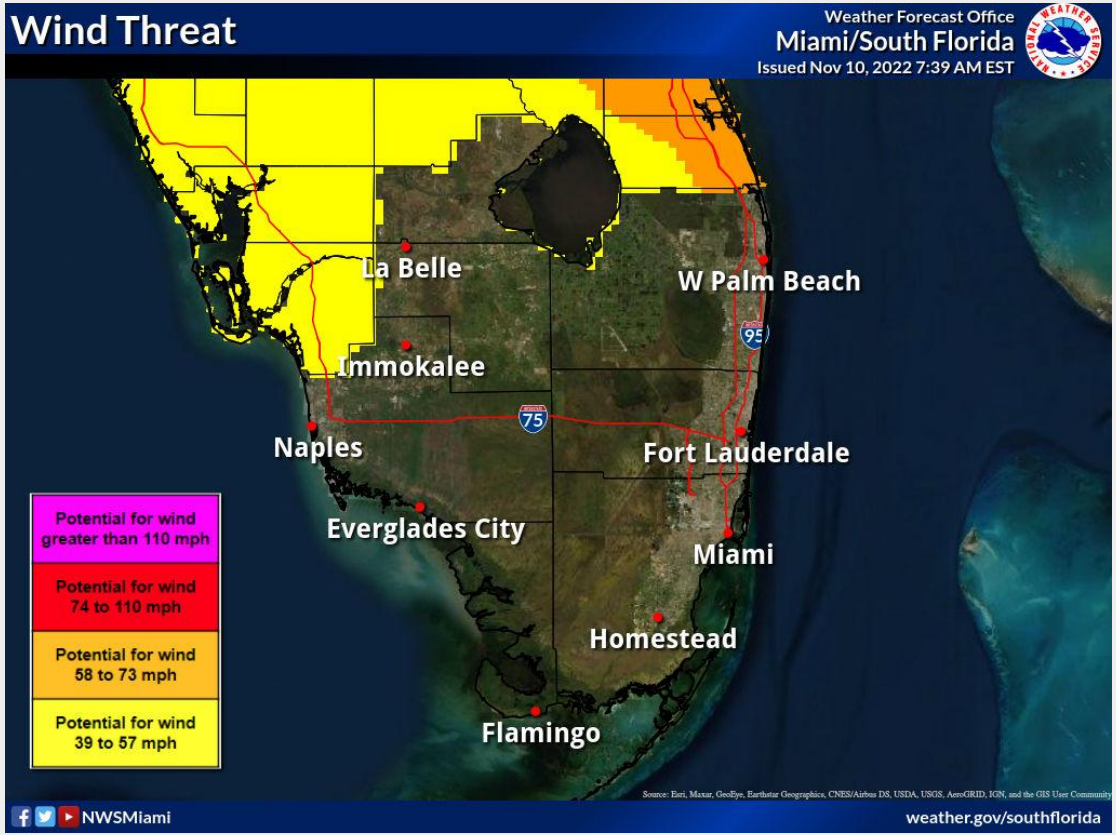
National Weather Service - Houston/Galveston, TX

Wind Threat / Potential Impact

None



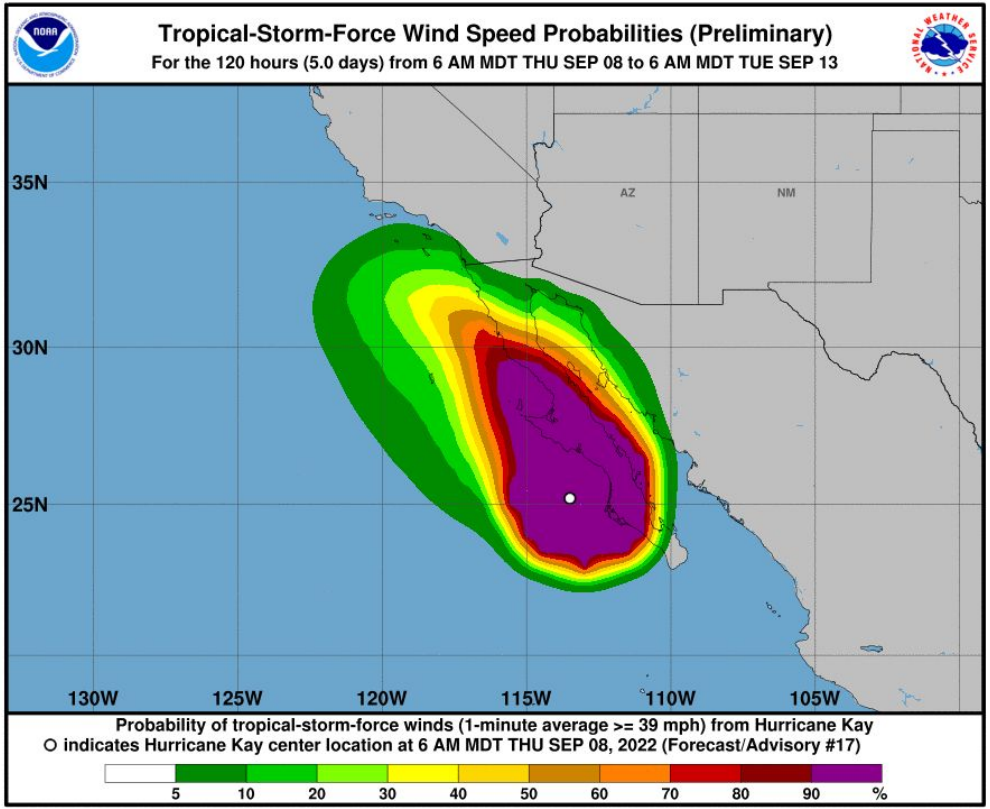
There is a potential for:

- Include 2-3 major threat and impact statements here (widespread power outages, etc)

- Recommend using mosaic graphics here (that do not stop at CWA borders)

Tropical Storm Wind Speed Probabilities

Hurricane Kay



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50 kt (58 mph) Wind Speed Probabilities

Hurricane Kay

In THREE bullet points or less:

- Use terms such as 9 in 10 chance, “near certainty”, or “still equal chances”
- Add trends in probabilities (steady, increasing, decreasing)
- Describe locations of greatest risk: {Area Description}. However,
- Similar chance of 50kt wind speeds occurring at all locations from (location) to (location)
- 50kt winds could begin as early as Sunday (if applicable).
- *If applicable:* 50kt winds could linger through {General Time Descriptor (24hr time scale)}.

