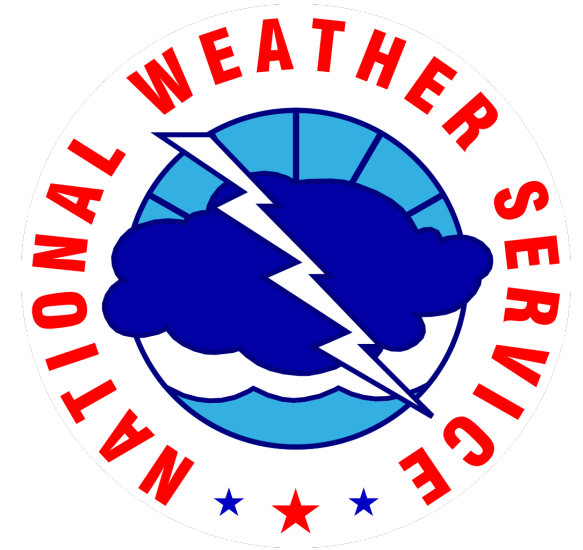




Model Canes and Social Media Hype

John Cangialosi, National Hurricane Center
Jon Rizzo, NWS Key West Weather Forecast Office



Training Session – TS20

Poll Question

- What's your favorite weather model?
 - a. GFS (American global model)
 - b. ECMWF (European global model)
 - c. Google DeepMind AI model
 - d. Something else

What's your favorite weather model?



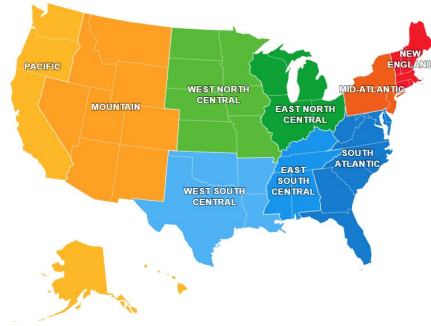
What are the Weather Models?

Global



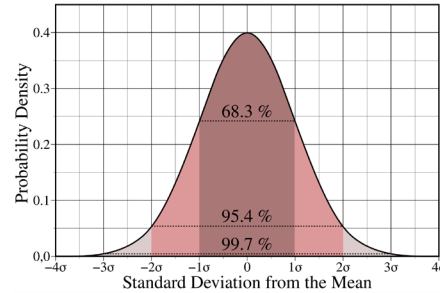
GFS, ECMWF
Good for track,
environment
Not for intensity

