

National Weather Service - Houston/Galveston, TX

# **Tropical Storm Beryl Briefing**

11:00 AM

Saturday, July 6th, 2024

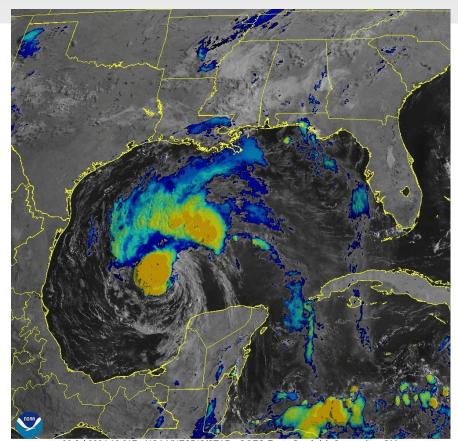
Dan Reilly, NWS Houston/Galveston



### **Situation Overview**

#### Hurricane Beryl

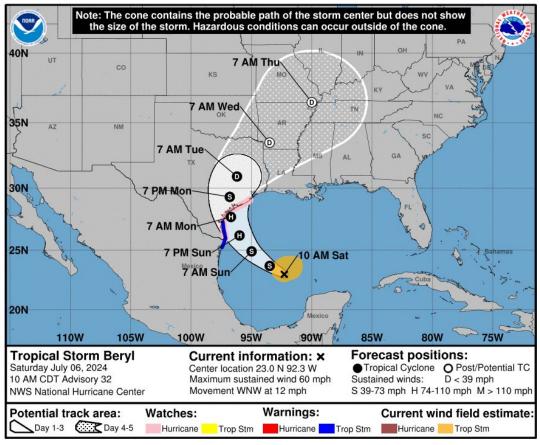
- Tropical Storm Beryl has been disorganized overnight but likely seeing signs of strengthening as thunderstorms develop around the center. Forecast to become a hurricane again prior to making landfall.
- Hurricane Watch along the Texas coast up to San Luis Pass. Storm Surge Watch in effect for all coastal waters.
- Watches will be upgraded to warnings for portions of the watch areas this afternoon.
- Rainfall amounts of 5 to 10 inches are expected with local amounts up to 15 inches where the heaviest rainfall occurs (mainly our western counties).
- Rip currents, elevated tides and seas are likely across all coastal areas even outside watch areas.





## Tropical Storm Beryl

**Hurricane Beryl** 



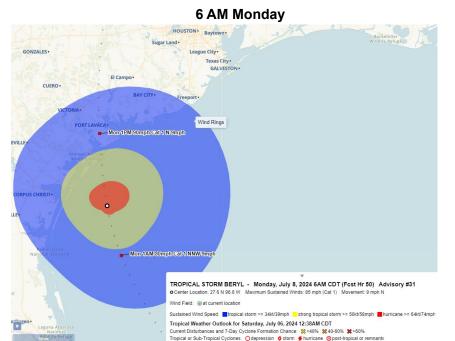
- NHC forecast brings center of Beryl into Texas coast, mostly likely near or S of Matagorda Bay, with center line near Port O Connor. Forecast to be a category one at landfall.
- After landfall, Beryl takes a more northerly track.
- Forecast track has been fairly consistent past 18 hours, confidence increasing but some shifts could still occur.
- Hurricane Watch area shown.
- Stay tuned for updates as warnings likely to be introduced for portions of the area with 4 pm advisory.

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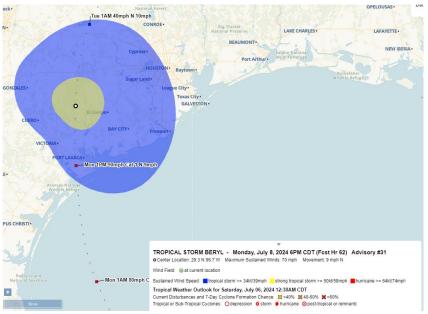


## Forecast Wind Field - Hurrevac

**Tropical Storm Beryl** 



#### 6 PM Monday



Current forecast (if perfect) wind field close to arrival of TS winds (Sunday aft/night) and landfall on Monday.



Advisory 32

### Most Likely Time of Arrival

**Hurricane Beryl** 







≥ 64 kt (74 mph)

- The most likely time of arrival of Tropical Storm Force Winds Sunday night.
- Note the higher point probabilities near and around our SW Counties, lesser probabilities Galveston Bay.

