

Resource Links from Workshop

[Climate Prediction Center's Week 2-3 Tropics Hazards Outlook](#)

[National Hurricane Center's 7 Day Tropical Weather Outlook](#)

[South-Central TX Weather Briefing Page](#)

[New National Water Prediction Service Page](#)

[NWS Experimental Heat Risk Tool](#)

Welcome!

2024 Austin / Capital Area Integrated Warning Team Workshop



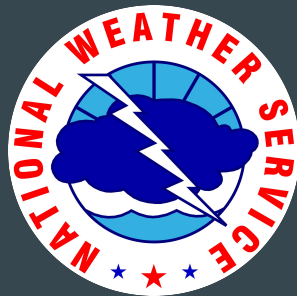
Agenda

- | | |
|-------------------|---|
| 8:30-8:40 AM | Welcome & Facility Information |
| 8:40-8:45 AM | Workshop Goals and Introductions |
| 8:45-9:00 AM | Updates from the National Weather Service |
| 9:00-10:00 AM | Panel Discussion on How Weather Forecasts are Used in Decision Making |
| 10:00-10:20 AM | Q&A with Panel |
| 10:20-10:45 AM | Break and Networking |
| 10:45-11:00 AM | Probabilistic Decision Support Tools in the Medium and Long-Range Forecast |
| 11:00 AM-12:00 PM | Tropical Tabletop Scenario with Breakout Groups
8-14 Days Out
4-7 Days Out |
| 12:00-12:25 PM | Brief Outs in Large Group Discussion
Document Actionable Items |
| 12:25-12:30 PM | Conclusion/Wrap-Up |

Updates from NWS

Paul Yura

Warning Coordination Meteorologist
NWS Austin/San Antonio





Seasonal Hurricane Outlook - Atlantic

May 23, 2024

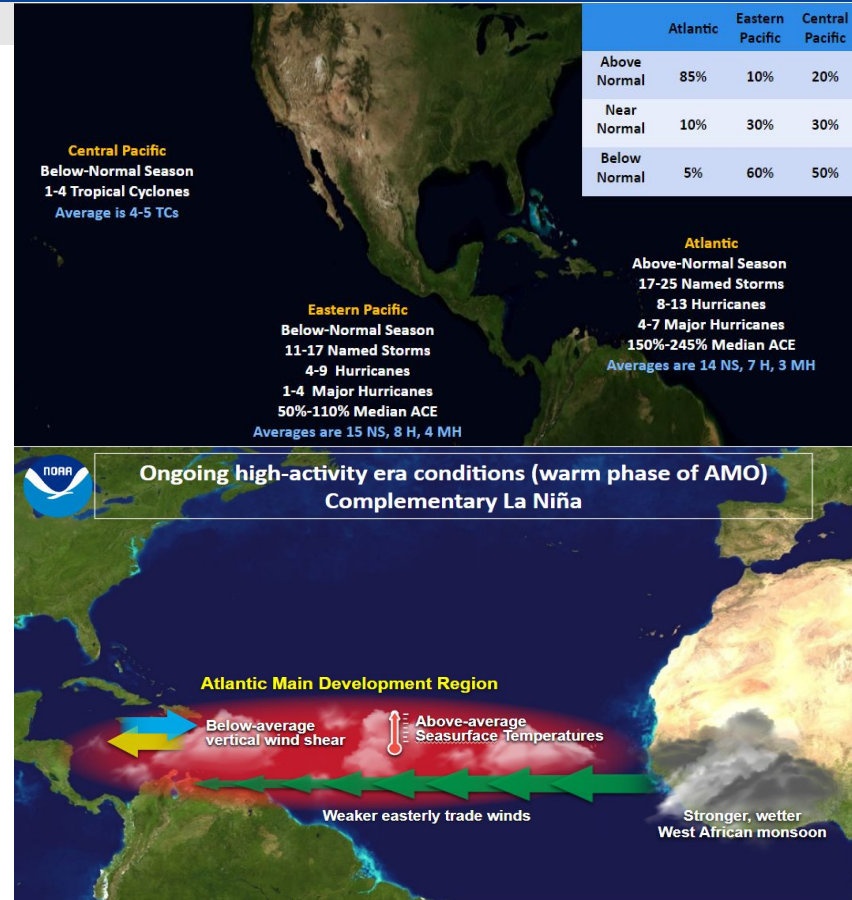
June through November, 2024

Key Messages

- 17-25 Named Storms (NS)
- 8-13 Hurricanes (H) , 4-7 Major Hurricanes (MH - Cat 3-5)
- 150-245% of normal Accumulated Cyclone Energy (ACE)
- Highest NS, H, MH values in May outlook. ACE 2nd (2010)
- Normals - 14 NS, 7 H, 3 MH

Detailed Points

- Warm Sea Surface Temperatures
- Low wind shear
- Weak Trade Winds
- Strong African Monsoon
- La Niña complementing, increases certainty
 - La Niña - Reinforce local Atlantic conditions by reducing wind shear (western part of Basin) and reduced stability.



Regional Max/Min Temp and Precipitation Table

Issued by NWS Austin/San Antonio, TX

[Home](#) | [Current Version](#) | [Previous Version](#) | [Text Only](#) | [Print](#) | [Product List](#) | [Glossary On](#)

Versions: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#) [20](#) [21](#) [22](#) [23](#) [24](#) [25](#) [26](#) [27](#) [28](#) [29](#) [30](#) [31](#) [32](#) [33](#) [34](#) [35](#) [36](#) [37](#) [38](#) [39](#) [40](#) [41](#) [42](#) [43](#) [44](#) [45](#) [46](#) [47](#) [48](#) [49](#) [50](#)

The RTP product will be going away on July 1

302
ASUS64 KEWX 031234
RTPEWX

Morning Temperature and Precipitation Summary for South Central Texas
National Weather Service Austin/San Antonio TX
725 AM CDT Mon Jun 3 2024

Values represent highs yesterday, lows over the last 12 hours,
and precipitation over the last 24 hours.

.BR EWX 0603 C DH01/TAIRZX/DH07/TAIRZP/PPDRZZ

:

:

:ID LOCATION MAX MIN PCPN

:

K3T5: La Grange AWOS : 92 / 79 / 0.00

K5C1: Boerne AWOS : 91 / 77 / 0.00

K5T9: Eagle Pass AWOS : M / M / 0.00

KAQO: Llano AWOS : 91 / 77 / 0.00

KATT: Camp Mabry ASOS : 94 / 80 / 0.00

KAUS: Bergstrom ASOS : 94 / 80 / 0.00

KBAZ: New Braunfels ASOS : 98 / 79 / 0.00

KBMQ: Burnet ASOS : 91 / 77 / 0.00

KCVB: Castroville AWOS : 99 / 79 / 0.00

KCZT: Carrizo Springs AWOS : 99 / 79 / 0.00

KDLF: Laughlin AFB ASOS : 100 / 81 / 0.01

KDRT: Del Rio ASOS : 100 / 83 / 0.03

KDZB: Horseshoe Bay AWOS : 93 / 78 / 0.00

KECU: Rocksprings AWOS : 93 / 75 / 0.00

KEDC: Pflugerville AWOS : 91 / 79 / 0.00

KERV: Kerrville AWOS : 95 / 77 / 0.00

KFTN: Faith Ranch AWOS : 99 / 81 / M

KGTU: Georgetown AWOS : 92 / 79 / 0.00

KGYB: Giddings AWOS : 92 / 79 / 0.00

KHDO: Hondo ASOS : 100 / 80 / 0.00

KHYI: San Marcos AWOS : 95 / 79 / 0.00

KPEZ: Pleasanton AWOS : 99 / 82 / 0.00

KRND: Randolph AFB ASOS : 99 / 79 / 0.00

KRYW: Lago Vista AWOS : 91 / 77 / 0.00

KSAT: San Antonio ASOS : M / M / 0.00

KSEQ: Seguin AWOS : 97 / 80 / 0.00

KSKF: Kelly Field ASOS : M / 80 / 0.00

KSSF: Stinson ASOS : 101 / 80 / 0.00

KT20: Geesler AWOS : 95 / 80 / 0.01

The SPOT forecast webpage is being revamped

New page will launch on June 25, 2024

- New layout/GIS design
- Watches/warnings displayed
- Elevations auto-filled
- Users can schedule update requests