Regional



HAFS, HWRF
Good for intensity
Not as good for track

Statistical



SHIPS, LGEM
Good for
environment/intensity
Not used for track

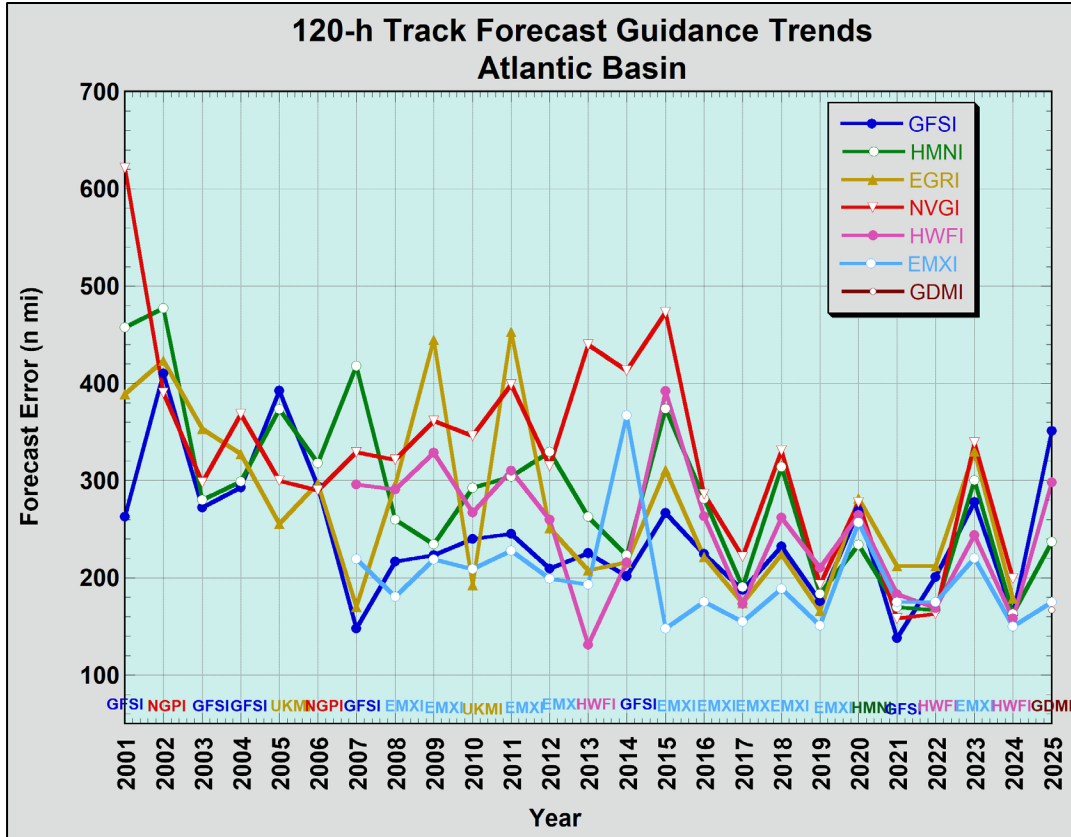
AI



GDM, ECAI