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Hurricane Wind Speed Probabilities

Hurricane Kay

In THREE bullet points or less:

- Use terms such as 9 in 10 chance, “near certainty”, or “still equal chances”
- Add trends in probabilities (steady, increasing, decreasing)
- Describe locations of greatest risk: {Area Description}. However,
- Similar chance of hurricane conditions occurring at all locations from (location) to (location)
- Hurricane conditions could begin as early as Sunday (if applicable).
- *If applicable:* Hurricane conditions could linger through {General Time Descriptor (24hr time scale)}.

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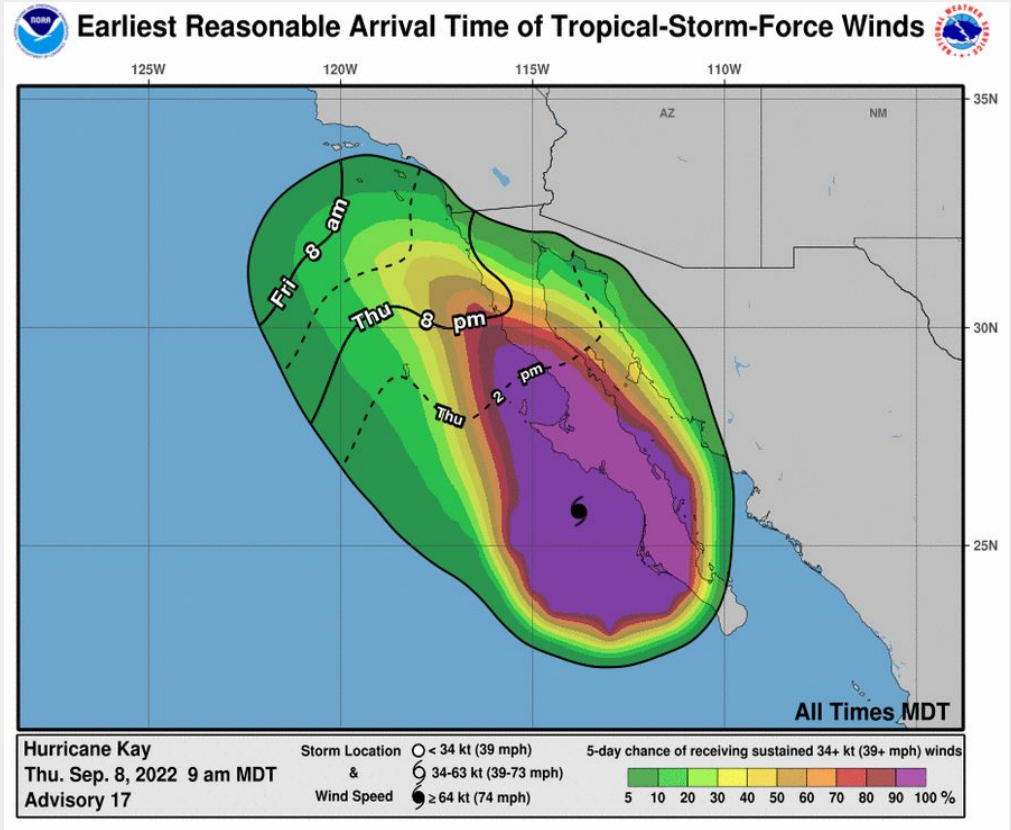
Earliest Reasonable Time of Arrival

Hurricane Kay



- The earliest reasonable time of arrival of Tropical Storm Force Winds for the Big Bend of Florida is Thursday morning

- <u>However,</u> the most likely time this area could see Tropical Storm Force Winds will be during the day on Thursday

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Wind Timing

None

Expected Duration of Wind Speeds		
Location	**Tropical Storm Force Winds**	**Hurricane Force Winds**
Region 1	Start/end times in an appropriate time frame (6hrs only when close to landfall)	Start/end times in an appropriate time frame (6hrs only when close to landfall)
Region 2	Start/end times in an appropriate time frame (6hrs only when close to landfall)	Start/end times in an appropriate time frame (6hrs only when close to landfall)
Region 3	Start/end times in an appropriate time frame (6hrs only when close to landfall)	Start/end times in an appropriate time frame (6hrs only when close to landfall)
Region 4	Start/end times in an appropriate time frame (6hrs only when close to landfall)	Start/end times in an appropriate time frame (6hrs only when close to landfall)
Region 5	Start/end times in an appropriate time frame (6hrs only when close to landfall)	Start/end times in an appropriate time frame (6hrs only when close to landfall)

Potential Storm Surge Impacts

None

There is a potential for:

- Include 2-3 major threats and impact statements here (damage to several buildings, moderate damage to marinas, docks, etc)