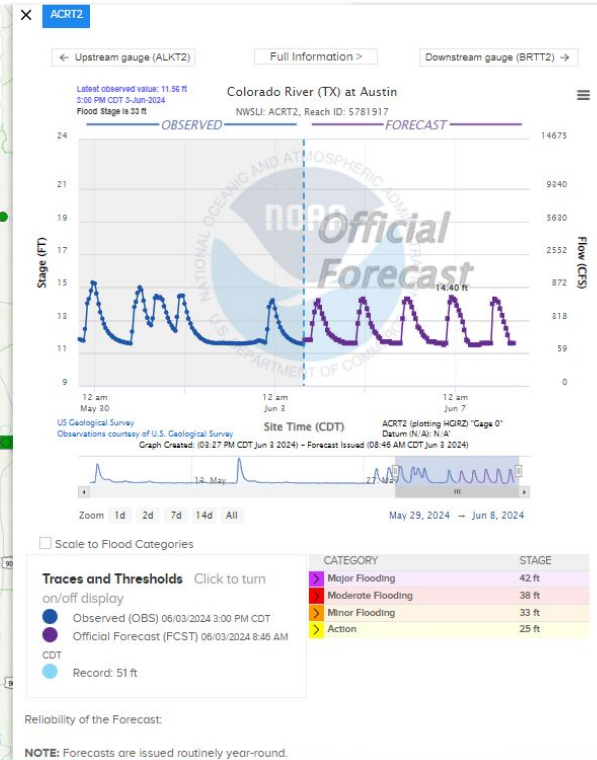
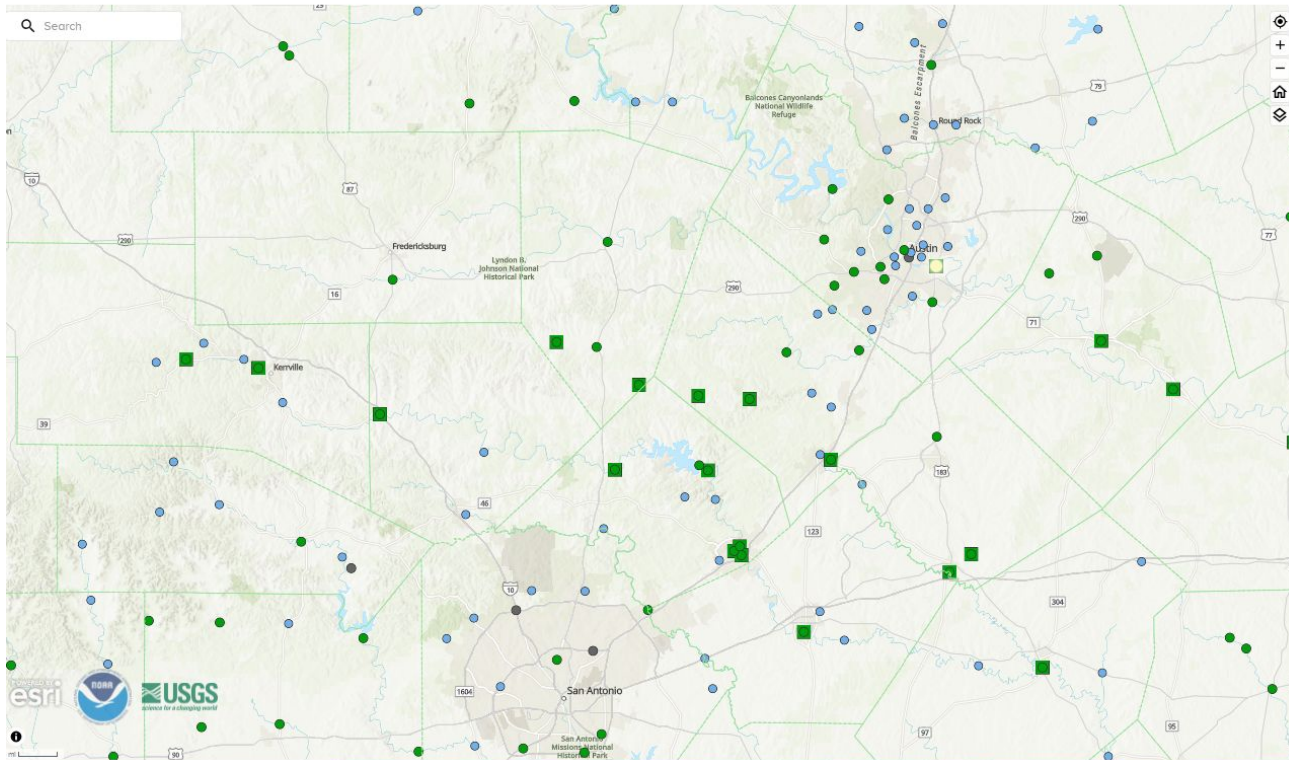
This site is not currently operational. For SPOT requests use the current site at weather.gov/spot until June 25th, at which time this will become the operational site

The screenshot shows the 'Spot Forecast Request' webpage. At the top, there is a navigation bar with the NWS Home, News, and Organization links. Below the navigation bar, there are tabs for 'New Request', 'Monitor', and 'Calendar'. The main content area features a map of the United States with various colored regions. A legend below the map indicates that green circles represent 'Complete' requests and yellow circles represent 'Pending' requests. Below the legend is a table with the following columns: ID, Name, Type, Submission Time, Deliver Time, WFO, and Actions. The table contains several rows of request data.

ID	Name	Type	Submission Time	Deliver Time	WFO	Actions
2420042	Rodney Isot	Prescribed Fire	05/26/2024 07:36 EDT	05/26/2024 08:00 EDT	TBW	Submit Obs Map
2420043	BHC Test	Volcano, Earthquake, Special Eve...	05/28/2024 10:41 MDT	05/28/2024 15:00 MDT	BYZ	Submit Obs Map
2420076	LOVA North	Prescribed Fire	05/31/2024 05:52 EDT	05/31/2024 16:00 EDT	BAH	Submit Obs Map
2420078	Test	Volcano, Earthquake, Special Eve...	06/01/2024 08:02 EDT	06/01/2024 16:00 EDT	TBW	Submit Obs Map
2420079	Wen Hazmat 240603_1	HAZMAT Land	06/03/2024 15:23 EDT	06/05/2024 10:00 EDT	CAE	Submit Obs Map
2420081	Wen Hazmat 240603_1	HAZMAT Land	06/03/2024 15:27 EDT	06/05/2024 10:00 EDT	GSP	Submit Obs Map
2420040	Test Dist	Volcano, Earthquake, Special Eve...	05/08/2024 10:22 EDT	05/08/2024 11:00 EDT	BGM	Submit Obs Map

For Hydro viewing....NWPS has replaced our AHPS website

This website, the National Water Prediction Service (NWPS), is replacing the Advanced Hydrologic Prediction Service (AHPS). Resources to help with this transition are available [here](#)



Experimental HeatRisk Tool

NWS HeatRisk

Identifying Potential Heat Risks in the Seven Day Forecast

Mon 6/3	Tue 6/4	Wed 6/5	Thu 6/6	Fri 6/7	Sat 6/8	Sun 6/9
------------	------------	--------------------	------------	------------	------------	------------

[Click map for potential heat risks and NWS forecast for a location.](#)

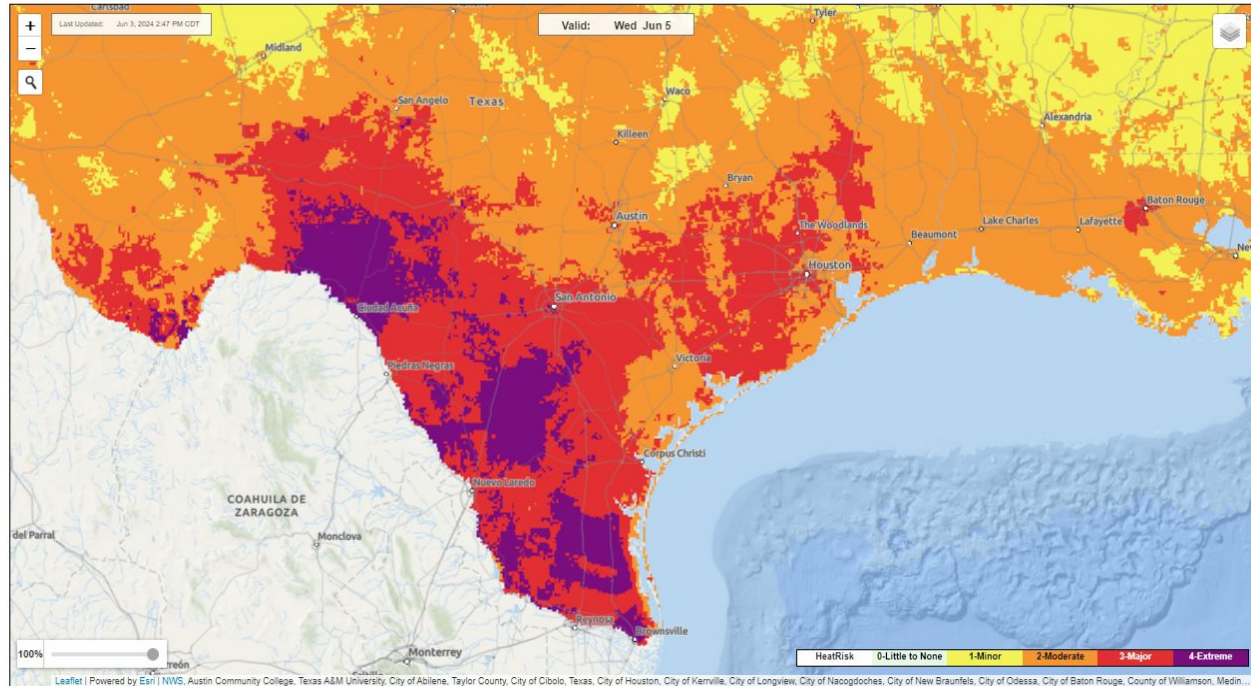
The NWS HeatRisk is an experimental color-numeric-based index that provides a forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk takes into consideration:

- How unusual the heat is for the time of the year
- The duration of the heat including both daytime and nighttime temperatures
- If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC

This index is supplementary to official NWS heat products and is meant to provide risk guidance for those decision makers and heat-sensitive populations who need to take actions at levels that may be below current NWS heat product levels.

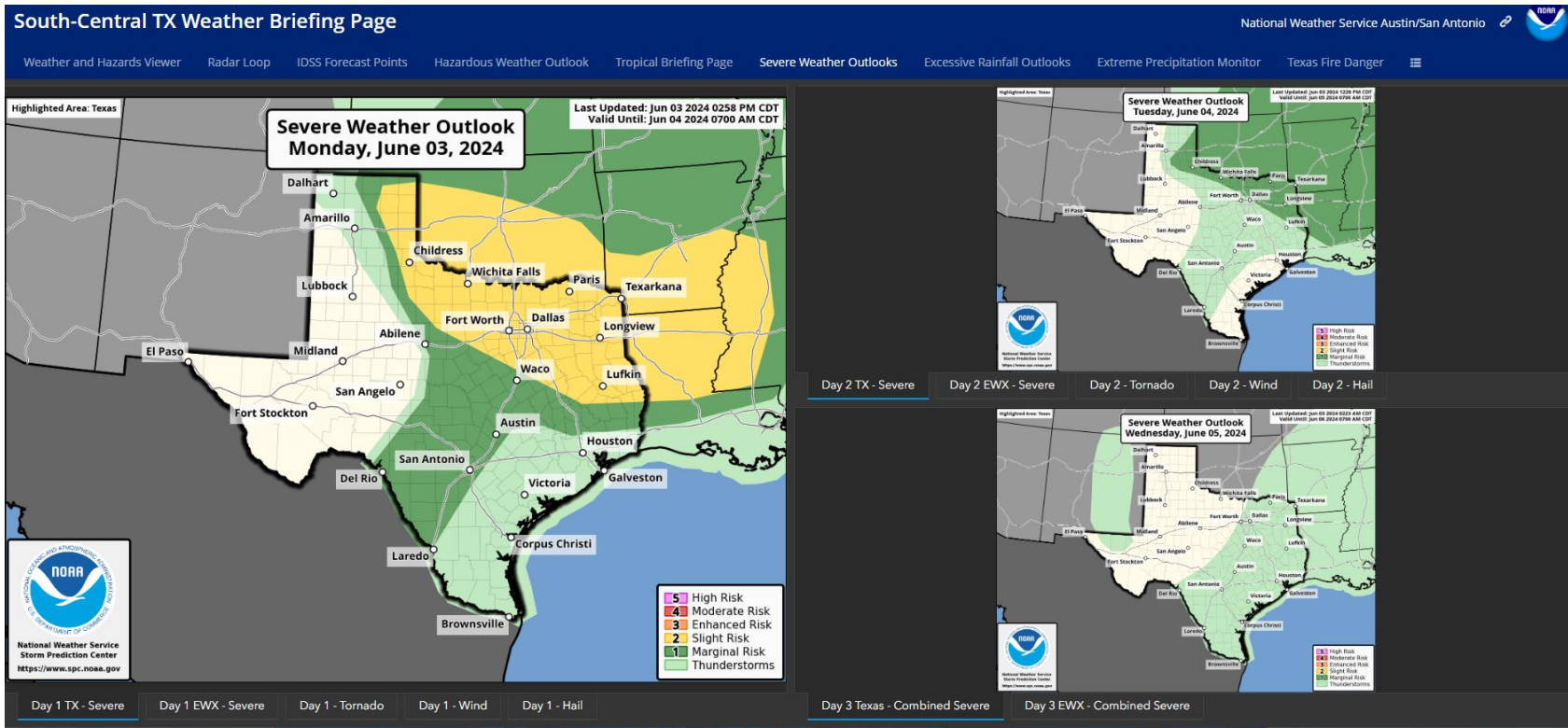
Category	Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

[Comments?](#) [Questions?](#) [Please Contact Us.](#)



Briefing Dashboard

<https://arcg.is/15G0GH>





NWSChat 2.0

Powered by Slack



● Chat with NWS Meteorologists 24/7

● NWS provides mesoscale and forecast discussions, real-time thinking during events

● Share reports and intel !