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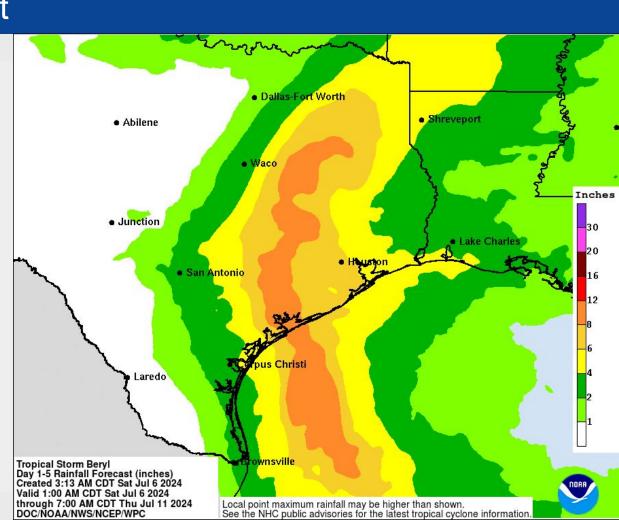
### Rainfall Forecast

Storm total rainfall amounts of 5 to 10 inches with localized amounts of 15 inches are expected.

Beginning late Sunday.

Period of heaviest rain Sunday Night into Tuesday.

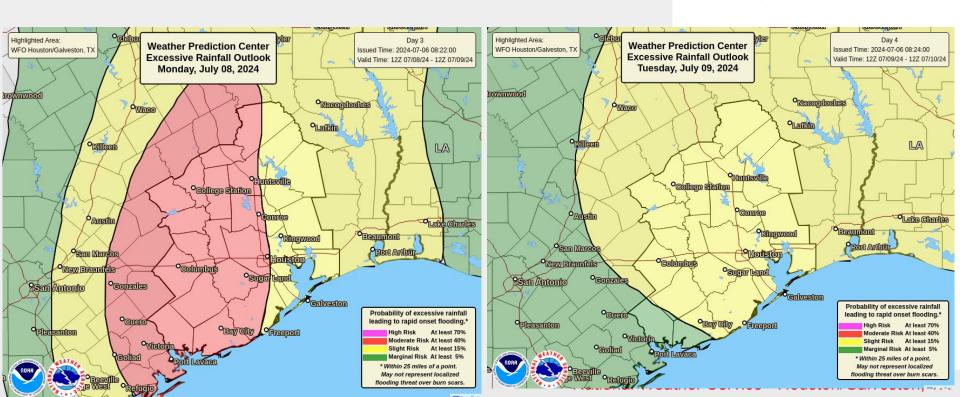
The heavier band will be generally near or right of the center track.





### **Excessive Rainfall Outlook**

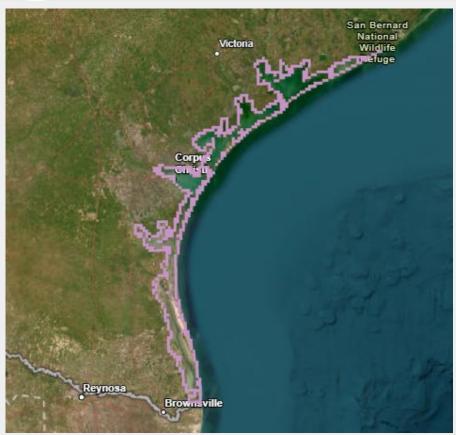
Main heavy rain/flash flood threat will be Sunday Night into Tuesday for the local area. Risk rated as Moderate for western counties which will be closer to the track, highest rainfall.





## Storm Surge Watch / Warning

Beryl



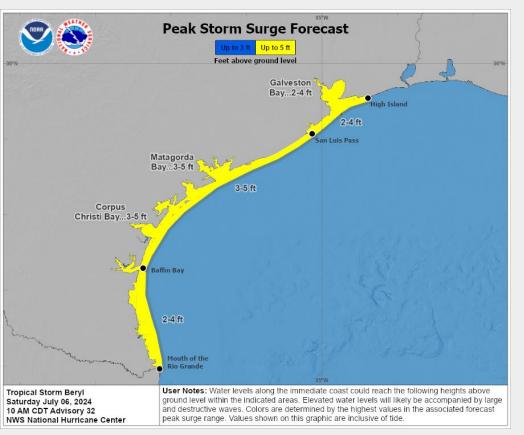
Storm Surge Watch along Texas
 Coast up to Sargent, TX

 Three to five feet of water above normally dry ground is possible in watch area.



## Peak Surge (Height Above Normally Dry Ground)

Beryl



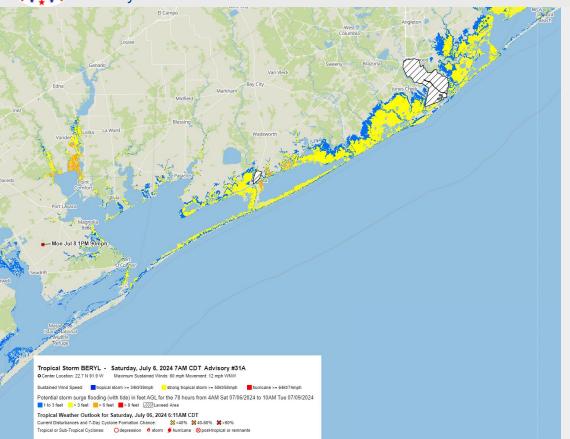
Peak surge 3 to 5 feet above ground level up to San Luis Pass, 2 to 4 feet N of San Luis Pass including Galveston Bay.