Last updated: 6/9/2023 12:34 PM EDT

Storm Surge - Initial Estimates

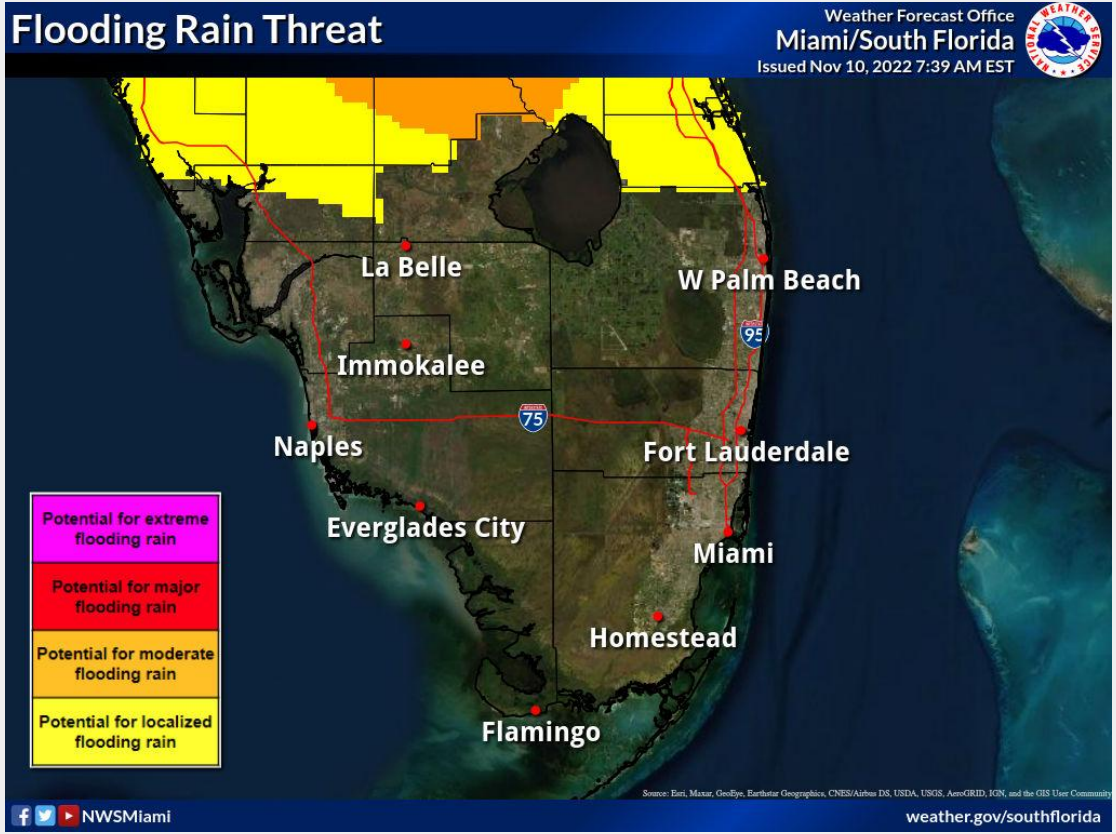
None

Estimated surge values are preliminary numbers only, they have not been verified

Location	Current Observations or Estimated Surge Level	Timing of when water is expected to recede
Region 1	Make sure you specify datum	Expected end time
Region 2	Make sure you specify datum	Expected end time
Region 3	Make sure you specify datum	Expected end time
Region 4	Make sure you specify datum	Expected end time
Region 5	Make sure you specify datum	Expected end time

Inland Flooding Impacts

None

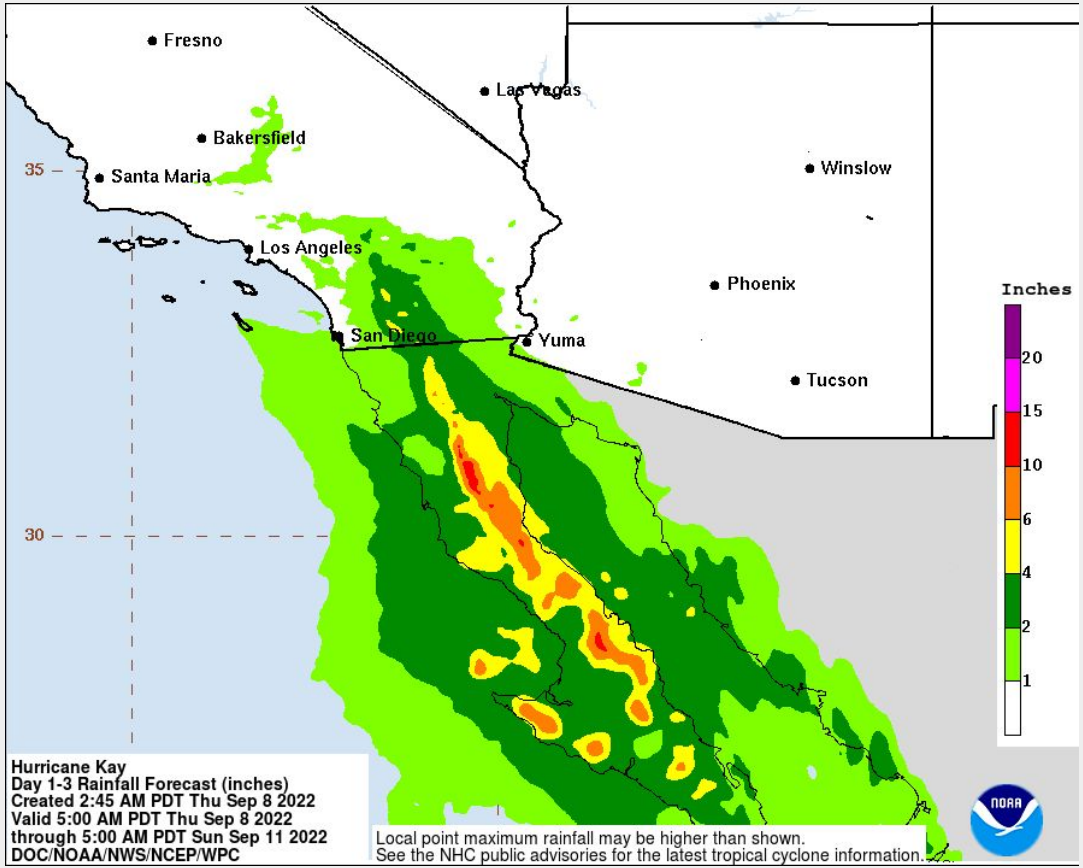


- Areas outlined in <yellow> <orange> <red> have the greatest potential for flash flooding on < day >

- For generalized potential impacts, use Impact Graphics statements as guidelines