#wfo-austin-san-antonio-tx Check out our [#wfo-austin-san-antonio-tx-datafeed](#) channel for all our text products

Thursday, May 30th

3 replies Last reply 4 days ago

HAM - Williamson County ARES - Jim Kinter 7:55 PM
WC ARES closed the Skywarn net at 19:54 CDT

3 1

HAM - Lee/Williamson County ARES - Marida Favia del Core Borromeo 8:02 PM
Lee Co ARES started a net at 19:39. Pea size hail in Lexington CR309 and CR C (edited)

1

NWS - Austin/San Antonio - Monte Oaks 8:19 PM
Looks like the Lee county cell is falling to non-severe

HAM - Lee/Williamson County ARES - Marida Favia del Core Borromeo 8:26 PM
Lee County ARES SKYWARN net is standing down, but we will be monitoring. Storm nor rain never made it to Lincoln.

1

EM - Williamson County Office of Management - Trey Hewtty 8:36 PM
Another resident of Coupland shared this photo on social media of a hailstone that fell shortly after 7 pm. This occurred in Coupland CR 460 Hail Stone 05302024.png



1

2 replies Last reply 4 days ago

EM - Williamson County Office of Management - Trey Hewtty 9:04 PM

B I S P L I C A

Message #wfo-austin-san-antonio-tx

+ Aa @ 📎 🗑️

NWSChat Discussion items:

wfo-austin-san-antonio-tx

wfo-austin-san-antonio-tx-datafeed

- WxBot Information (NWS Products)

- Moved to “datafeed” channel
- Agree, Yes or No?

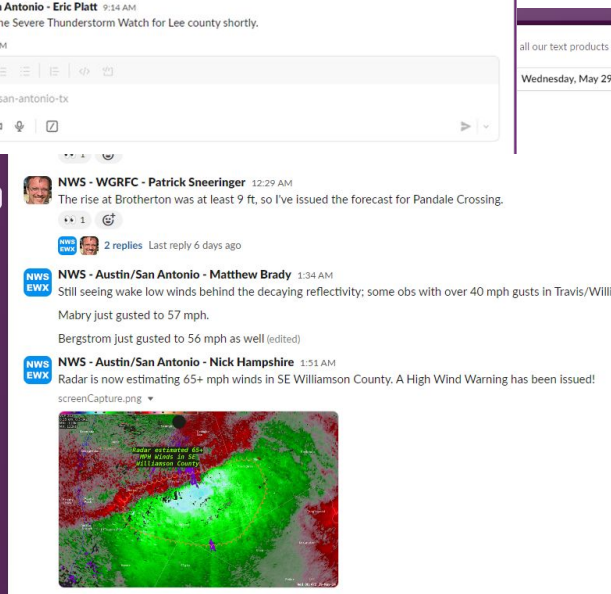
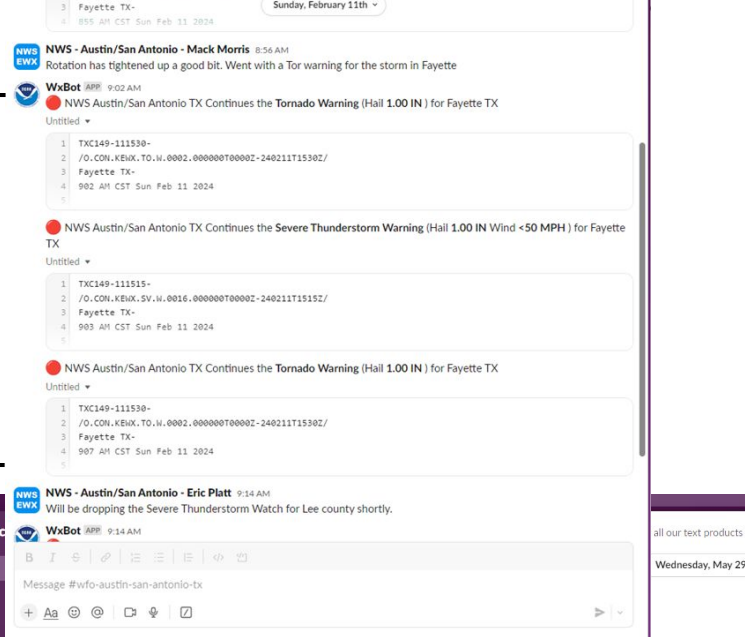
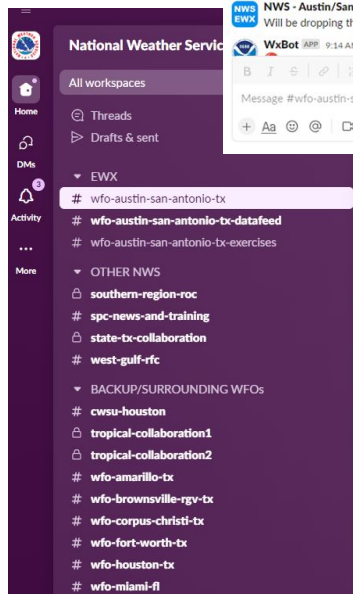
- User Verification...every 6 months

- Whitelist
nws.partnersupport@noaa.gov

- Do we reply in threads ?

Any other Comments/Questions ?

WxBot
Takes
up
space



IWT Stakeholder Panel Presentations

Education

Billy Atkins



Utilities

Bob Rose



Transportation

Omar De Leon



Government

Blake Clampfer



Private and Education

Troy Kimmel



Health

Zac Glowczwski



Education

Billy Atkins

Director of Campus Safety



ST. EDWARD'S[®]
UNIVERSITY



Austin, Tx

Founded 1885



ST. EDWARD'S
UNIVERSITY

St. Edward's by the Numbers

2,769

Undergrad

701

Graduate

3,500

Total

158

FT Faculty

185

PT Faculty

343

Total Faculty

St. Edward's by the Numbers

6

Residence Hall

3

Apartments

9

Total Residences

~50%

Students live on
campus

NWS Products

- Web in general but specifically Weather Briefing Page
- Regular SitReps based on forecast conditions
- 213's for large scale events on campus
 - Conference calls if needed
- Dedicated staff on-site during recent Commencement
- Regular Climate Outlook calls
- Regional conference calls during severe weather events

THE END

Utilities

Bob Rose

Chief Meteorologist



Transportation

Omar De Leon
Director of Maintenance



Government

Blake Clampffer

Chief Deputy Emergency Management Coordinator



Private and Education

Troy Kimmel
Meteorologist



Health

Zac Glowczwski
Emergency Manager





Integrated Warning Team Workshop

Zac Glowczwski
Emergency Manager – CTX Division
June 5, 2024

BSWH by the numbers



1,250+

health system care sites including hospitals, clinics, and surgery centers



3.1 million

MyBSWHealth accounts



3.5 million

customers



1.2 million+

covered lives
(Health Plan and ACO)



52,000

employees



\$13.9 billion

total operating revenue



12 million+

professional encounters annually



7,100+

physicians

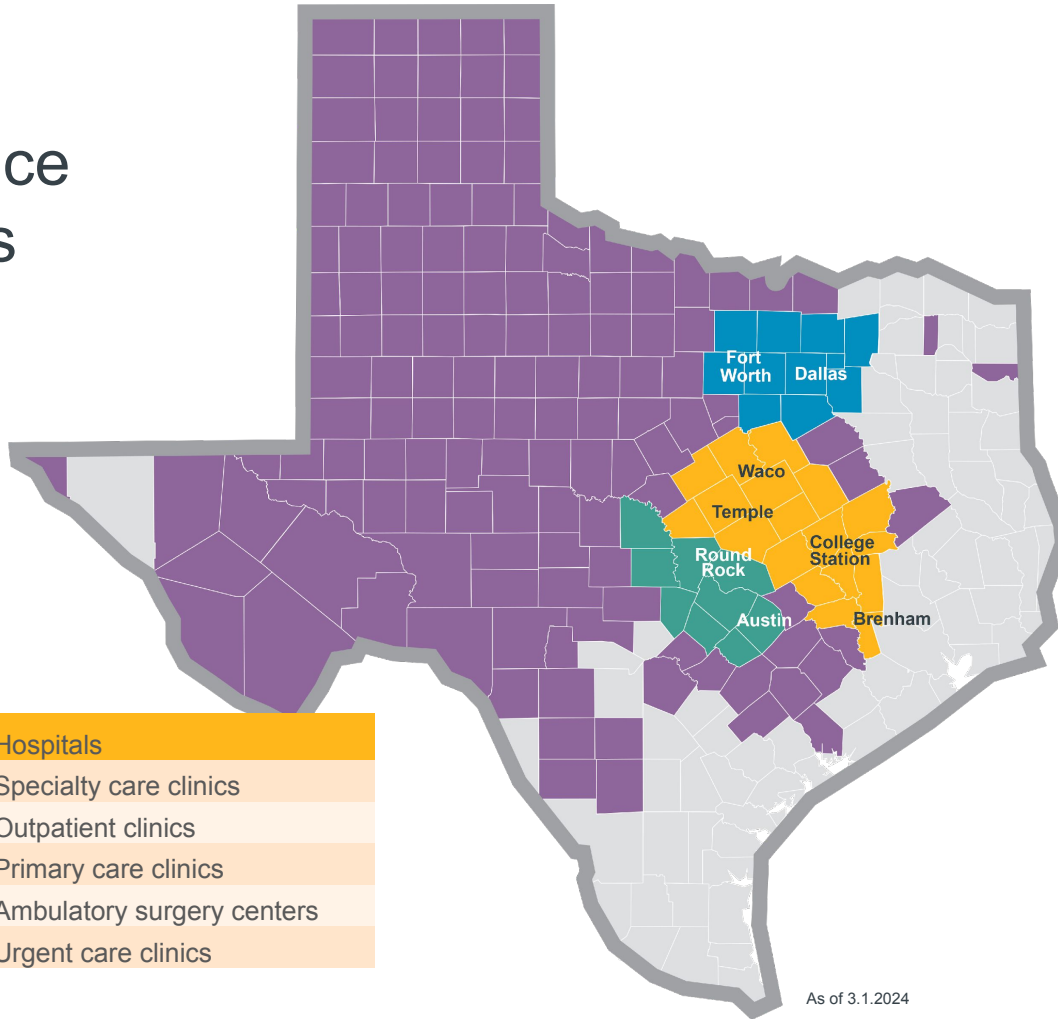


\$997 million

community benefit



Service areas



52	Hospitals
632	Specialty care clinics
260	Outpatient clinics
164	Primary care clinics
30	Ambulatory surgery centers
62	Urgent care clinics