A Storm Surge Watch is in effect for these areas. Portions of the watch area will be upgraded to a warning this afternoon.



## Potential Storm Surge Flooding

Beryl

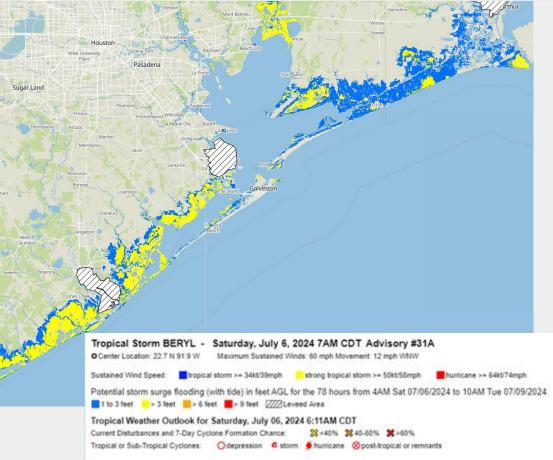


- Map shows areas, depth of water that may occur (surge potential, reasonable worst case).
- Can be viewed at hurricanes.gov and, for EMCs, using Hurrevac.
- Blue shaded 1 to 3 feet above ground level, yellow >3 feet above ground level



## Potential Storm Surge Flooding

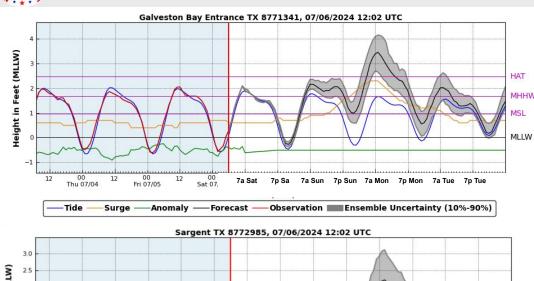
Beryl

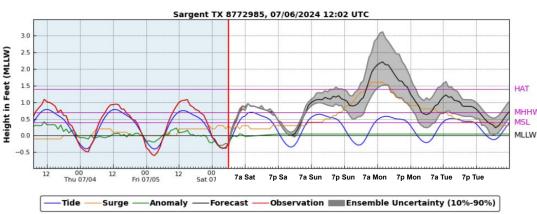


- Map shows areas, depth of water that may occur (surge potential, reasonable worst case).
- Can be viewed at hurricanes.gov and, for EMCs, using Hurrevac.
- Blue shaded 1 to 3 feet above ground level, yellow >3 feet above ground level



## Tide Forecast – Probabilistic Model (PETSS)





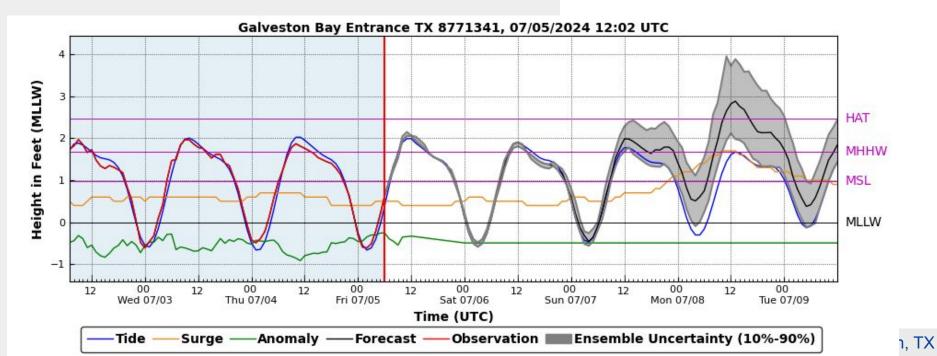
- Water levels shown are relative to MLLW
- Highest water levels Sunday night,
   Monday and Monday night.
- Values may be a bit low, especially closer to center track down near Matagorda Bay.
- Refer to NHC modelling for more realistic values for those areas (esp around Matagorda Bay).
- Still some uncertainty as is dependent on wind field size and the exact track.
- For Galveston Bay these values near or a little below levels seen in Alberto. Would be higher with a track shift.



## High Tides, Water Levels, Starting Late Sunday, Monday

**Hurricane Beryl** 

Will see some higher water levels Sunday and especially Monday and Tuesday. How high will be highly dependent on track, intensity, highly uncertain. This mornings surge modelling show tide levels potentially up to 4 feet above MLLW (3 feet above MHHW) but big spread. Will likely have more information on this with future briefings. (On this map subtract 5 hours to convert UTC to CDT)