Expected Storm Total Rainfall

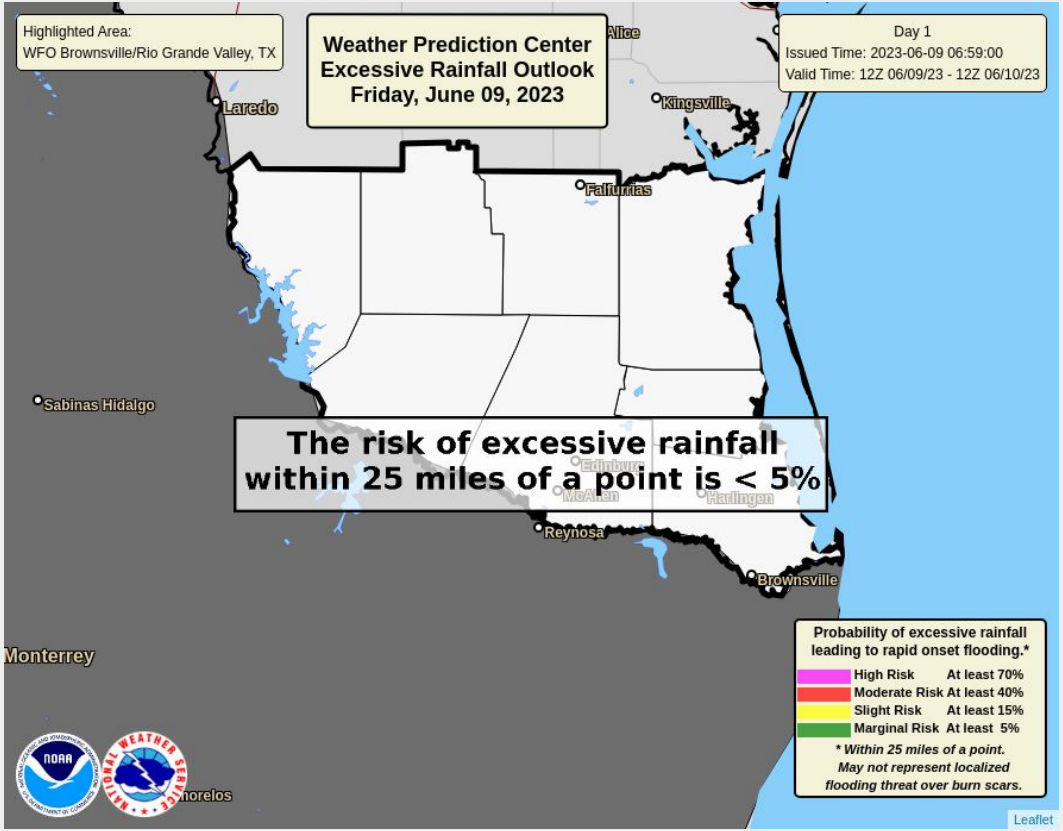
Hurricane Beryl



Last updated: 7/5/2024 8:06 AM CDT

Excessive Rainfall Outlook

None



- Areas outlined in <yellow> <orange> <red> have the greatest potential for flash flooding on < day >
- For generalized potential impacts, use Impact Graphics statements as guidelines

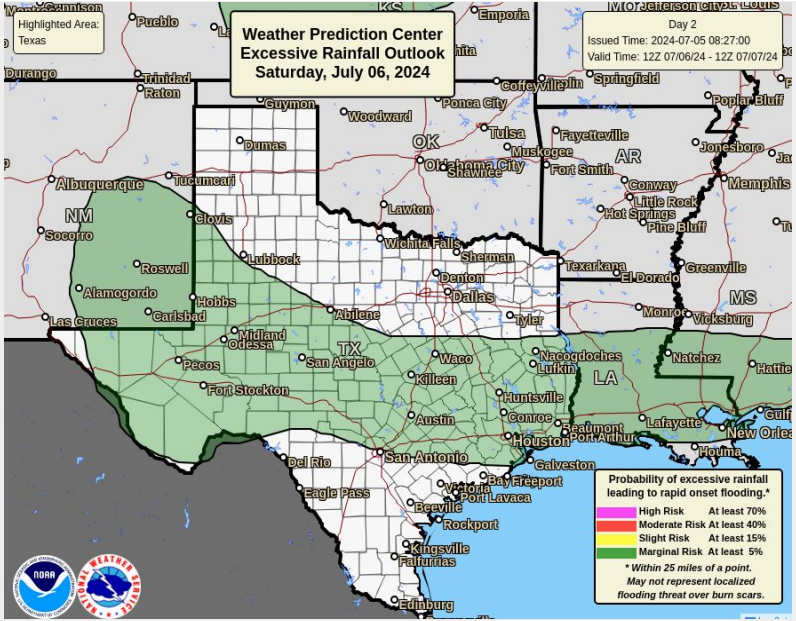
Last updated: 6/9/2023 12:34 PM EDT

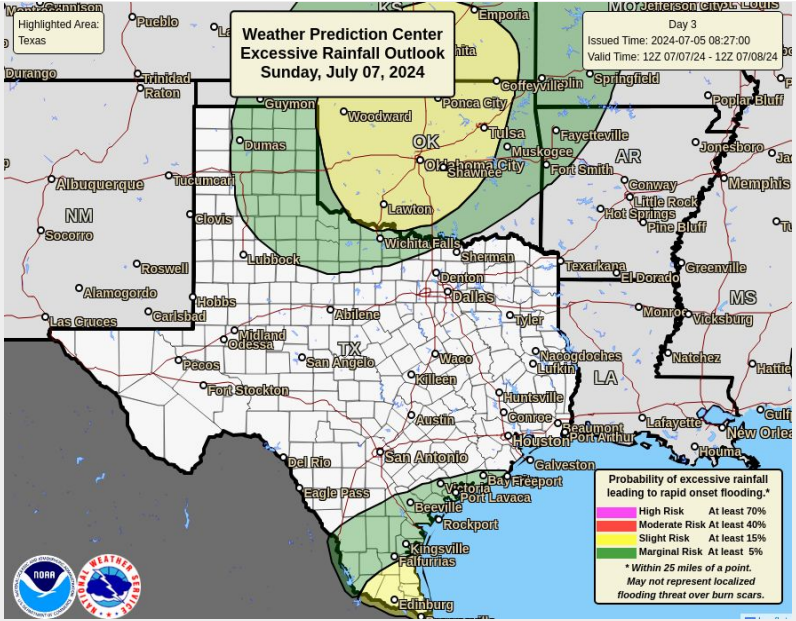
National Weather Service - Houston/Galveston, TX

Excessive Rainfall Outlook

Hurricane Beryl

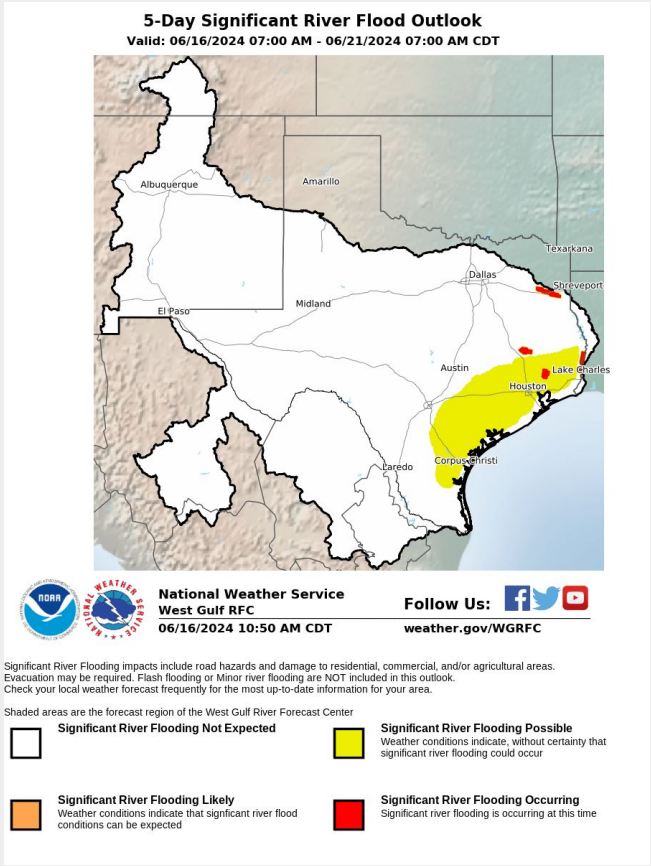
- Areas outlined in <yellow> <orange> <red> have the greatest potential for flash flooding on < day >
- For generalized potential impacts, use Impact Graphics statements as guidelines