DALLAS-FORT WORTH

35	Hospitals
287	Specialty care clinics
178	Outpatient clinics
84	Primary care clinics
30	Ambulatory surgery centers
26	Urgent care clinics

CENTRAL TEXAS

8	Hospitals
203	Specialty care clinics
34	Outpatient clinics
43	Primary care clinics
7	Urgent care clinics

GREATER AUSTIN

9	Hospitals
100	Specialty care clinics
45	Outpatient clinics
37	Primary care clinics
11	Urgent care clinics

DIGITAL CARE

254	Counties (available statewide)
-----	--------------------------------

HEALTH PLAN

171	Counties
-----	----------



forecasts

share with leadership teams for impacted area
add to intranet page

decisions

maintenance & construction projects
functional & full-scale exercises

alerts

implemented automated WX alerts April 3, 2024

severe thunderstorm

- watch
 - warning
- tornado

- watch
- warning

response

tornado watch

- move non-essential equipment
- identify patients who will require assistance

tornado warning

- move patients to safe area



Thank you!



IWT Stakeholder Panel Q&A

Billy Atkins



Bob Rose



Omar De Leon



Blake Clampffer



Troy Kimmel



Zac Glowczwski



Break Time!

Be Back at Your Group Table by 1045 AM

2024 Austin/Capital Area IWT

Name

Organization

Group #



**Your Group # is on
Name Badge**

Probabilistic Decision Support Tools for Tropical Events

Medium and Long Range

Jason Runyen

Lead Forecaster

NWS Austin/San Antonio





NOAA

**National
Weather
Service**

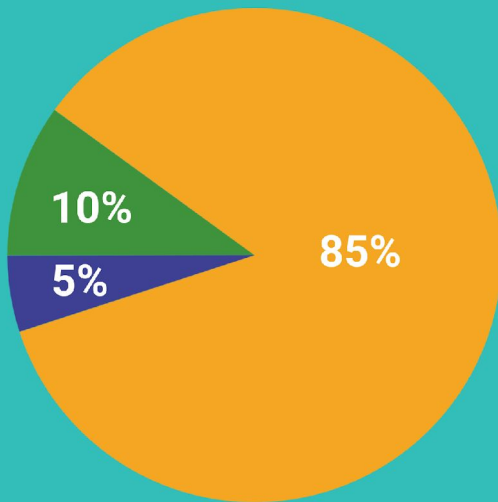
Tropical Events – Communicating What we Know and Don't Know

Messaging in the Day 4-14 Time Period





2024 Atlantic Hurricane Season Outlook



■ Above normal ■ Near normal ■ Below normal

Season probability

Named storms

17 - 25

Hurricanes

8 - 13

Major hurricanes

4 - 7

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on X.

May 2024





2024 Eastern North Pacific Tropical Cyclone Names

Aletta
Bud
Carlotta
Daniel
Emilia
Fabio
Gilma
Hector

Ileana
John
Kristy
Lane
Miriam
Norman
Olivia
Paul

Rosa
Sergio
Tara
Vicente
Willa
Xavier
Yolanda
Zeke



Reminders About Social Media

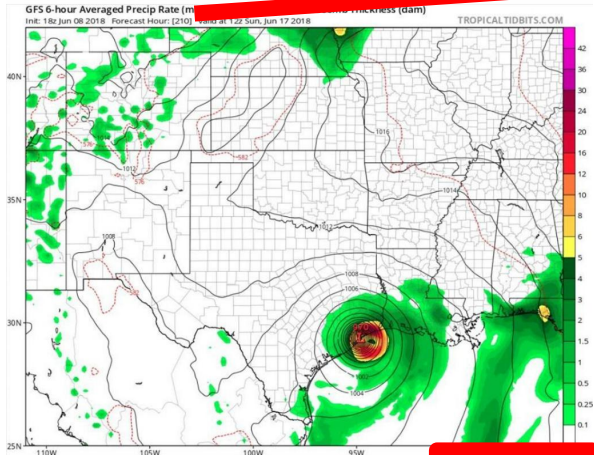
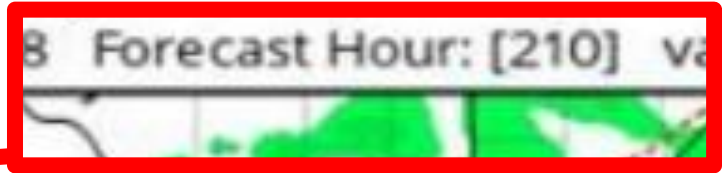


KPRC2 Frank Billingsley is with James Taylor.



3 hrs · 🌐

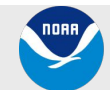
The latest American (GFS) model run brings a Cat 2 104mph hurricane into the southeastern Texas Coast NEXT Weekend. Nothing has formed yet for the model to even really latch on to, but the Gulf is certainly worth our attention. Regardless, have a plan, make a kit, know your neighbor. <https://click2houston.com/hurricane> #KPRC2 #Click2Houston



👍👎 1.2K

3.2K Comments

9.4K Shares



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service



Reminders About Social Media

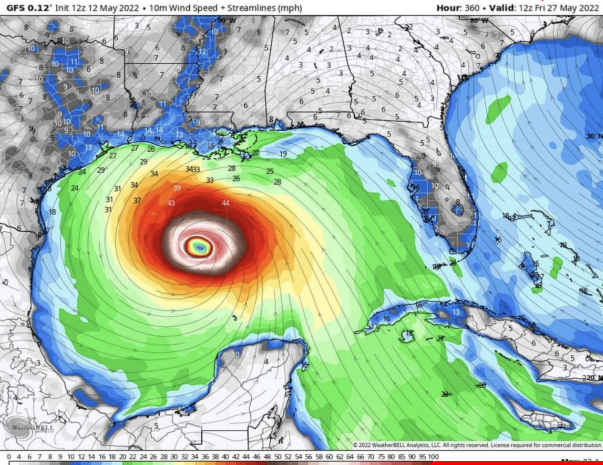


Tropical Storm Central is with Michael Smith.

5h · 🌐

5/12/22 @ 2:37pm

New GFS MODEL UPDATE brings a HURRICANE in the GULF OF MEXICO the last week of May!



👍👎🤔 2.5K 3.9K comments 11.6K shares

Hour: 360 • Valid: 12z Fri 27 May 2022

Tropical Storm Central

163K likes • 201K followers



Tropical Storm Central's post ... 🔍



Wayne Henson

Bring a storm to Texas Hill Country. A TD is good enough just lots of rain.

2h Like Reply



Tropical Storm Central's post ... 🔍



Savanna Bonney

Central Texas needs the rain. We're DRY out here



TENOR

5h Like Reply

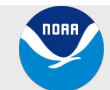
22 👍👎🤔



Caitlin L. Garrett

Savanna Bonney bring it on!!! Central Texas is desperate. I want to finish our arena and could use soft ground to move things around. 🙏

4h Like Reply



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service



Reminders About “Invests” (Tropical Disturbances)

Opening an invest allows NHC to:

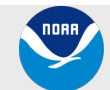
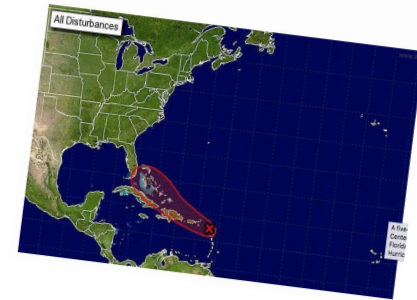
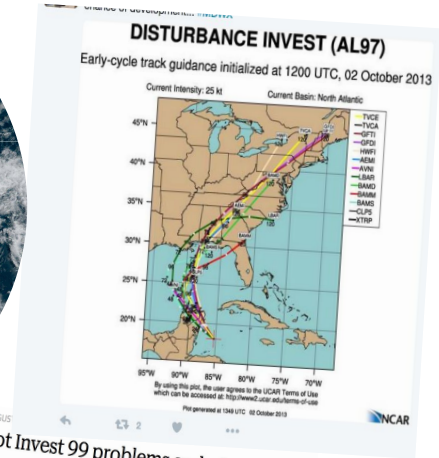
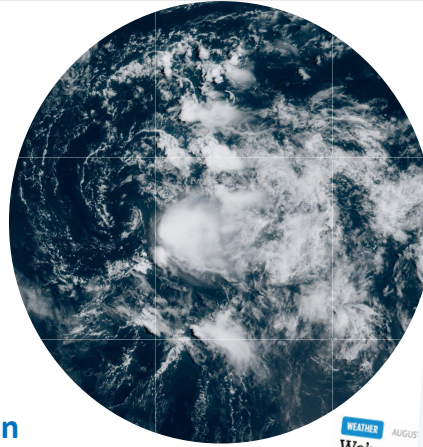
- Monitor disturbances more carefully
- Collect microwave satellite data
- Record “fixes” (circulation center location)
- Run model guidance

Caveats for invests:

- No standard for opening one – up to forecaster discretion
- Invest information only has to be updated every 12 h
- Guidance typically run when a cloud system center is apparent

More meteorological uncertainty associated with invests!