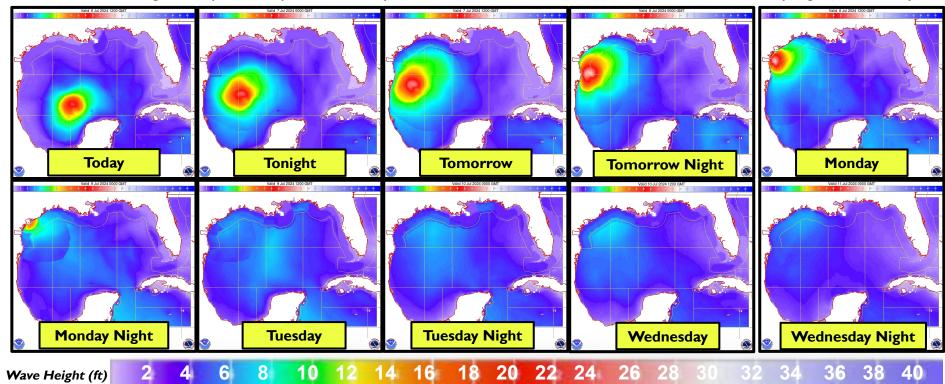




## Forecast Wave Heights: Gulf of Mexico

See <a href="http://www.hurricanes.gov">http://www.hurricanes.gov</a> 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 Sunday night and Monday.



#### Seas:

- ☐ Arrival of 6+ foot seas: Saturday Night >20 nm offshore, within 20 nm Sunday morning
- ☐ Peak seas: 20-30 feet near mid-Texas coast. Potential improvement (seas < 6 feet nearshore): late Monday

### Winds:

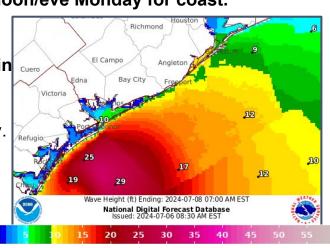
- ☐ Onset of sustained TS winds: Sunday afternoon lower coast/Sunday night upper coast.
- ☐ Onset of hurricane force winds: **Monday morning or mid-day mid coast**.
- ☐ Potential improvement (winds <30 knots): Speeds decreasing late afternoon/eve Monday for coast.

### **Coastal flooding / surge**:

Water levels will likely begin to rise on Sunday, peaking Monday mornin

#### Beach:

☐ Increasing surf and threat for dangerous rip currents: beginning Sunday.

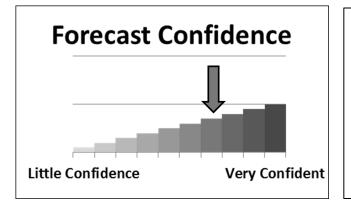




## Key Take-Aways

#### **Hurricane Beryl**

- Track forecast for Beryl has been more consistent the past 18 hours, focusing on a landfall near or south of Matagorda Bay. Confidence in track increasing.
- Beryl is a tropical storm now, but forecast to strengthen to a category one hurricane before landfall. Best practice is to plan for one category higher (cat 2)
- A Hurricane Watch is in effect along Texas Coast up to San Luis Pass. A Storm Surge Watch in affect for all coastal areas. Portions of the watch area likely to be upgraded to warnings this afternoon (especially those closest to track)
- Rainfall amounts of 5 to 10 inches are expected with local amounts up to 15 inches where the heaviest rain falls...leading to a flood threat (flash and river).
- Rip currents, elevated tides and seas are likely across all coastal areas even outside watch areas.



Confidence increasing in track and intensity forecasdt but changes may still occur. Stay tuned for updates!

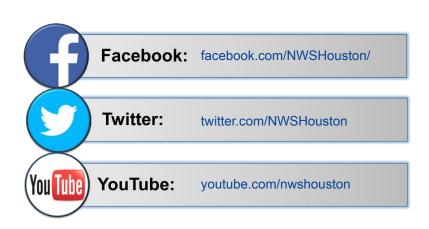


## Next Briefing: July 6th, 5:00 PM CDT Method: Webinar

Www Web: weather.gov/houston

Phone: 281-337-5074

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







## What We Know



## What we **DON'T** 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

#### **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**

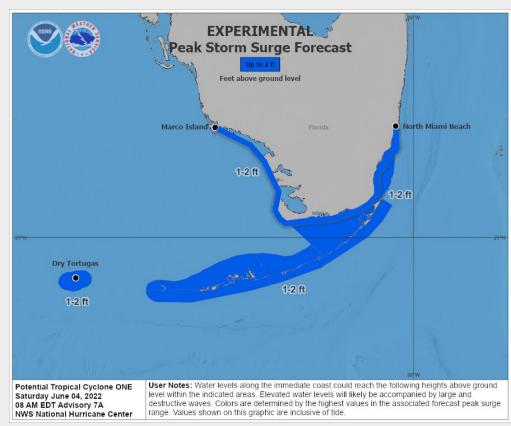
Increased risk for strong rip currents beginning this weekend Long period swells in the waters and elevated tides

Issued: 7/5/2024 11:21 AM National Weather Service – Houston/Galveston weather.gov/houston