Good for track and
intensity.
Not good for analyzing
environment

**Which model is the best one?
Which one is going to win?**

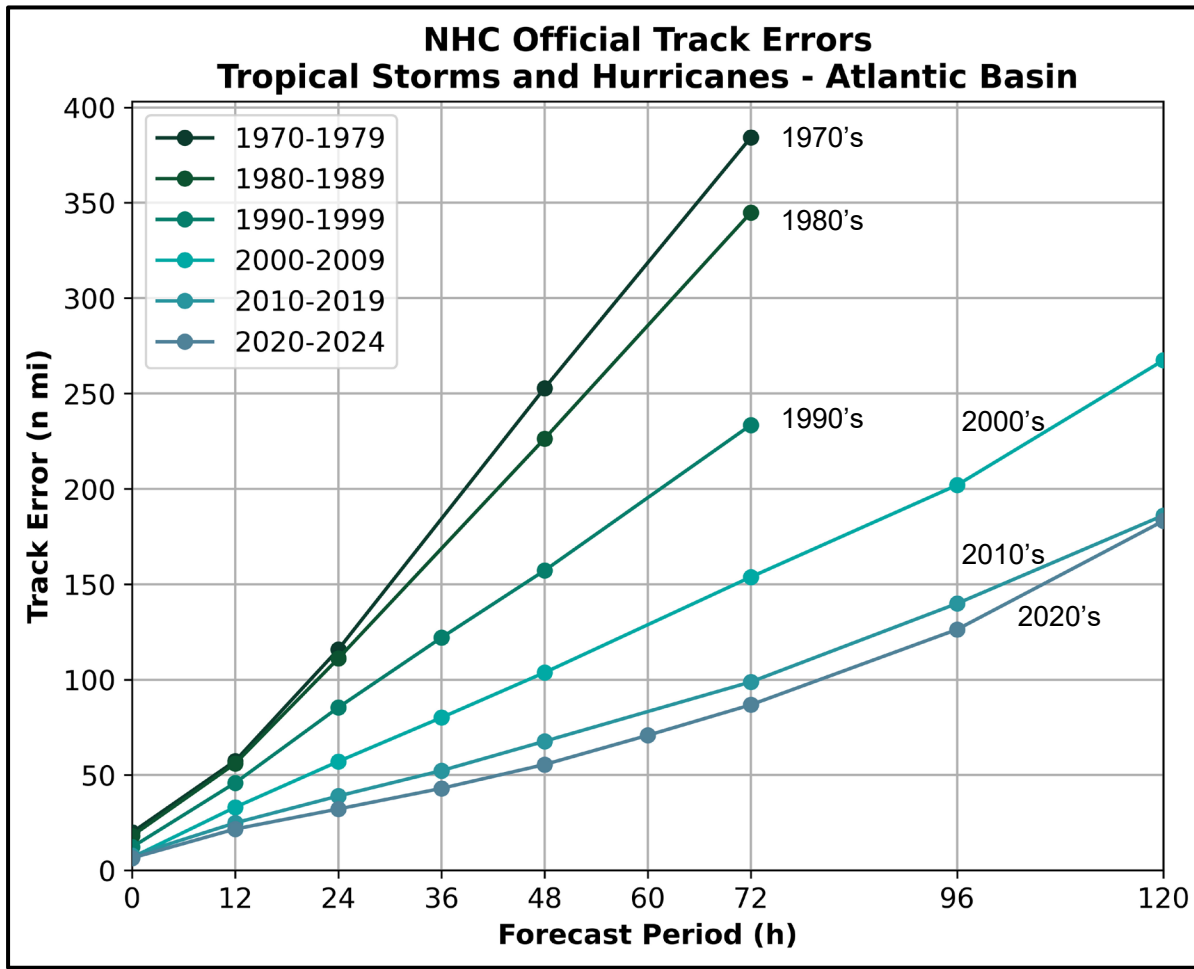
5-day Track Model (2001-25) – Atlantic Basin