- Extreme caution should be used when looking at model guidance for invests



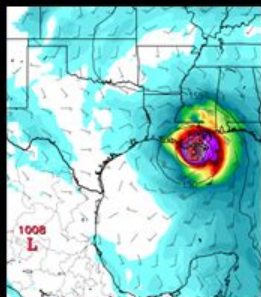
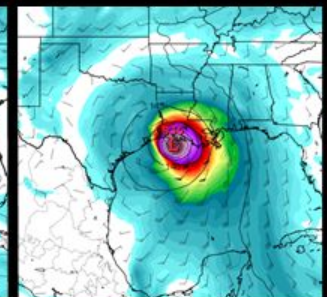
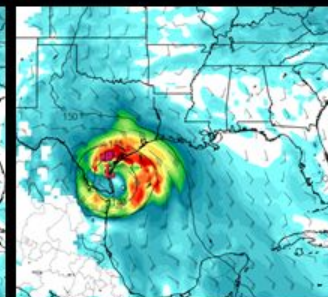
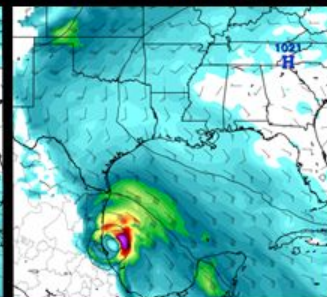
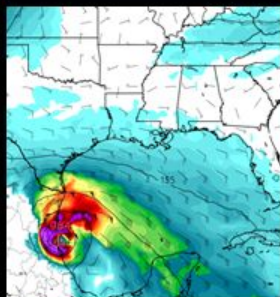


There is Oftentimes Low Accuracy in Model Performance Until there is a Defined Center of Circulation

Center of Disturbance Had Not Formed Yet in Caribbean Sea
Models Incorrectly Initiate Center too Far Southwest

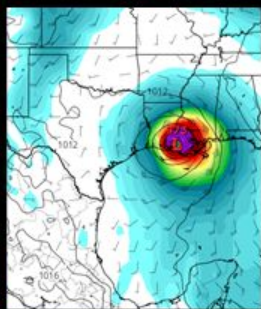
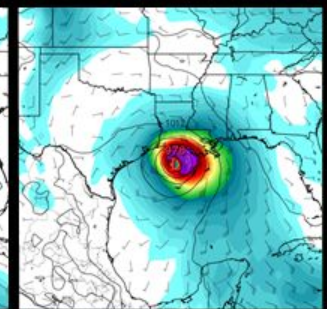
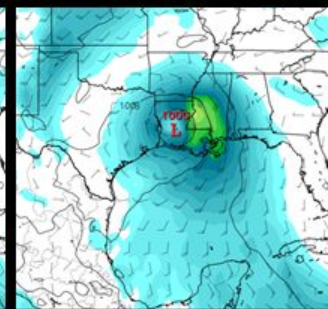
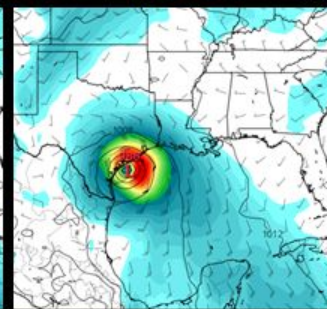
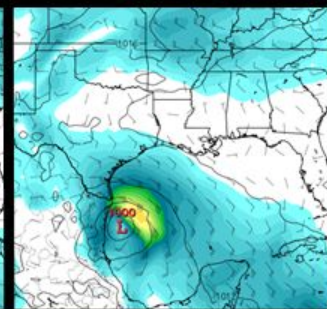
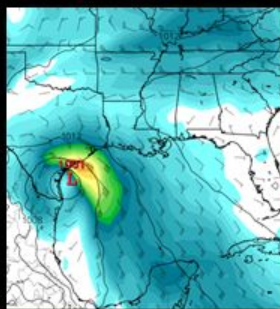
Center Forms in Caribbean Sea
Models Initialize Better

GFS Forecast



GFS Forecast

ECMWF Forecast



ECMWF Forecast

Forecast from Aug 21

Forecast from Aug 22

Forecast from Aug 23

Forecast from Aug 24

Forecast from Aug 25

Forecast from Aug 26

Model Archive Courtesy tropicaltidbits.com



Global Tropics Hazards Outlook

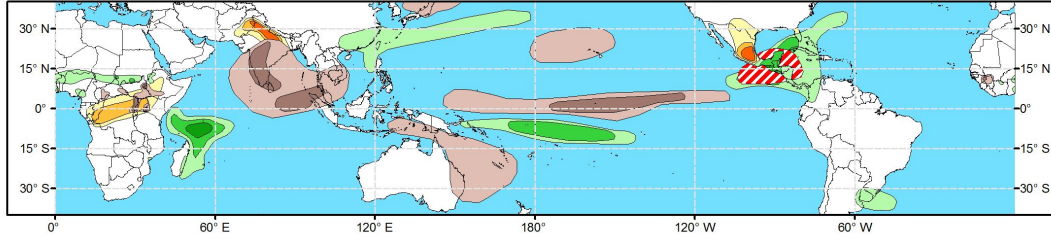
cpc.ncep.noaa.gov



Global Tropics Hazards Outlook

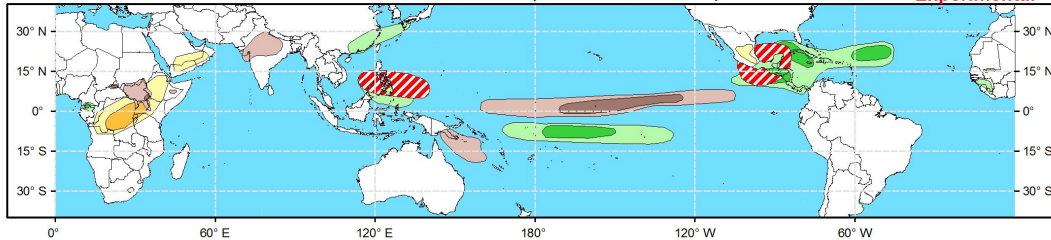
Climate Prediction Center

Week 2 - Valid: Jun 12, 2024 - Jun 18, 2024



Week 3 - Valid: Jun 19, 2024 - Jun 25, 2024

**** Experimental ****



**Tropical Cyclone (TC)
Formation Probability**



>20% >40% >60%

*Tropical Depression (TD)
or greater strength*

**Above-Average
Rainfall Probability**



>50% >65% >80%

*Weekly total rainfall in the
Upper third of the historical range*

**Below-Average
Rainfall Probability**



>50% >65% >80%

*Weekly total rainfall in the
Lower third of the historical range*

**Above-Average
Temperatures Probability**



>50% >65% >80%

*7-day max temperatures in the
Upper third of the historical range*

**Below-Average
Temperatures Probability**



>50% >65% >80%

*7-day min temperatures in the
Lower third of the historical range*

Issued: 06/04/2024

Forecaster: Allgood

This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



National Oceanic and
Atmospheric Administration

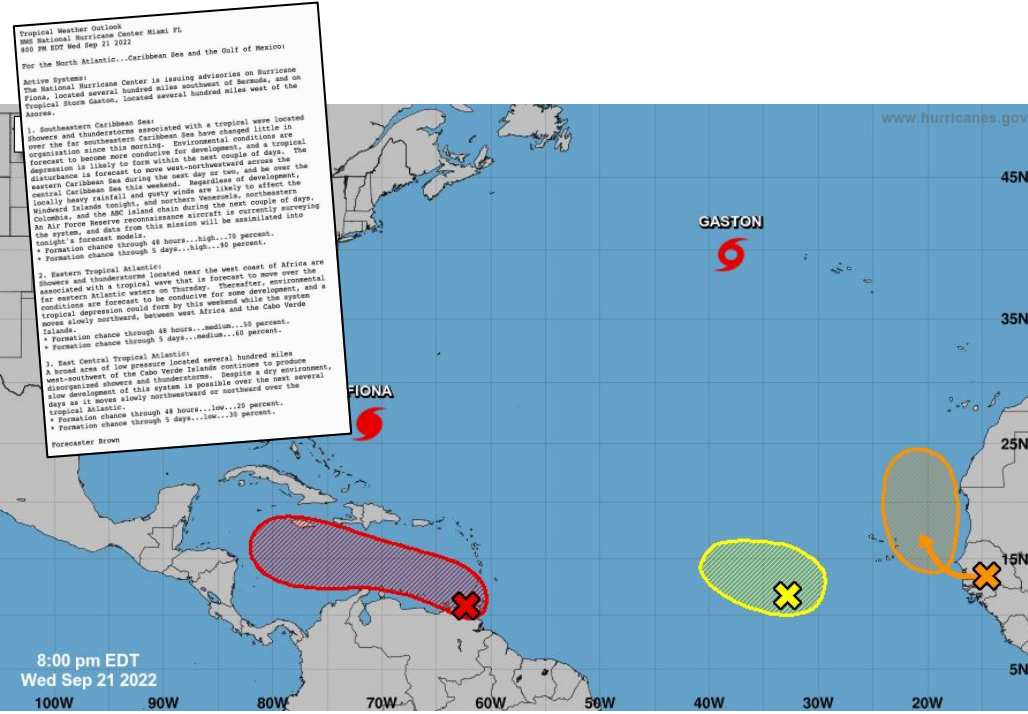
U.S. Department of Commerce



Tropical Weather Outlook

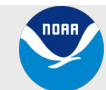
hurricanes.gov

TROPICAL WEATHER OUTLOOKS BEGIN MAY 15



Provides probabilities of formation for the next 48 hours and 7 days

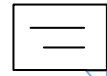
Routinely issued from 1 June - 30 November for the central North Pacific basin and from 15 May - 30 November in the eastern North Pacific and Atlantic basins



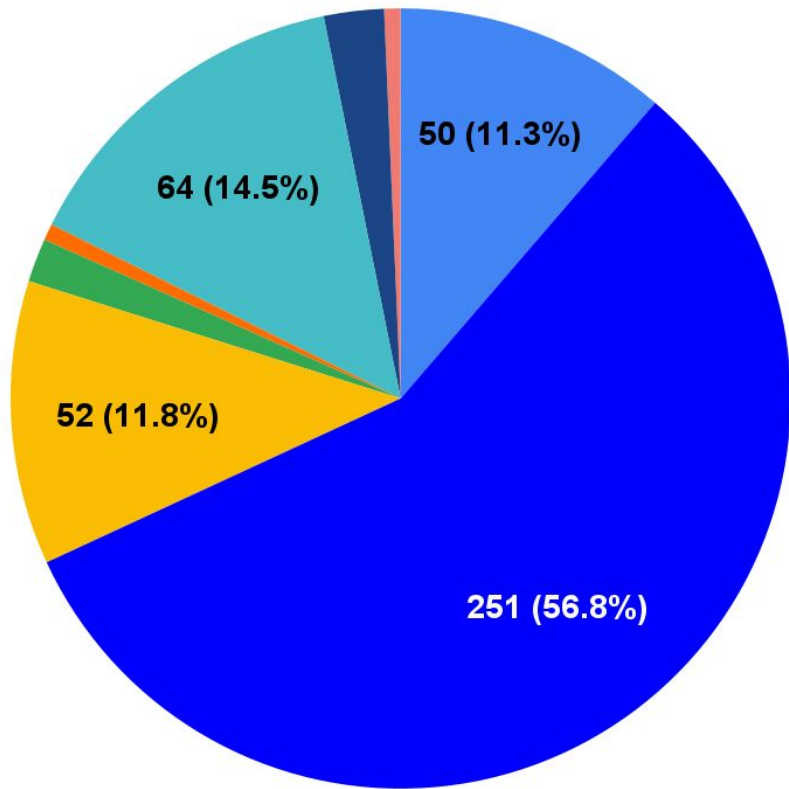
National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service