## Peak Storm Surge

#### **Hurricane Kay**





### Situation Overview

Hurricane Beryl

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

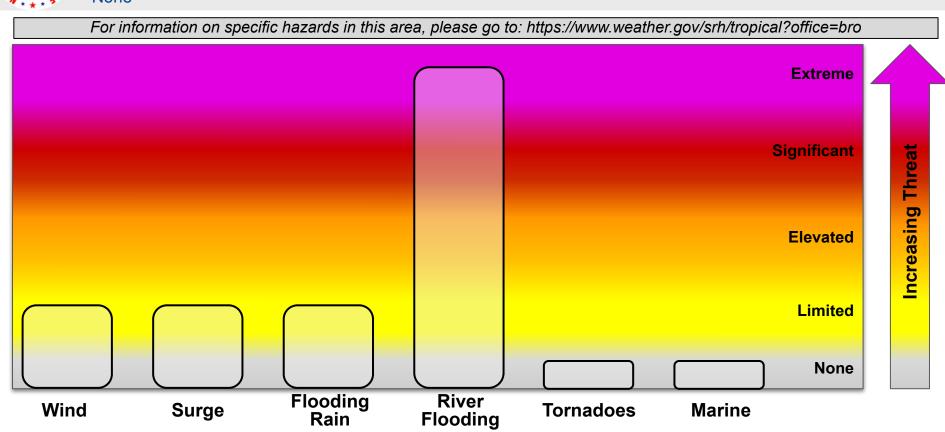
Last updated: 7/5/2024 8:06 AM CDT

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### Threat Levels

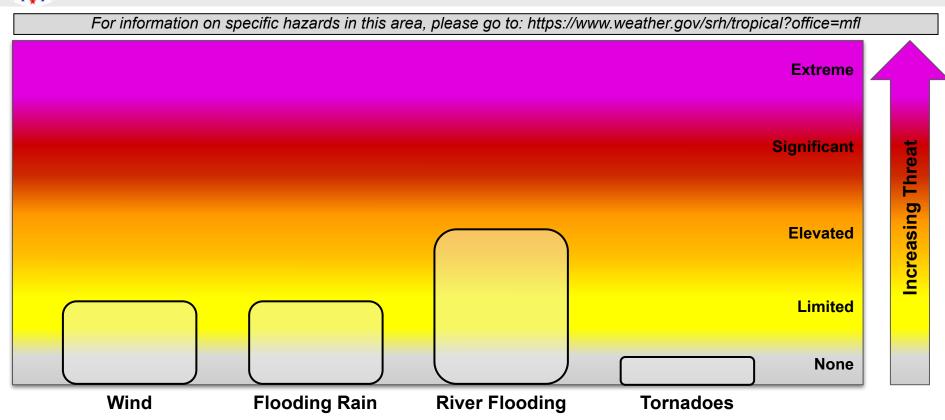
None





### Threat Levels

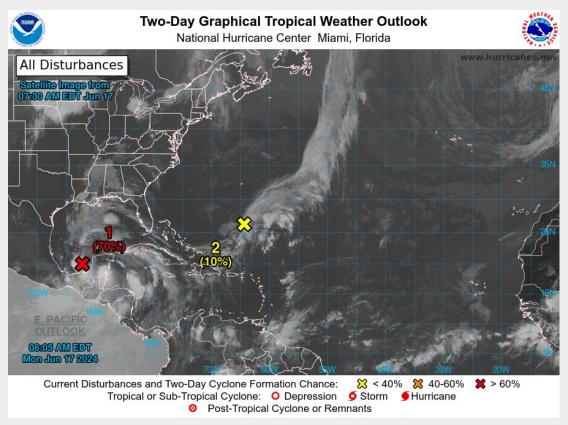
None





### **Tropical Weather Outlook**

None



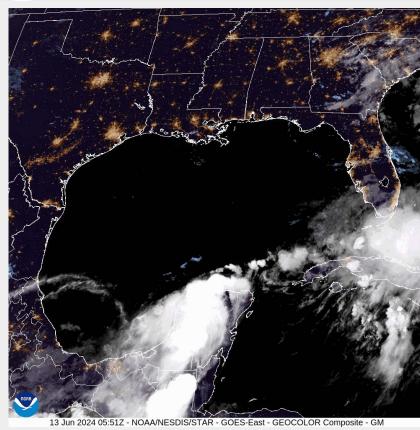
- Area of interest in the southwest Gulf of Mexico now has a 40% probability of development into a tropical cyclone over the next 7 days.
- Anticipated impacts to SE Texas at this time are similar whether a tropical cyclone forms or not - gustier winds, higher chances for rain and storms, increased potential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