River Flood Outlook

None

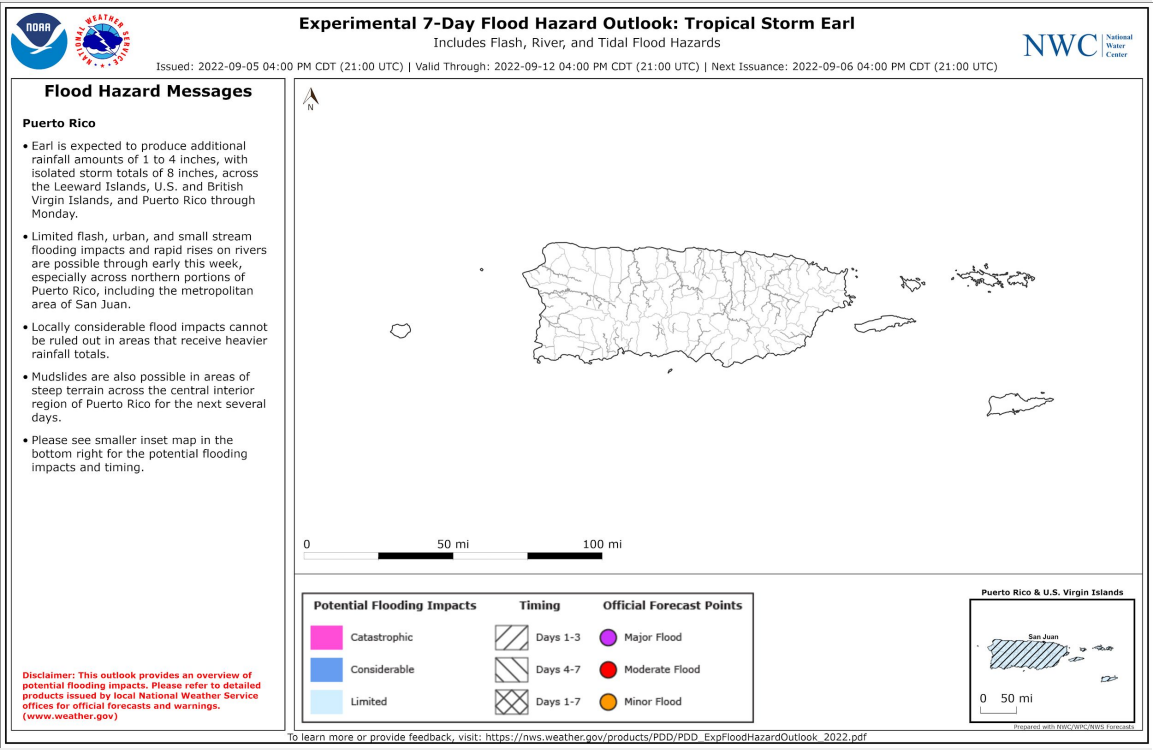


Last updated: 6/17/2024 8:31 AM CDT

National Weather Service - Houston/Galveston, TX

Flood Hazard Outlook

Hurricane Kay

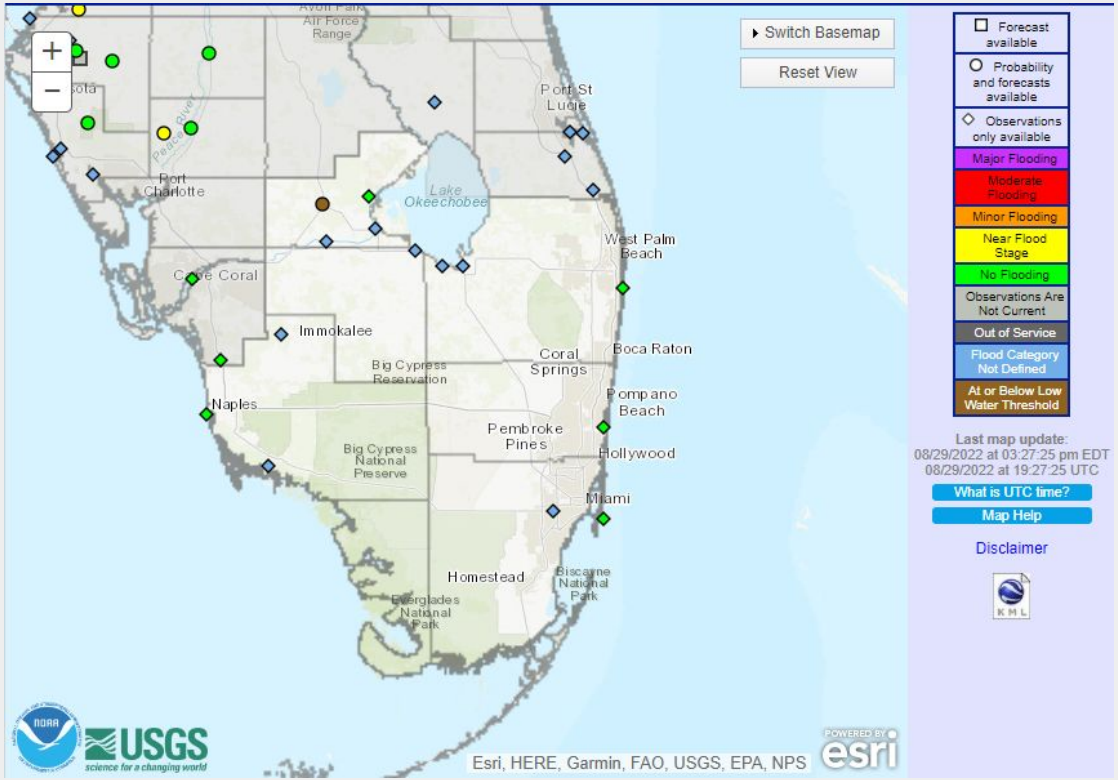


Last updated: 9/8/2022 11:10:07 AM

National Weather Service - Houston/Galveston, TX

River Flooding

None



- Discuss what rivers are in moderate/major flood, or forecast to soon rise into moderate/major flood

- Be sure to discuss what additional rainfall not currently included in the RFC forecast may do