WATER KILLS IN TROPICAL CYCLONES



- Storm Surge
- Freshwater Flooding
- Wind
- Tornado
- Lightning
- Surf/Rip
- Marine
- Unknown

**442 Direct
Fatalities
2013-2022**

THE BIG CHALLENGE

All Tropical Cyclones
Have Rain

*"So what?" factor
Already obvious*

Many produce
localized "hot spots"

*Tough to motivate large response
Placement is difficult days in advance*

Few with widespread,
catastrophic rain

*People want us to get these right
Need to minimize false alarms*



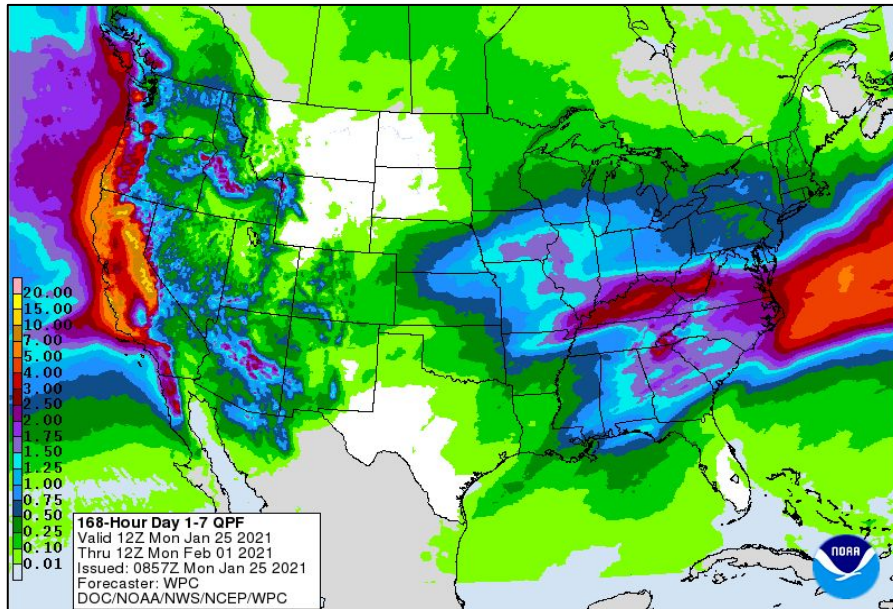
Ordinary



Extraordinary

← Need to differentiate storms along this spectrum! →

What You Need To Know About Deterministic Rainfall Forecasts



Most Likely Outcome

Our “best guess” for liquid equivalent precipitation over the next week

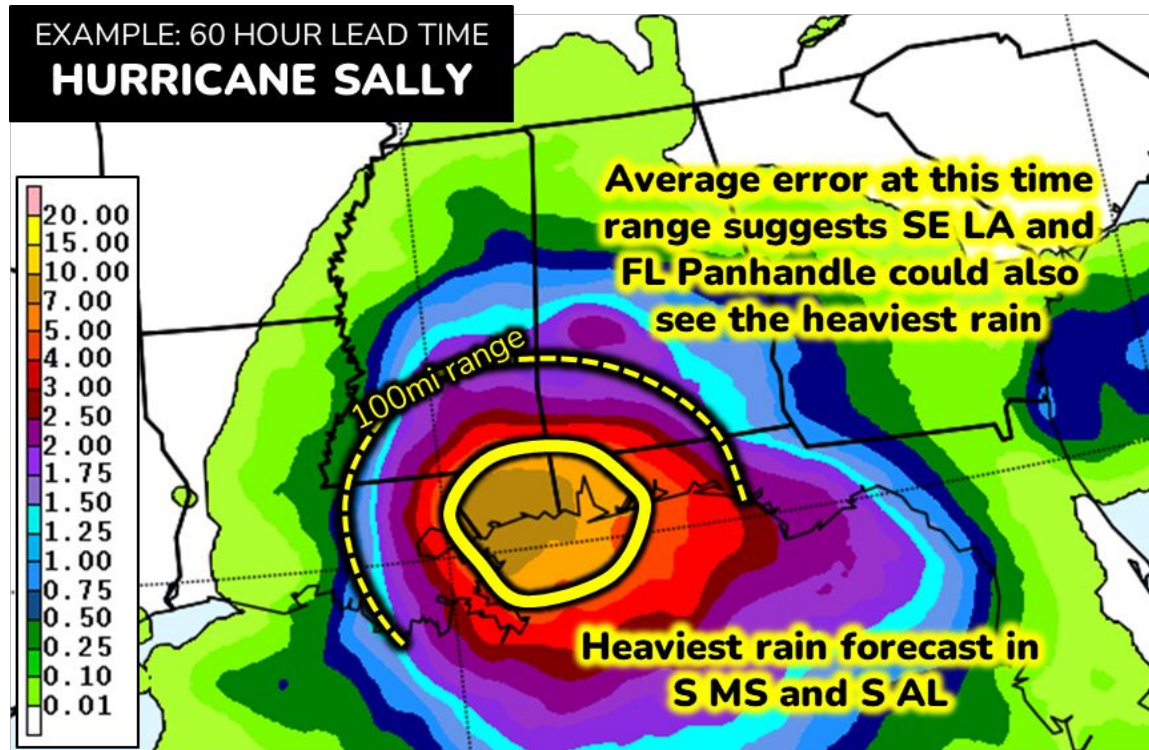


Errors With Deterministic Rainfall Forecast

Official rain forecast is the “most likely”, but can end up displaced from what you see on the map!

2016-2022 Displacement Error of 2" Rainfall Forecast Contour

Lead Time	Avg. Error
12 hours	54 miles
36 hours	70 miles
* 60 hours	98 miles
84 hours	132 miles
108 hours	159 miles

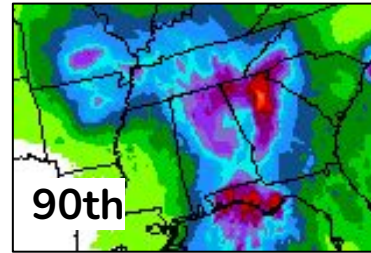
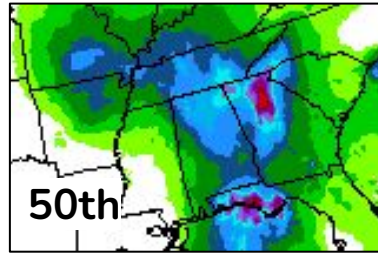
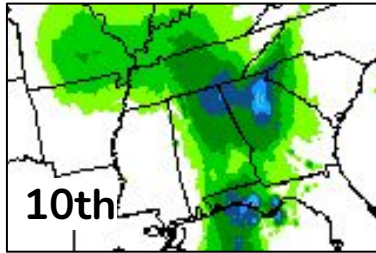
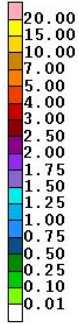


*



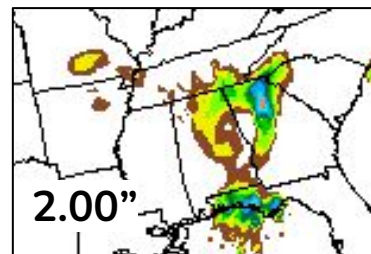
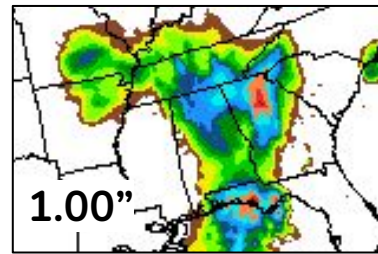
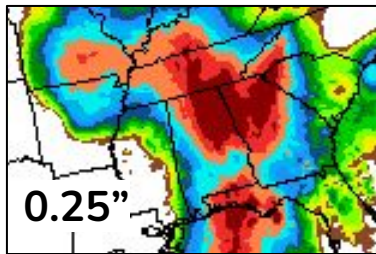
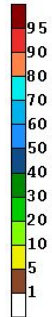
How we use Probabilistic Rainfall Forecasts

Presented in percentiles...



- Accounts for error
- Provides a sense for the range of reasonable possibilities for rainfall amounts
- Public doesn't understand percentiles
- “Most Likely” scenario (50th)
- “Up to this Amount” or “Reasonable Worst Case” scenario” (75th or 90th)

...and presented in probabilities of specific amounts



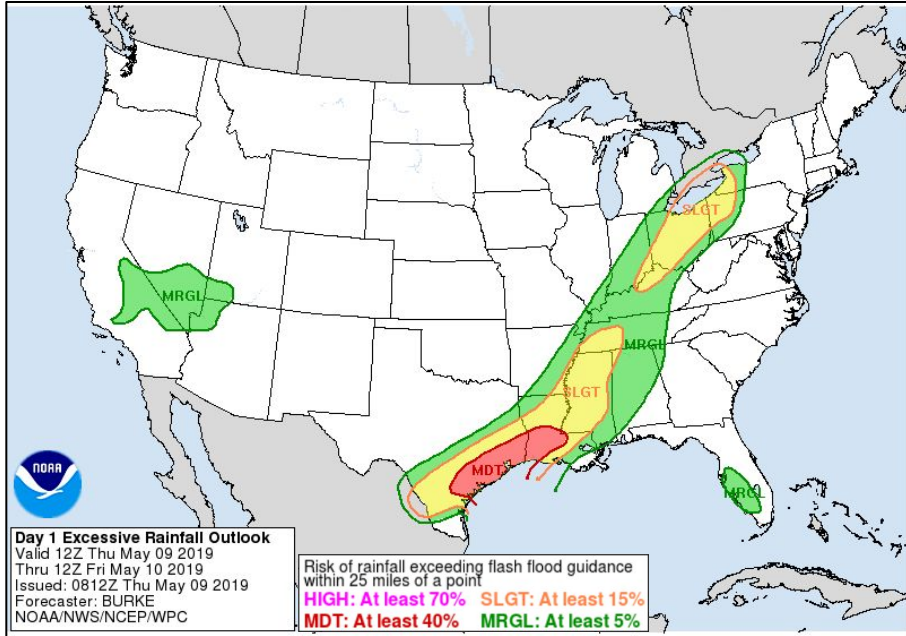
Excessive Rainfall Outlook (ERO)

Answers the question:

What are the chances of rainfall intense enough that it would be expected to cause flash flooding?