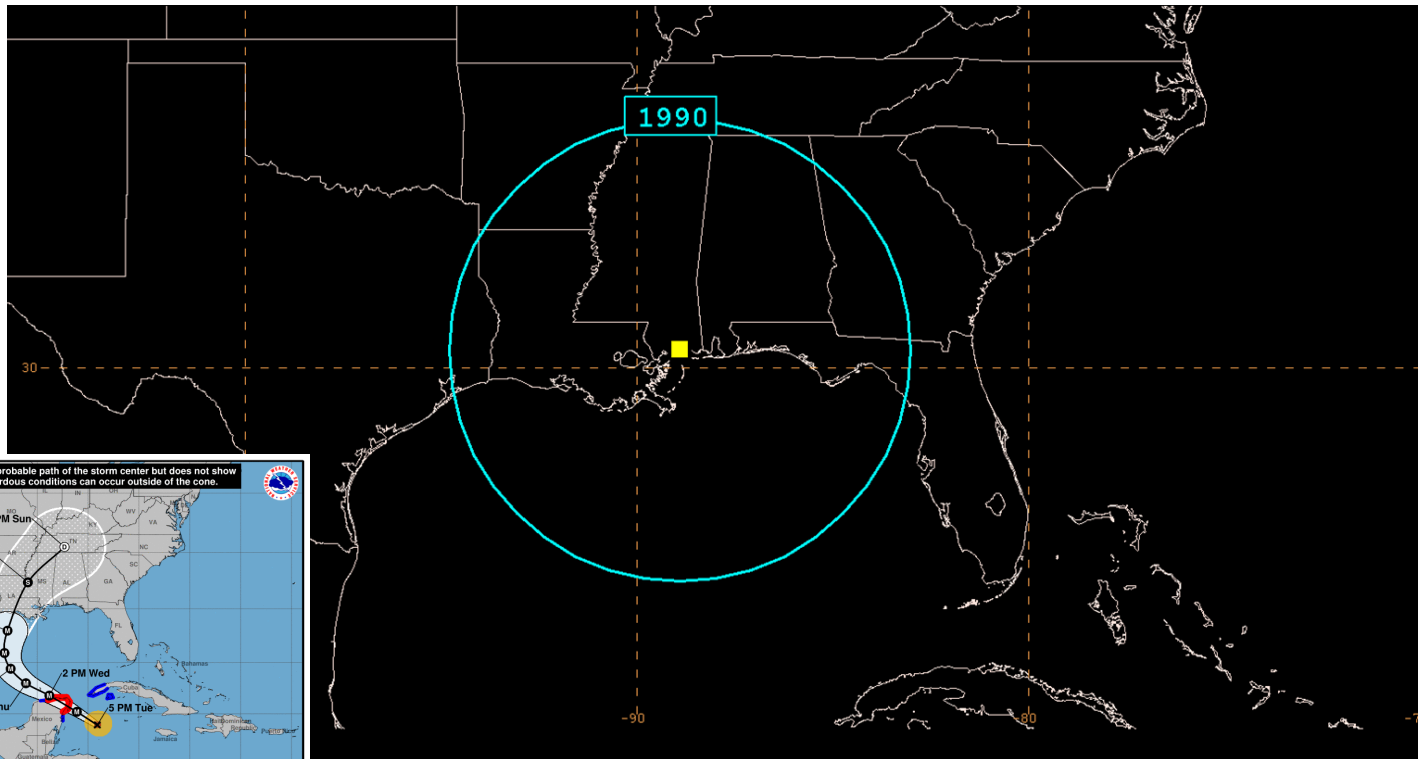
Due to model changes and other factors, the best performing model often varies from season to season