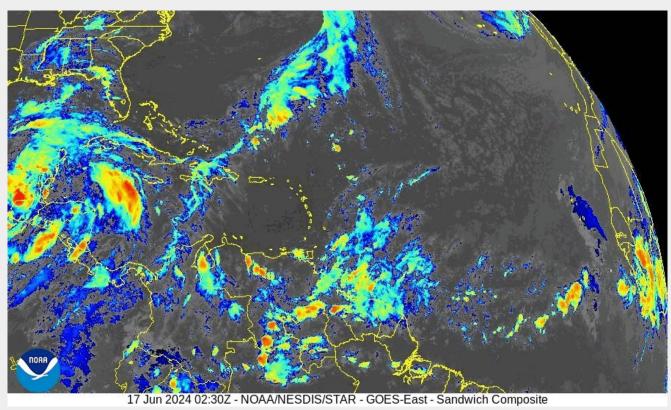
None





## **Current Satellite View**

None



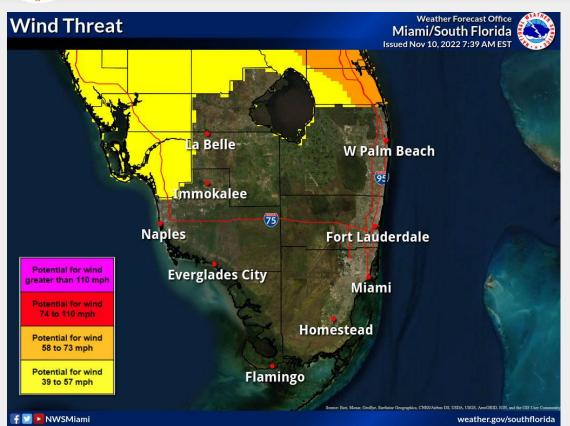






### Wind Threat / Potential Impact

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





## 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)}.



### 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)}.



### 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

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



Location

Region 5

### **Expected Duration of Wind Speeds**

**Tropical Storm 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)

Start/end times in an appropriate time

frame (6hrs only when close to landfall)

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

.M CDT National Weather Service - Houston/Galveston, TX

**Hurricane Force Winds** 

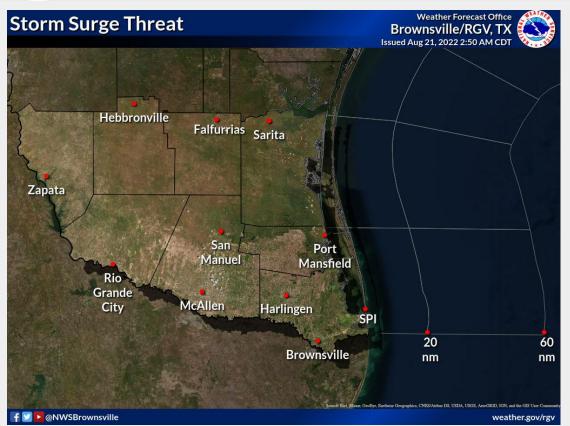
Start/end times in an appropriate time

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)



### Storm Surge - Initial Estimates

None

Estimated surge values are	preliminary numbers on	ly, they have not been verified
Louinated dange variated and	promining mambers on	ry, they have hot been vermed

Location	Estimated Surge Level	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

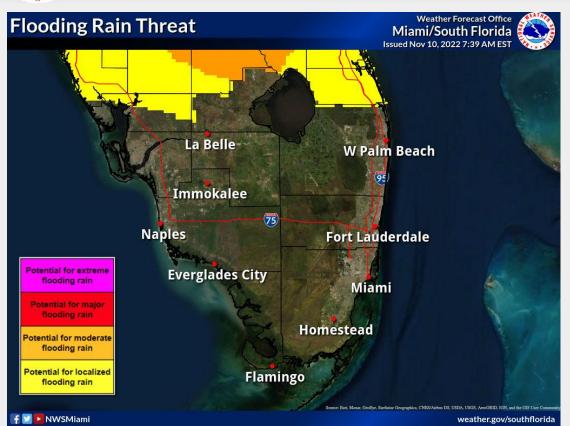
Region 4 Make sure you specify datum Expected end time

Region 5 Make sure you specify datum Expected end time National Weather Service - Houston/Galveston, TX



### Inland Flooding Impacts

None



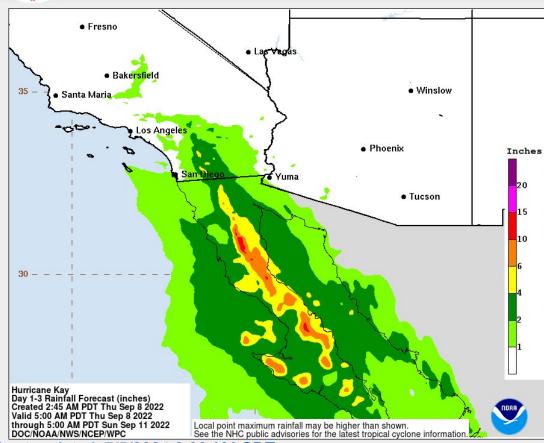
Areas outlined in <yellow>
 <orange> <red> have the
 greatest potential for flash
 flooding on < day >