Other things to know:

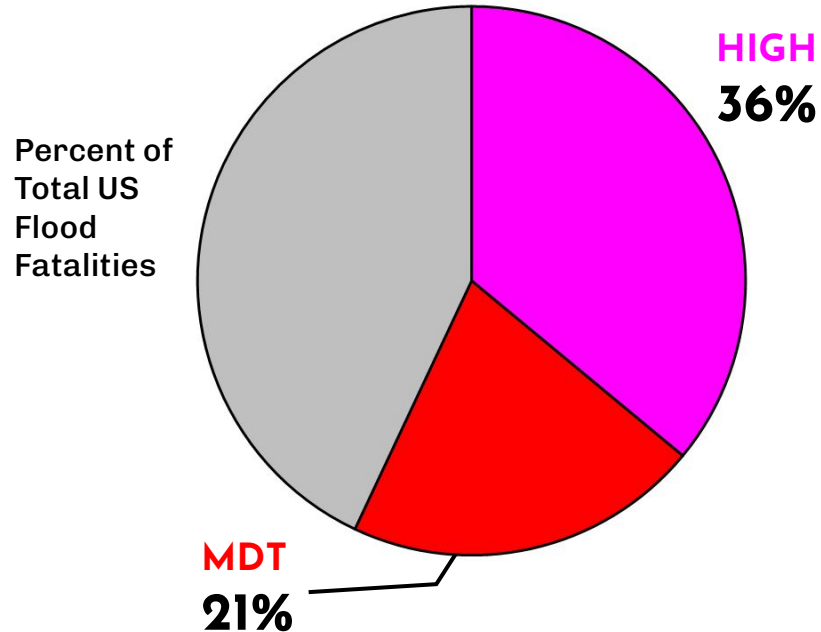
- ✓ A situational awareness and planning tool that “gets your head in the game”
- ✗ Not an explicit forecast of flash flooding at a specific location
- ✓ Accounts for uncertainty in placement, timing of intense rainfall and summarizes the larger scale risk factors
- ⚠ Know your vulnerability! Lower risk categories may still be meaningful decision thresholds.



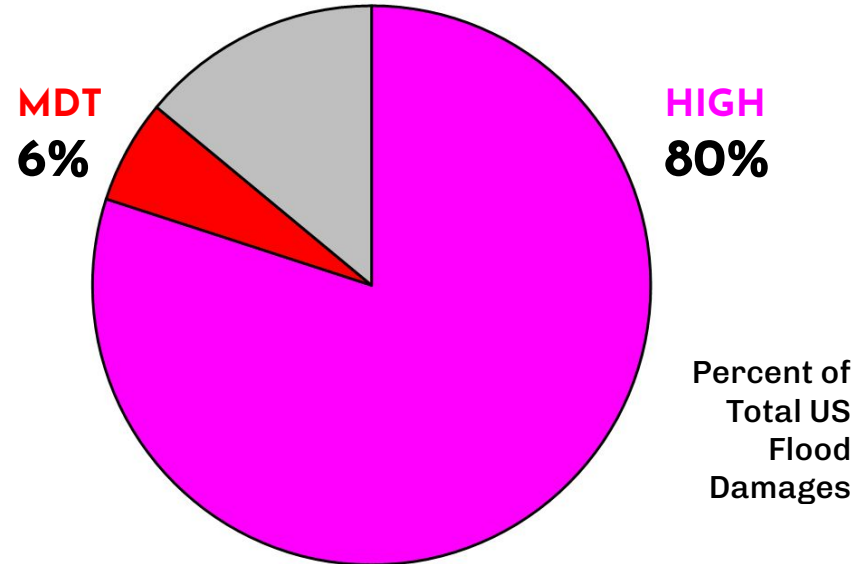
WPC High Risk Days are a BIG DEAL

High Risks are only issued by WPC on ~4% of days, but “High Risk Days” have accounted¹ for:

1/3 of ALL Flood-related **Fatalities**



4/5 of ALL Flood-related **Damages**



¹ From 2010 to 2022. Includes flood, flash flood, heavy rain, and debris flow Storm Data. Excludes Oso, WA landslide which occurred well after rainfall and on a sunny day.

ERO Infographics

WPC now has a series of graphics that can be used to accompany the ERO

Two graphics, one in English, one in Spanish, describing the different risk categories

One graphic with some suggested actions during High Risk situations

One graphic providing an interpretation guide

Understanding WPC Excessive Rainfall Risk Categories				
No Area/Label	MARGINAL (MRGL)	SLIGHT (SLGT)	MODERATE (MDT)	HIGH (HIGH)
Flash floods are generally not expected.	Isolated flash floods possible	Scattered flash floods possible	Numerous flash floods likely	Widespread flash floods expected
	Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.	Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.	Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.	Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.
www.wpc.ncep.noaa.gov @NWSWPC				
Flash flooding occurring? NO Flash Flooding				

Comprendiendo las categorías de riesgos de lluvias excesivas de WPC				
(Sin área o etiqueta)	MARGINAL (MRGL)	LIGERO (SLGT)	MODERADO (MDT)	ALTO (HIGH)
No se esperan inundaciones repentinas en general.	Inundaciones repentinas aisladas posibles	Inundaciones repentinas dispersas posibles	Numerosas inundaciones repentinas probables	Inundaciones repentinas generalizadas
	Localizadas y primordialmente afectando lugares susceptibles a inundaciones cuando llueve fuerte.	Generalmente localizadas. Las áreas más vulnerables son las urbanas, caminos y arroyos pequeños. Son posibles inundaciones significativas aisladas.	Varios eventos de inundaciones, con algunas significativas posibles. Varios arroyos pueden inundarse, afectando ríos grandes.	Inundarse áreas que normalmente no lo hacen. Vidas y propiedades en alto riesgo.
www.wpc.ncep.noaa.gov @NWSWPC				
Inundación cerca o ni? NO cerca				

HIGH RISK OF EXCESSIVE RAINFALL
Potentially deadly and damaging flash flood day. Pay attention!

- Make sure emergency alerts are enabled on your smart phone for urgent Flash Flood Warnings
- Have multiple ways to receive a warning if you live in an area vulnerable to flash flooding
- Consider postponing non-essential road travel. The majority of flood deaths occur with vehicles.

Weather Prediction Center
College Park, Maryland

INTERPRETING THE EXCESSIVE RAINFALL OUTLOOK

IN THE BIG PICTURE

- Orients you to potential problem spots for intense rainfall and resulting flash flooding
- Where is the risk relatively higher?

AT A LOCAL LEVEL

- Describes the probability (definition left) of intense rainfall leading to flash flooding within an area approximately the size of a large metro area or county/parish.
- "What are the chances I'll be dealing with flash flooding today?"

Risk of rainfall exceeding flash flood guidance within 25 miles of a point
HIGH: At least 70% **SLGT: At least 15%**
MDT: At least 40% **MRGL: At least 5%**



Track Forecast/Cone Graphic

How the Cone is Developed

Conveys the most likely track of the center of the storm

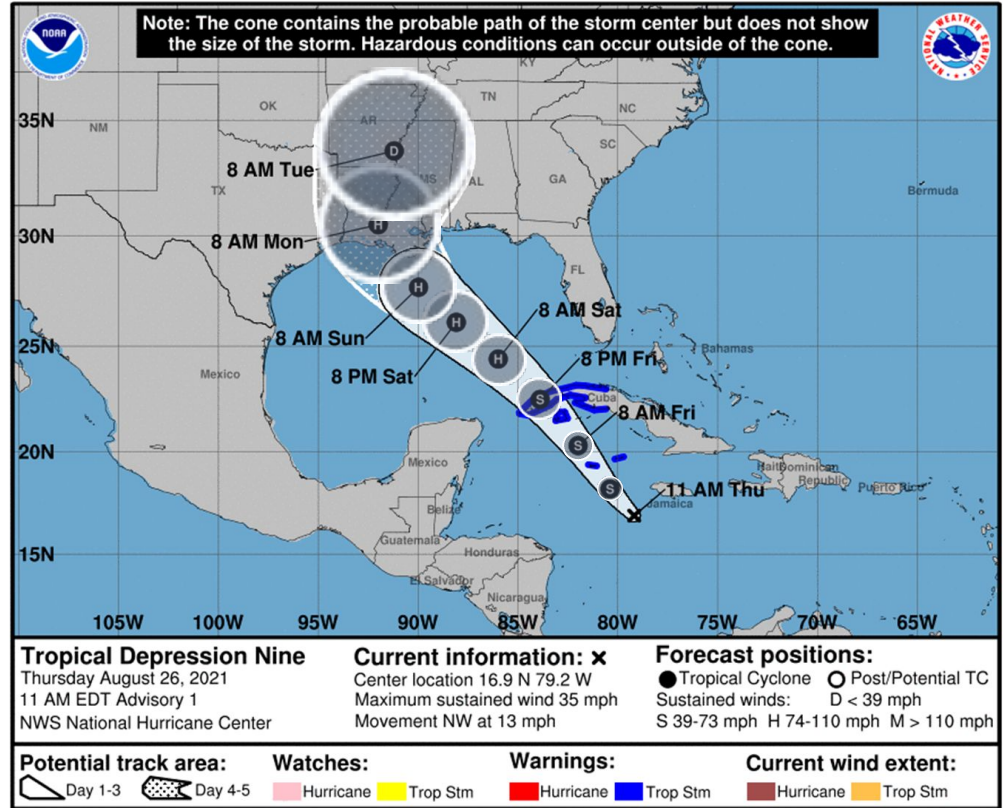
Does NOT convey impacts

Based on the 2/3rds track error from the past five years

The cone size does not change through the season

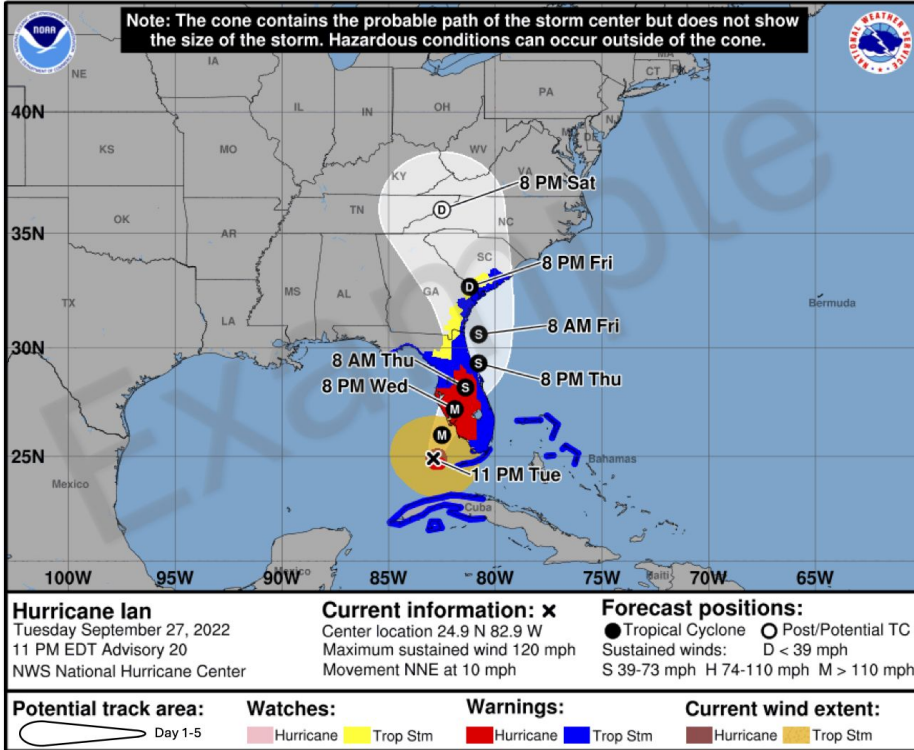


Information about the NHC cone and reminders





Cone Graphic with Inland Tropical Wind Watches/Warnings



New experimental cone graphic depicting inland U.S. tropical storm and hurricane watches and warnings will become available mid-season in 2024