River Flood Table

None

Location	Flood Stage	Current Level	Forecast Crest & Category	Crest Date

Major River Flooding	Moderate River Flooding	Minor River Flooding	Near Flood

Last updated: 6/17/2024 8:31 AM CDT

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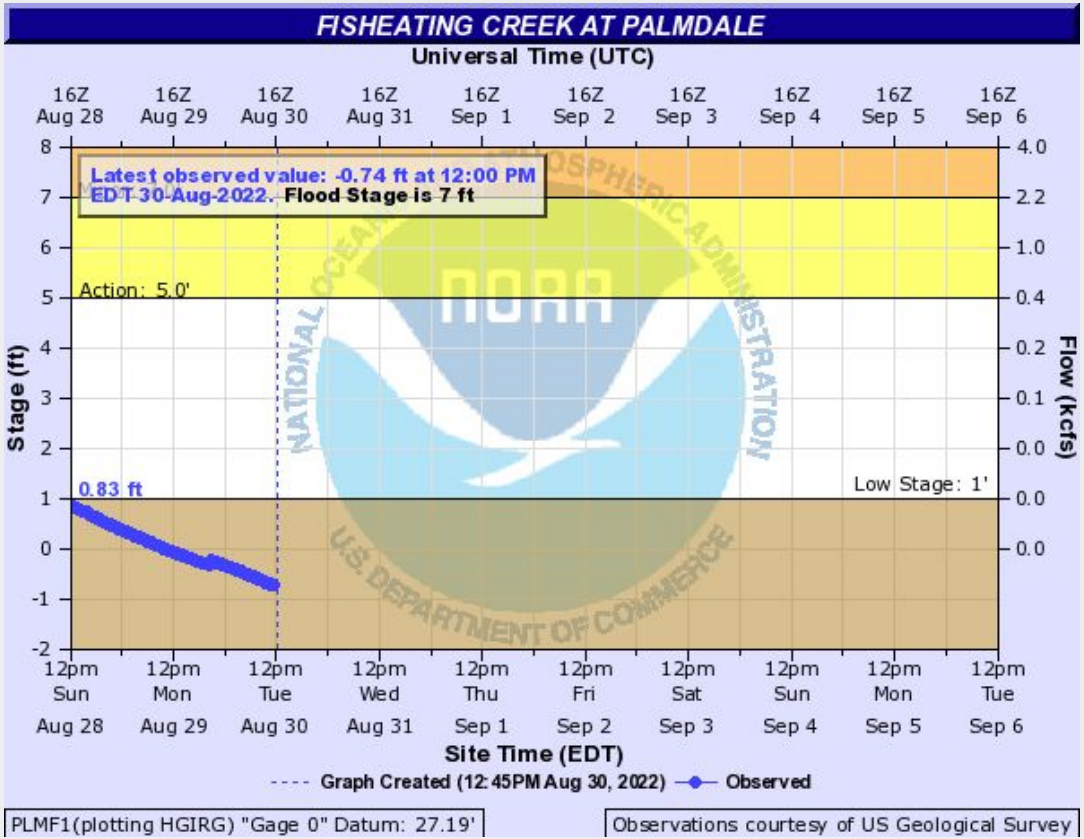
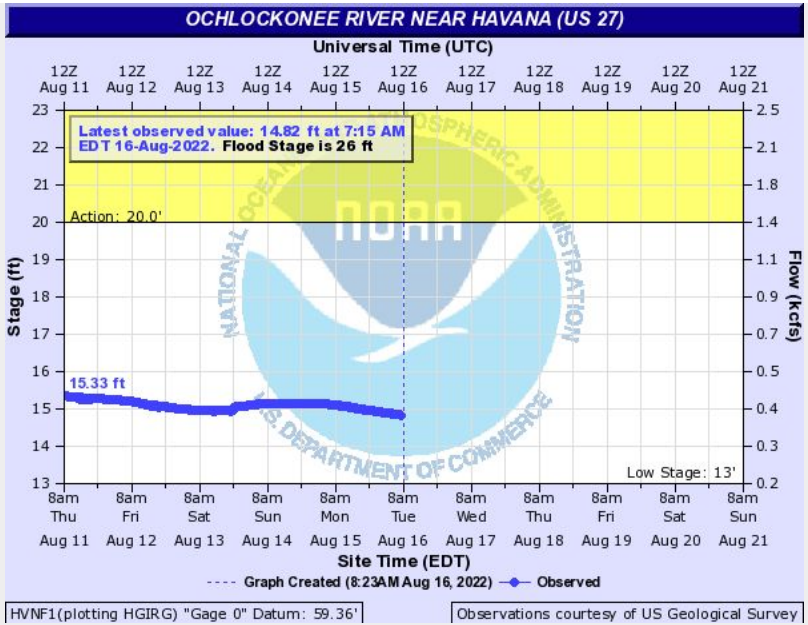
Expected River Flooding