 For generalized potential impacts, use Impact Graphics statements as guidelines



## **Expected Storm Total Rainfall**

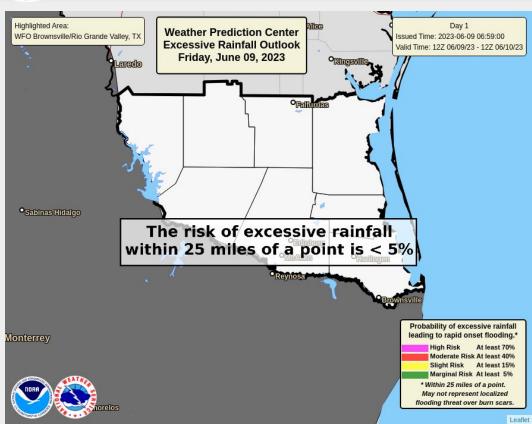
### **Hurricane Beryl**





#### **Excessive Rainfall Outlook**

None



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

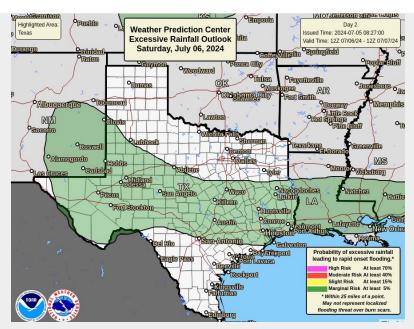
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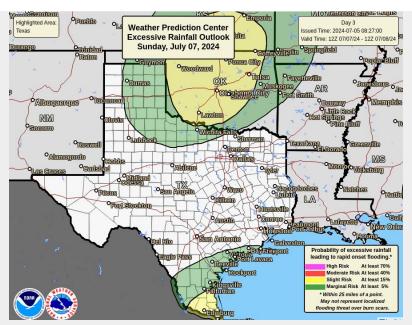


#### **Excessive Rainfall Outlook**

**Hurricane Beryl** 

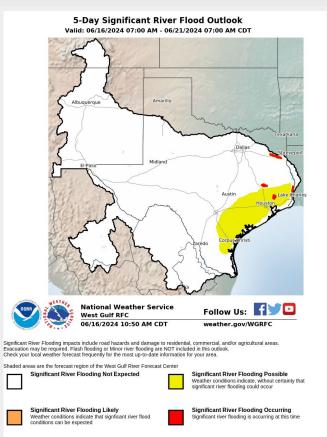
- Areas outlined in <yellow> <orange> <red> have the greatest potential for flash flooding on < day >
- For generalized potential impacts, use Impact Graphics statements as guidelines