The best guidance in terms of accuracy and consistency is NHC

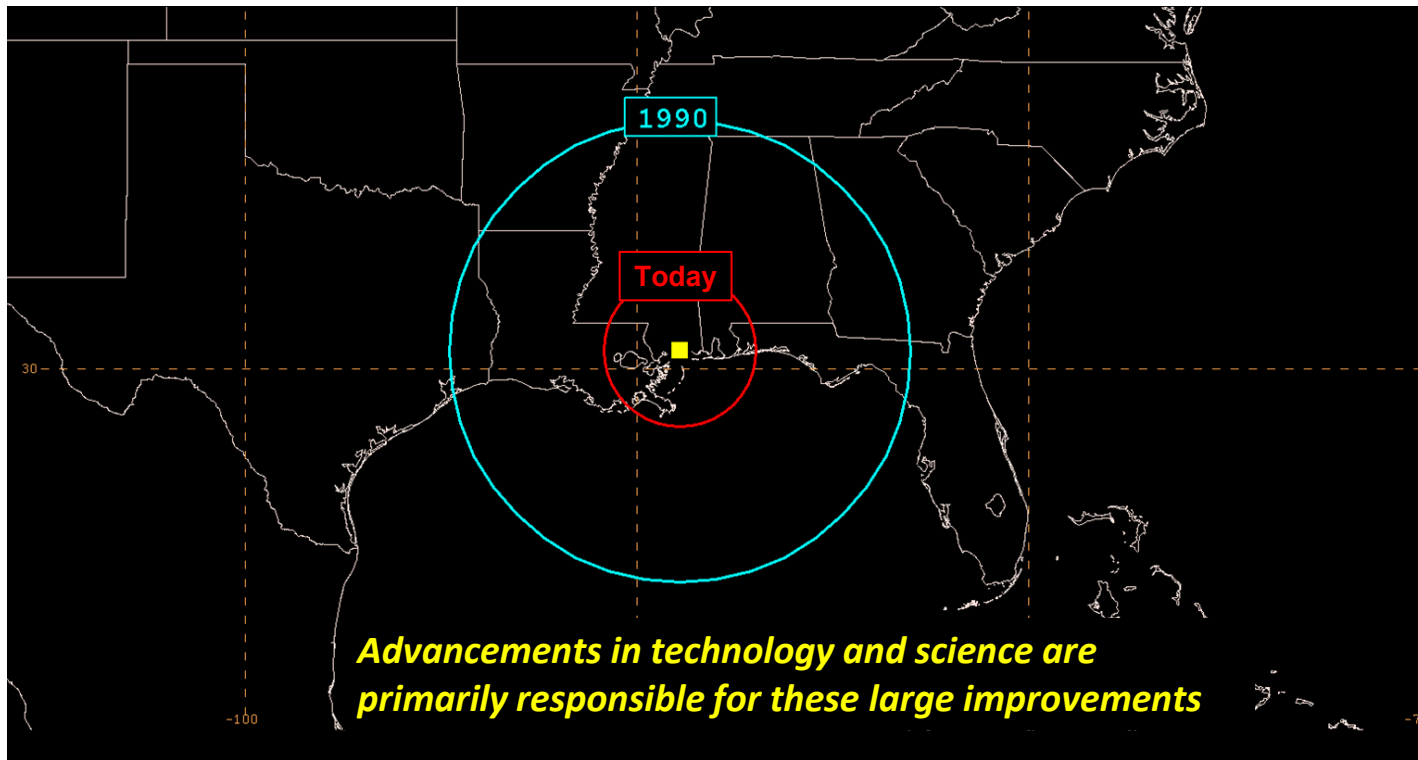
Atlantic Track Error Trends



3-day NHC Average Track Error I