Will help convey wind hazard risk over land

The 5-day cone will be depicted as all white instead of the current solid 1-3 day cone and hatched 4-5 day cone

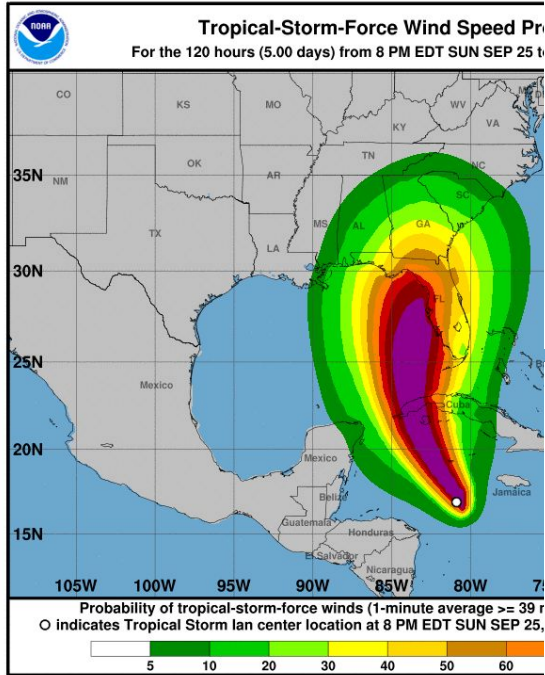
Graphic may not be available as soon as the current cone graphic due to the time need to compile complete inland watch and warning information

Will be available beginning on or around August 15, 2024

Available at hurricanes.gov along with the current operational version of the cone graphic

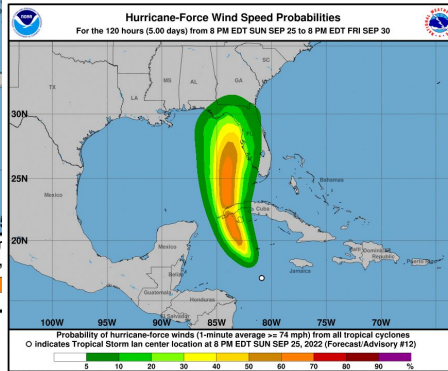
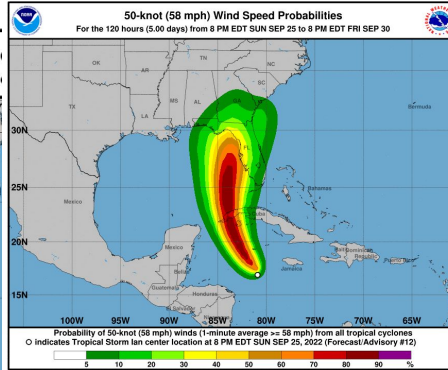


Wind Speed Probability Graphics



TROPICAL STORM FORCE

STRONG TROPICAL STORM FORCE



HURRICANE FORCE

Depicts cumulative probability of tropical storm force (39 mph), strong tropical storm force (58 mph), or hurricane force winds (74+ mph) for a specific location over the next 5 days

Takes into account more than just the center of the storm, it includes typical track, intensity, and size errors





Wind Speed Probabilities

Based on 1,000 realistic alternative scenarios created using:

- Official NHC track and intensity forecast
- Historical NHC track and intensity forecast errors
- Climatology and persistence wind radii model

Uses model spread to account for track uncertainty



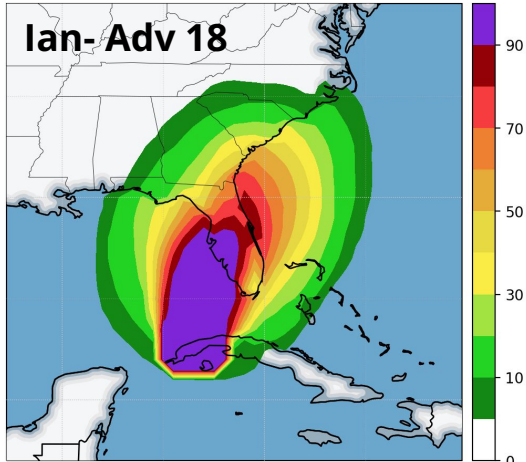


Next Generation Wind Speed Probability Model

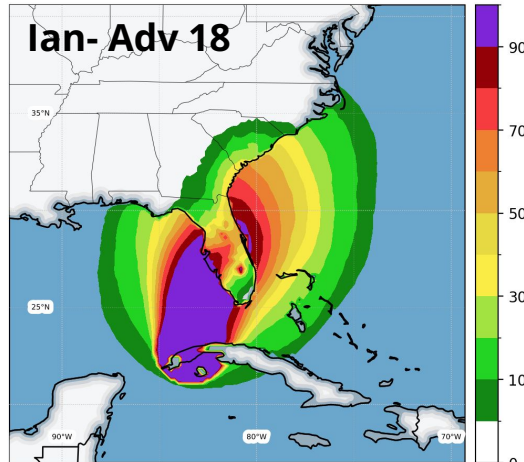
WSP 2.0 will be implemented no earlier than 2026

A new Wind Speed Probability Model (WSP 2.0) is being

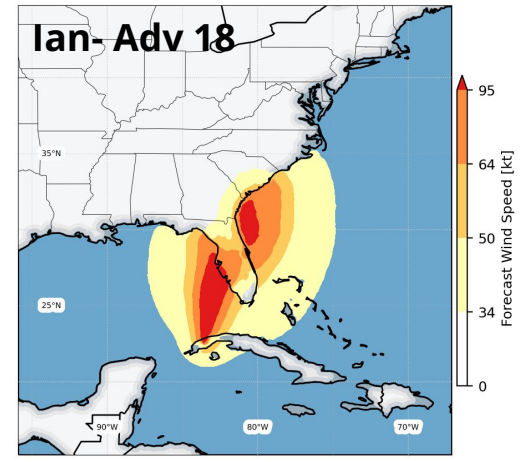
Prob > 34 kts - Legacy



Prob > 34 kts - WSP 2.0

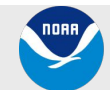


10% Exceedance Map



Can reduce wind probabilities over land by up to 40%

- More accurate, especially over land as it uses high-resolution surface wind reduction scheme over land
- Consistent with other NWS TC wind products
- More options for potential output products including: wind exceedance, wind gust probabilities, and the possibility for thresholds other than 34-, 50- and 64kt

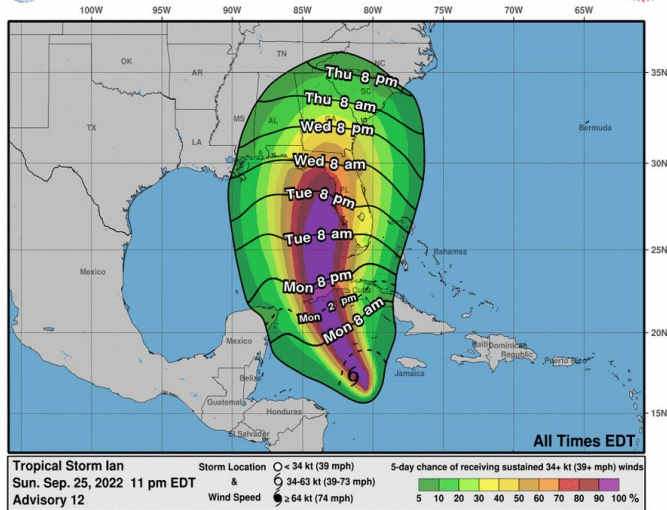




Tropical Storm Force Wind Speed Time of Arrival Graphics

EARLIEST REASONABLE

Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds

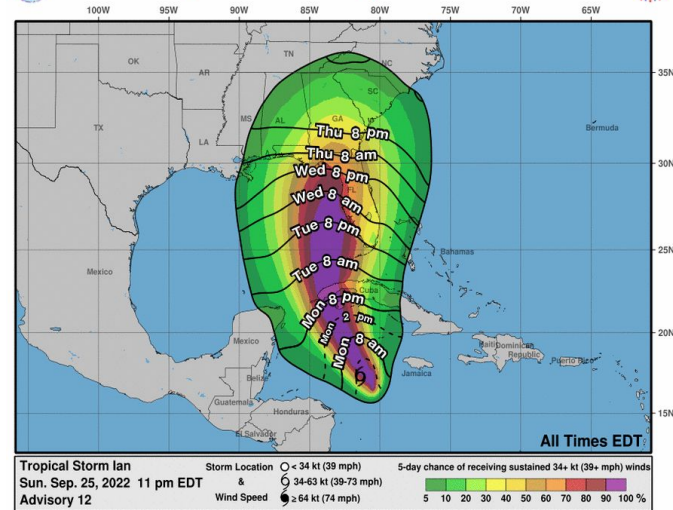


Only 1 in 10 chance of tropical storm force winds arriving earlier than noted time

Best for users with low risk tolerance

MOST LIKELY

Most Likely Arrival Time of Tropical-Storm-Force Winds



Equal chances of tropical storm force winds arriving before or after the time listed

Preparations should be completed by this time





NOAA

**National
Weather
Service**

Questions Before our Exercise?