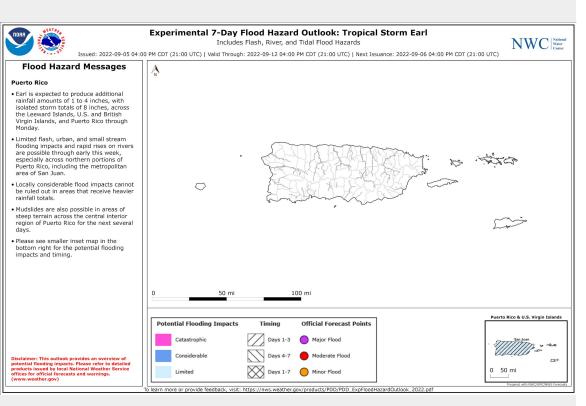
## River Flood Outlook





### Flood Hazard Outlook

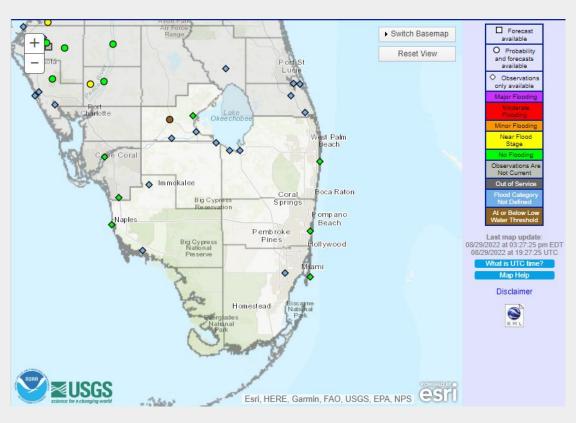
#### **Hurricane Kay**





## 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



Location	Flood Stage	Current Level	Forecast Crest & Category	Crest Date

**Minor River Flooding** 

**Moderate River Flooding** 

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

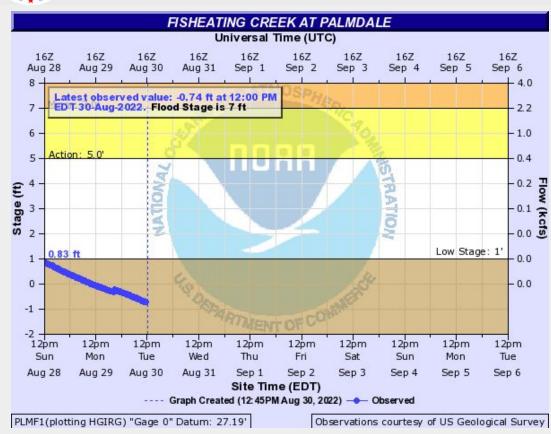
**Major River Flooding** 

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**Near Flood** 

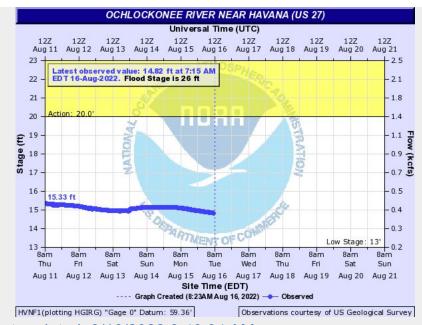


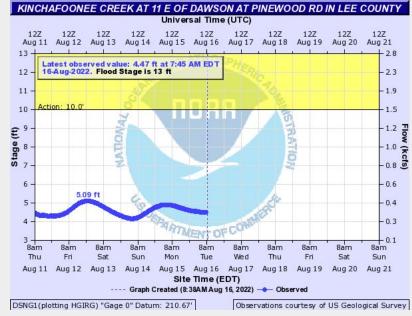
## **Expected River Flooding**





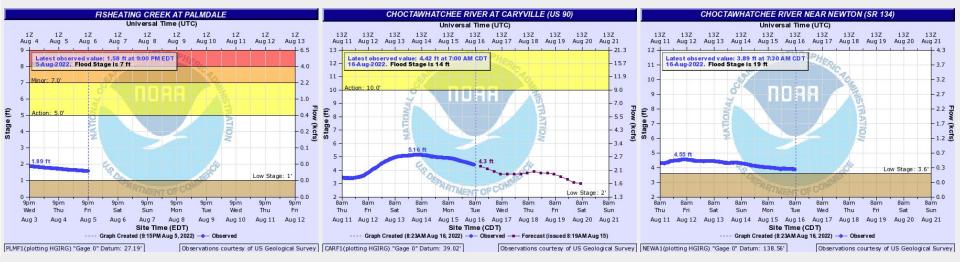
## Expected River Flooding







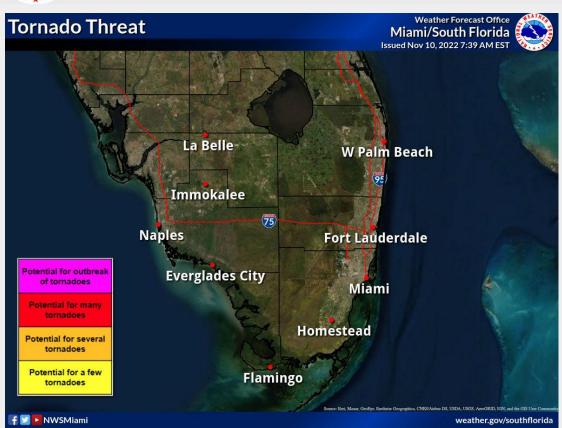
# Expected River Flooding





## Potential Tornado Impacts

None

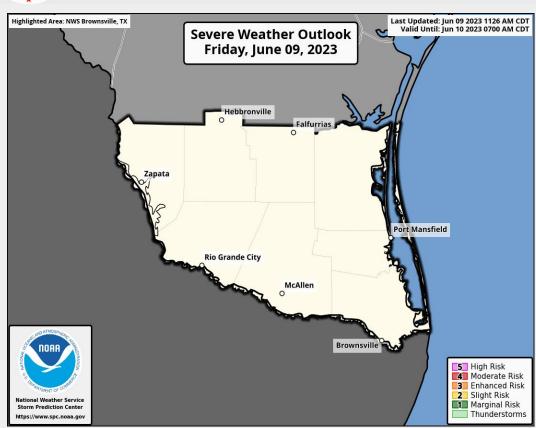


 Main threat of tornadoes would be from (day) (timing) to (day) (timing)



### Tornado Potential

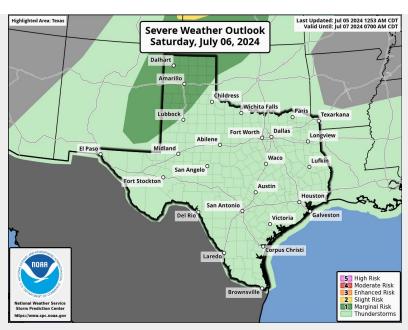
#### **Tropical Storm Alberto**

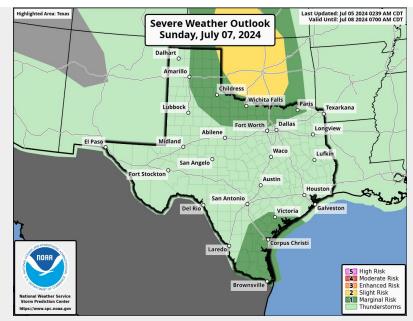


 Main threat of tornadoes would be from (day) (timing) to (day) (timing)



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







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

**Elevated** 

Limited

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

None

**Risk Level** 

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**Extreme** 

**Significant** 



Threat	Monday	Tuesday	Wednesday	Thursday	Friday
Severe Storms					
Lightning					
Heat Index					
Insert other hazard here					
Risk Level	None	Limited	Elevated	Significant	Extreme

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AM CDT National Weather Service - Houston/Galveston, TX



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.