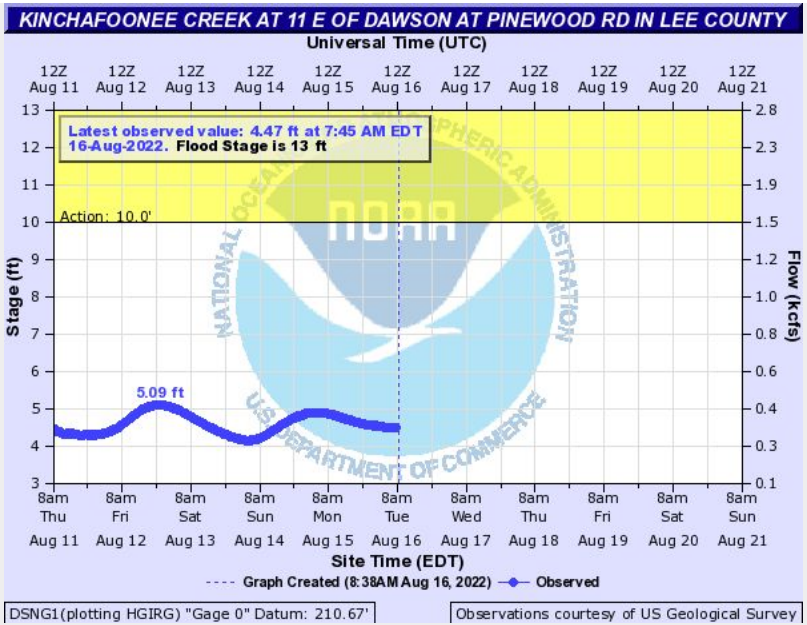
None



Expected River Flooding

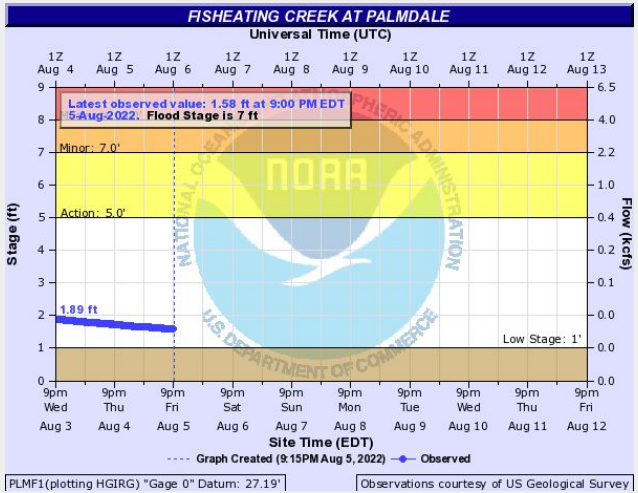
None

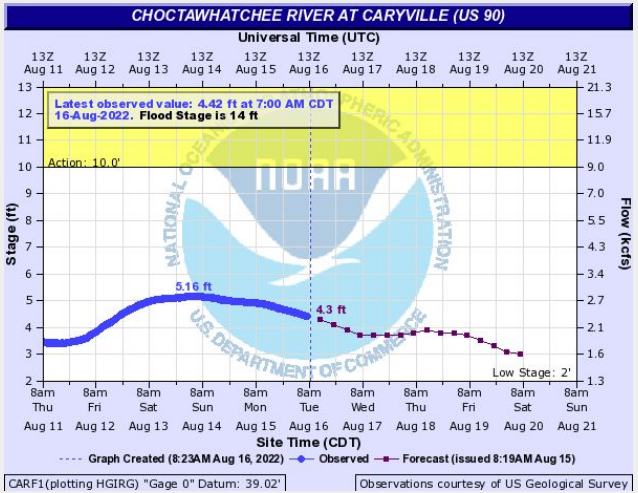


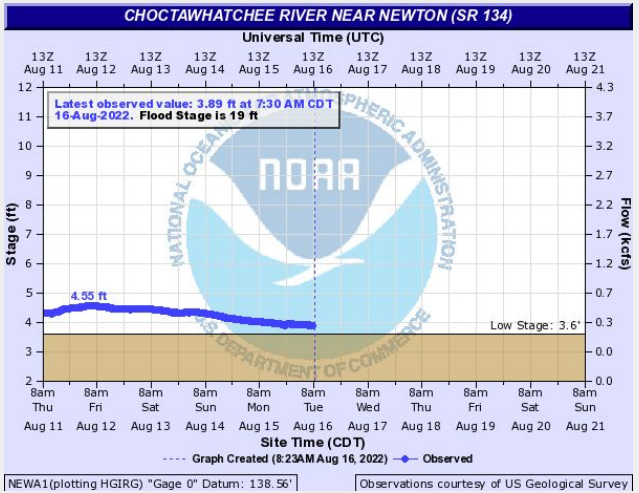


Expected River Flooding

None



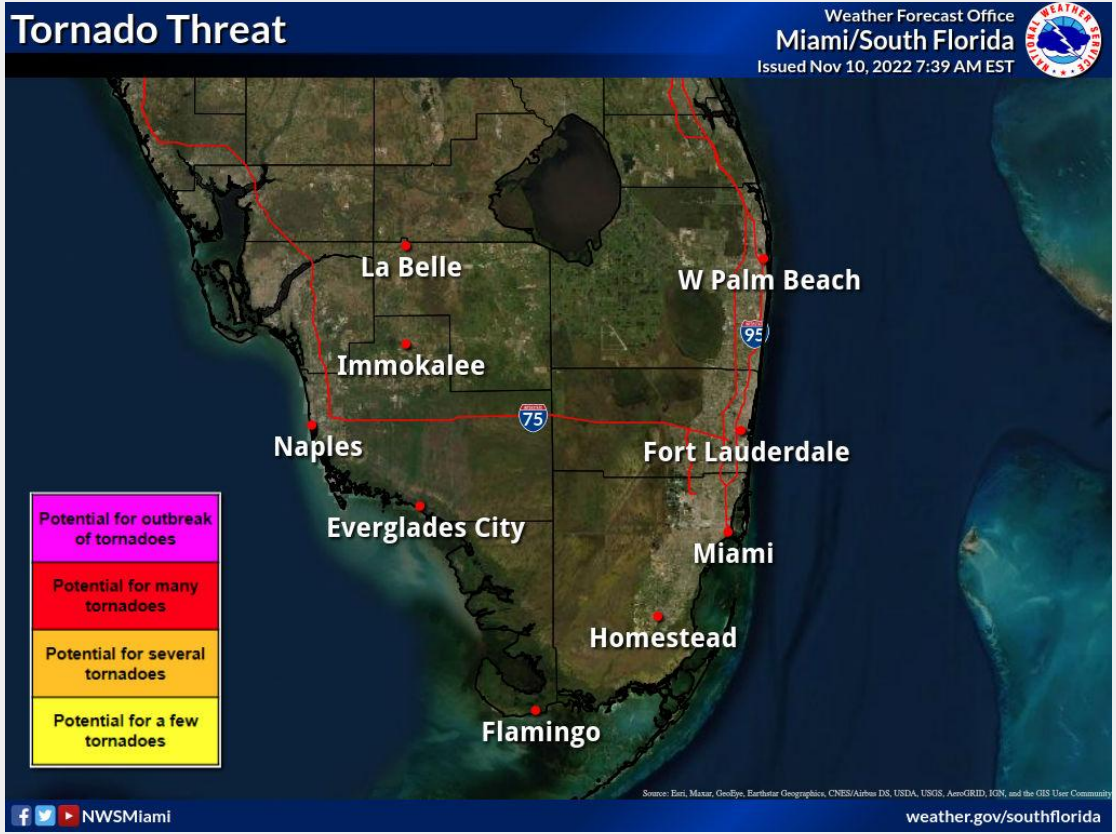




Last updated: 6/13/2024 5:30 AM CDT

Potential Tornado Impacts

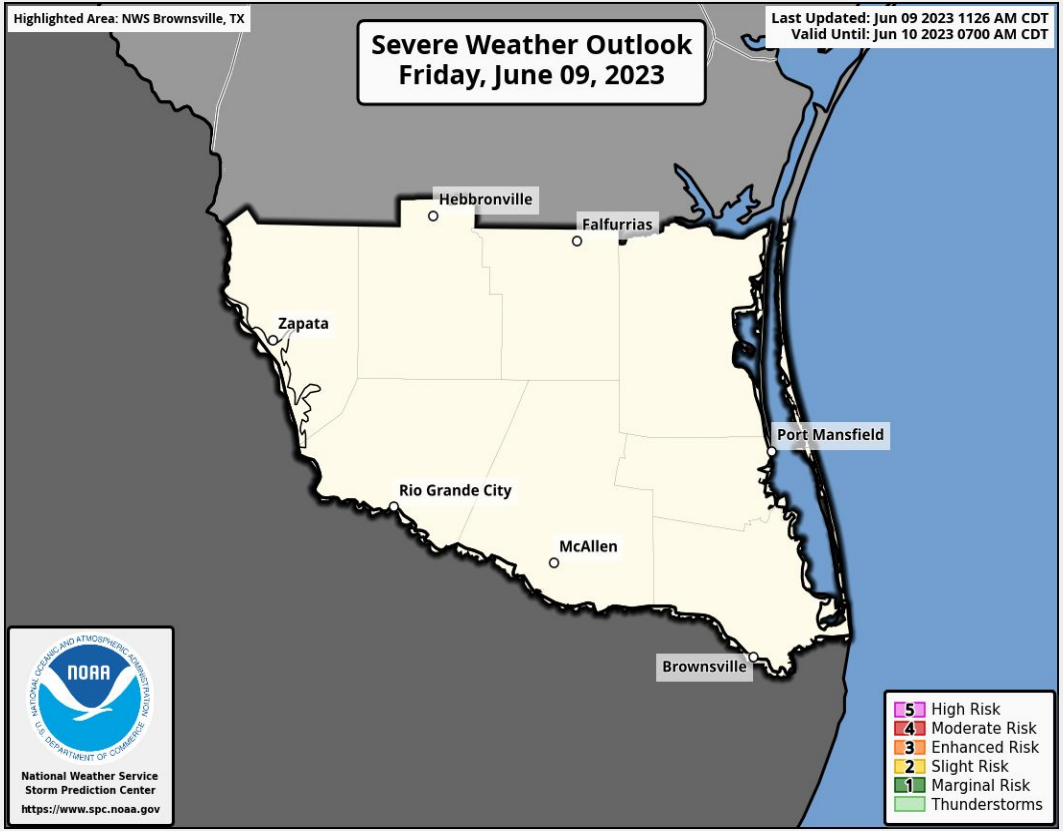
None



- Main threat of tornadoes would be from (day) (timing) to (day) (timing)

Tornado Potential

Tropical Storm Alberto

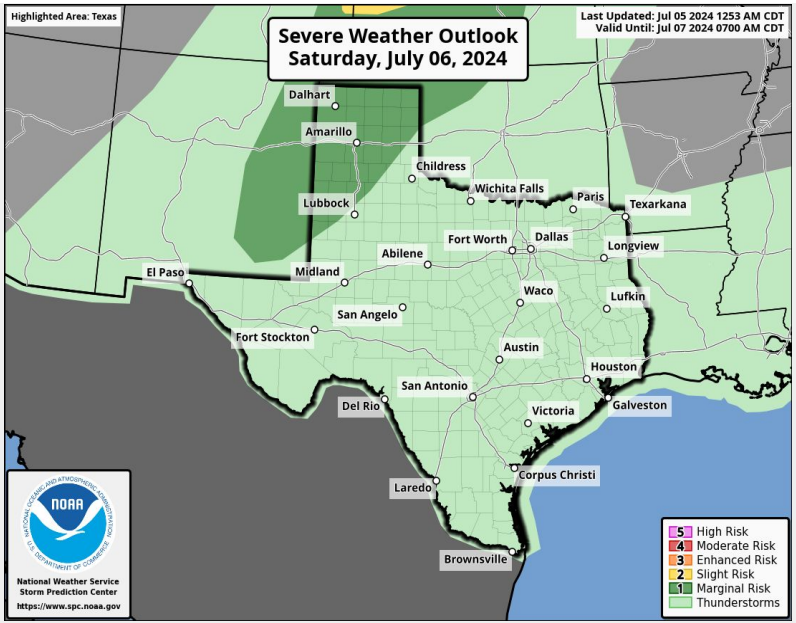


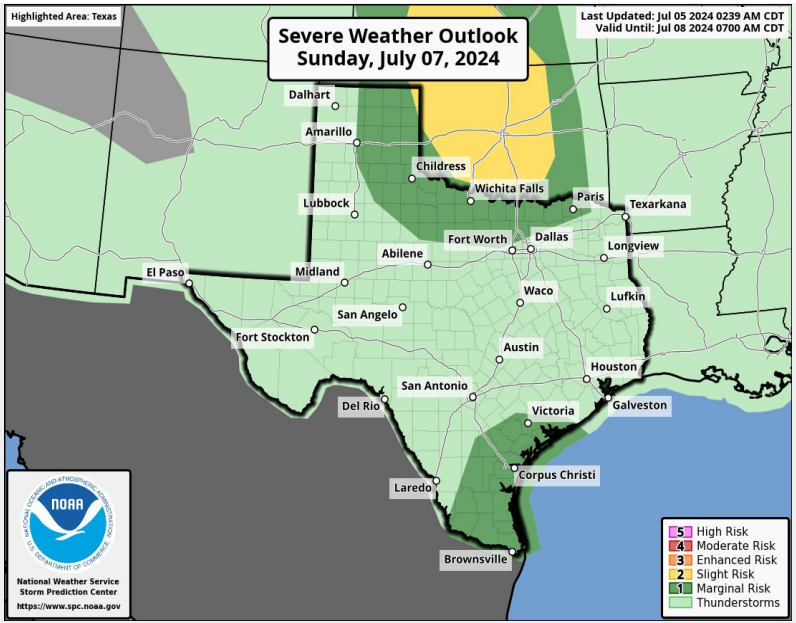
- Main threat of tornadoes would be from (day) (timing) to (day) (timing)

Tornado Potential

Hurricane Beryl

- Main threat of tornadoes would be from (day) (timing) to (day) (timing)





5-Day Outlook

None

	Tuesday	Wednesday	Thursday	Friday	Saturday
Severe Thunderstorm					
Lightning					
Excessive Heat					
High Surf					
Rip Current					

Risk Level	None	Limited	Elevated	Significant	Extreme

Last updated: 4/9/2024 9:25 AM CDT

National Weather Service - Houston/Galveston, TX

5-Day Outlook

None

Threat	Monday	Tuesday	Wednesday	Thursday	Friday
Severe Storms					
Lightning					
Heat Index					
Insert other hazard here					

Risk Level	None	Limited	Elevated	Significant	Extreme

Key Take-Aways

None

Confidence is [LOW/MODERATE/HIGH] that the event will occur
Confidence is [LOW/MODERATE/HIGH] regarding impacts

Strong wind gusts expected, mainly north of <location>.

Surge flooding expected, mainly north of <location>.

Rainfall flooding likely, mainly north of <location>.

Isolated weak tornadoes, mainly north of <location>.

Dangerous marine conditions expected across the coastal waters.