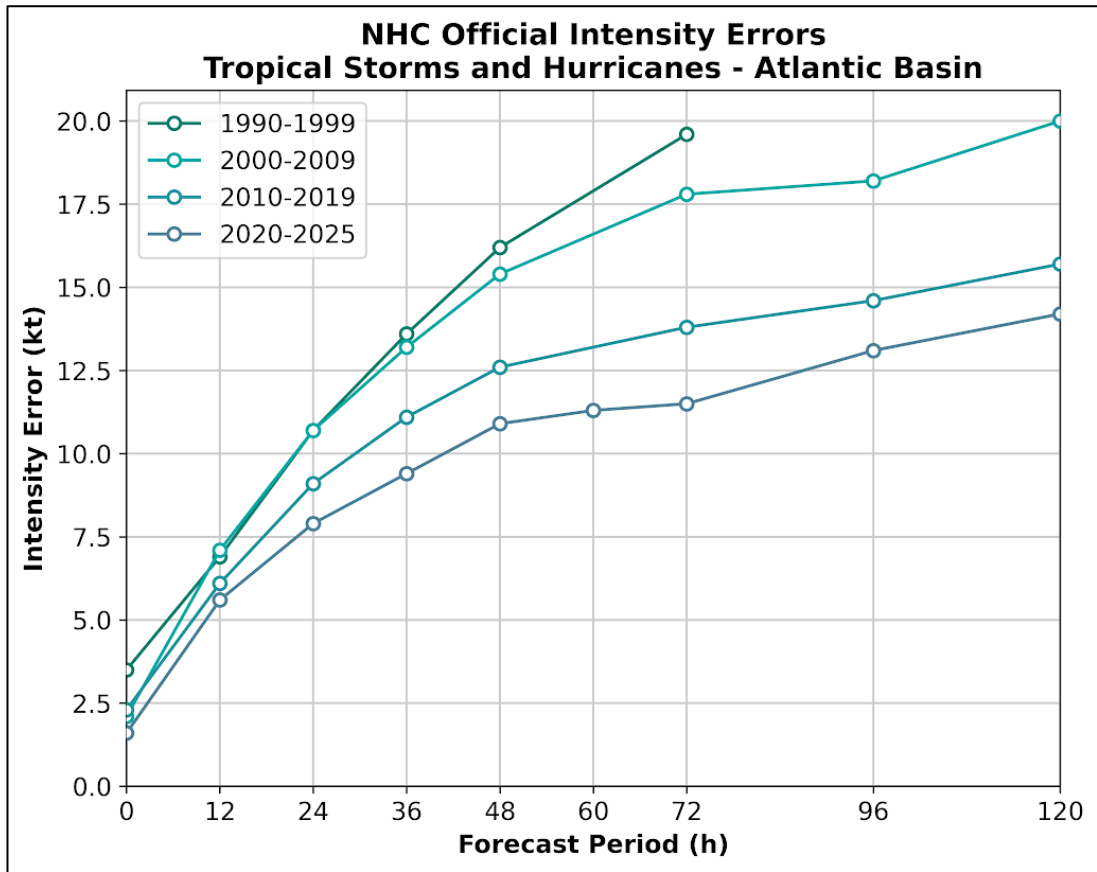


3-day NHC Average Track Error II

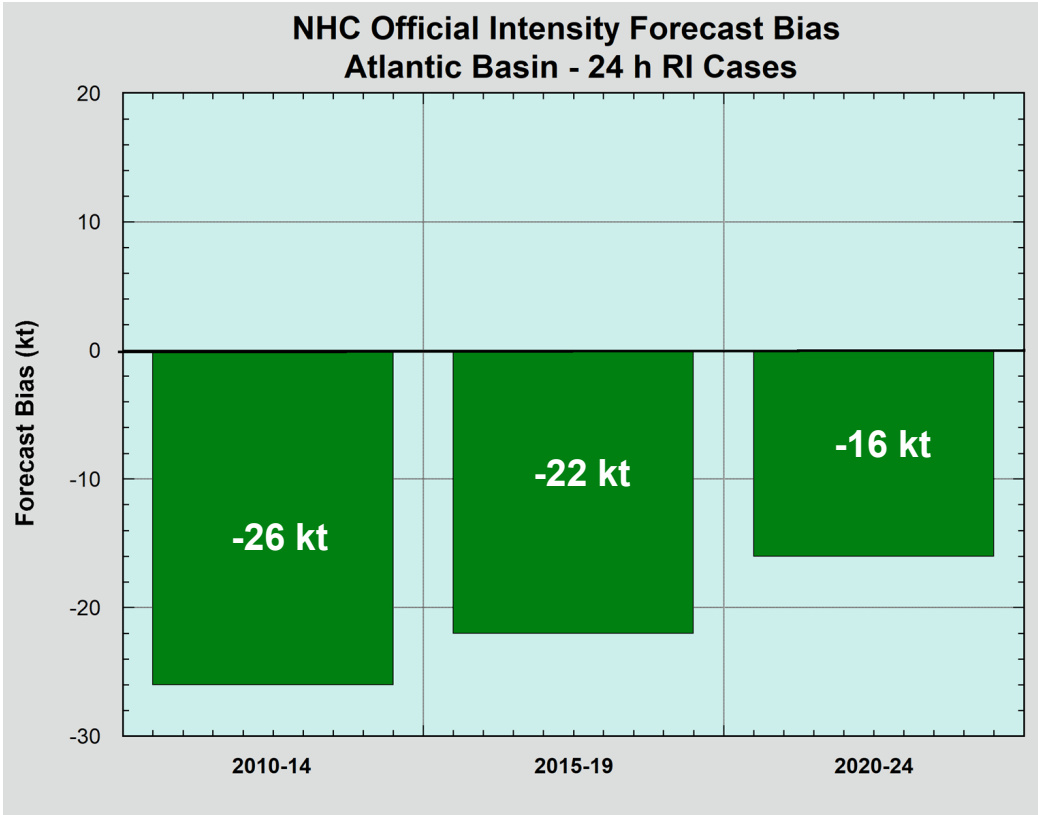


NHC track errors are about 70% smaller today!

Atlantic Intensity Error Trends

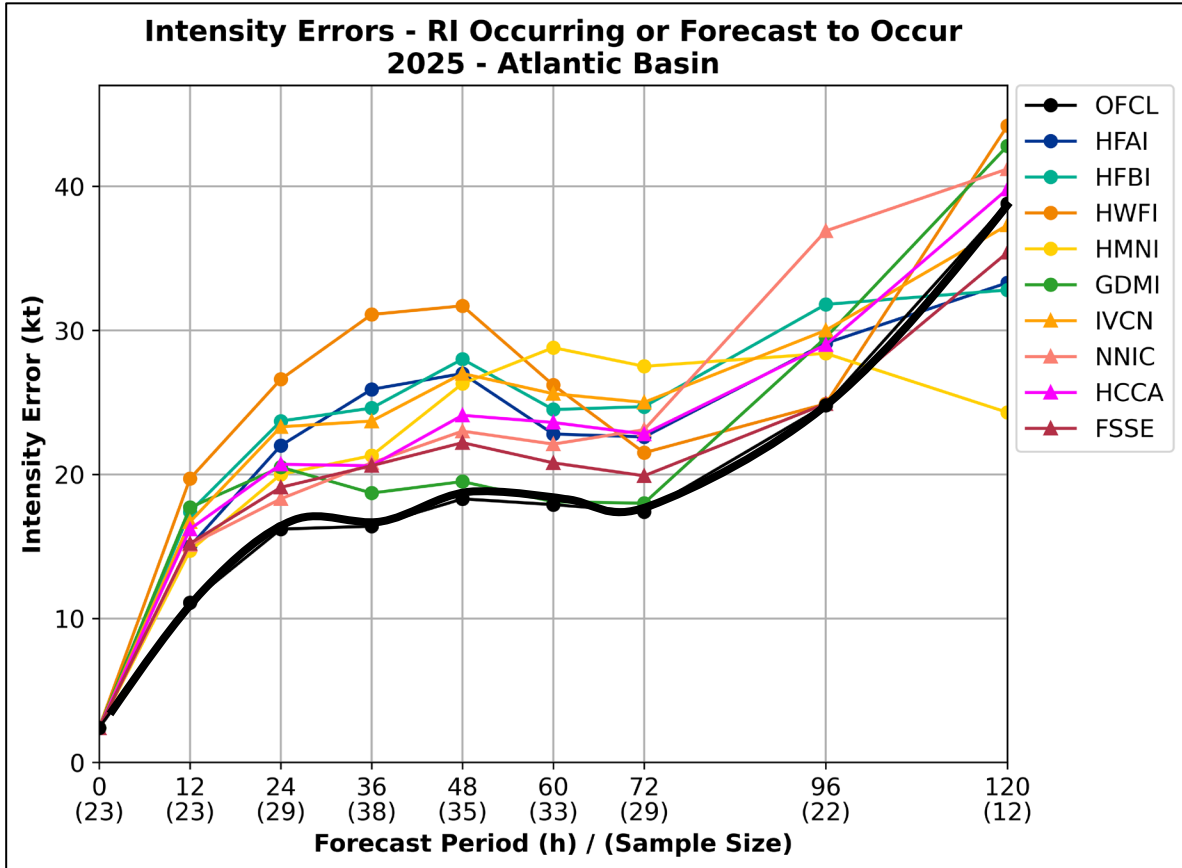


Rapid Intensification Prediction - Trends



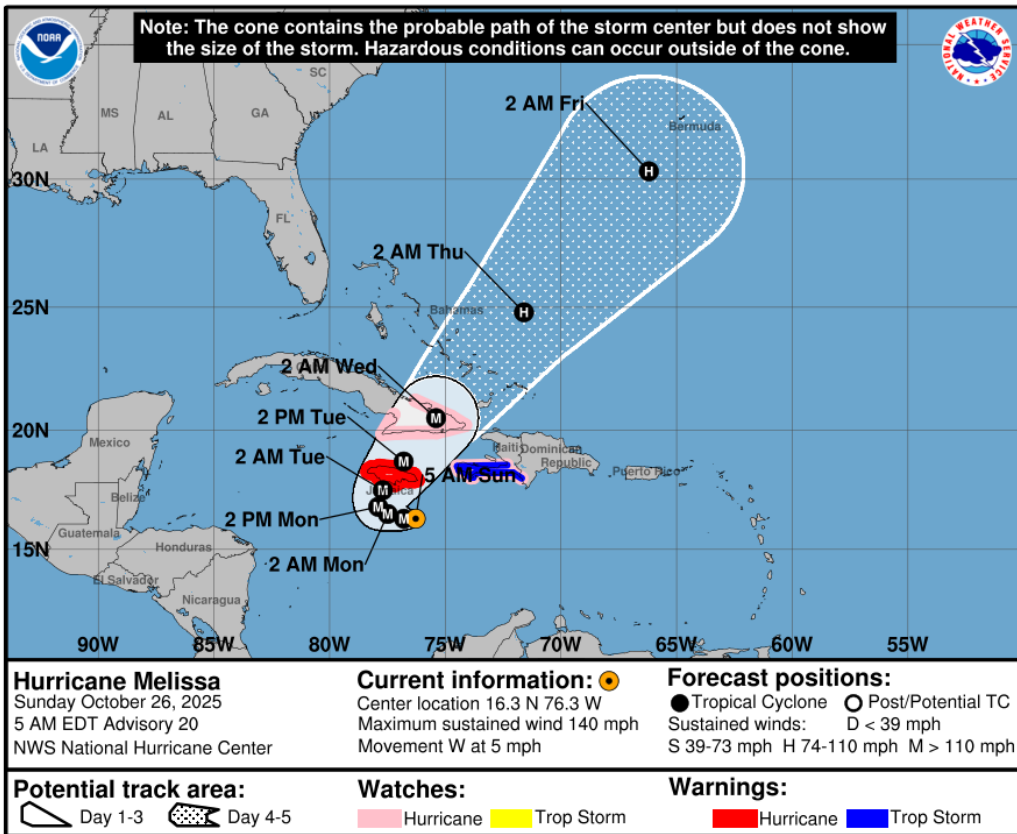
Trends are looking good at better predicting rapid intensification

Rapid Intensification Cases – Atlantic Basin (2025)



NHC beat just about all of the models for the most challenging cases.

Average Uncertainty



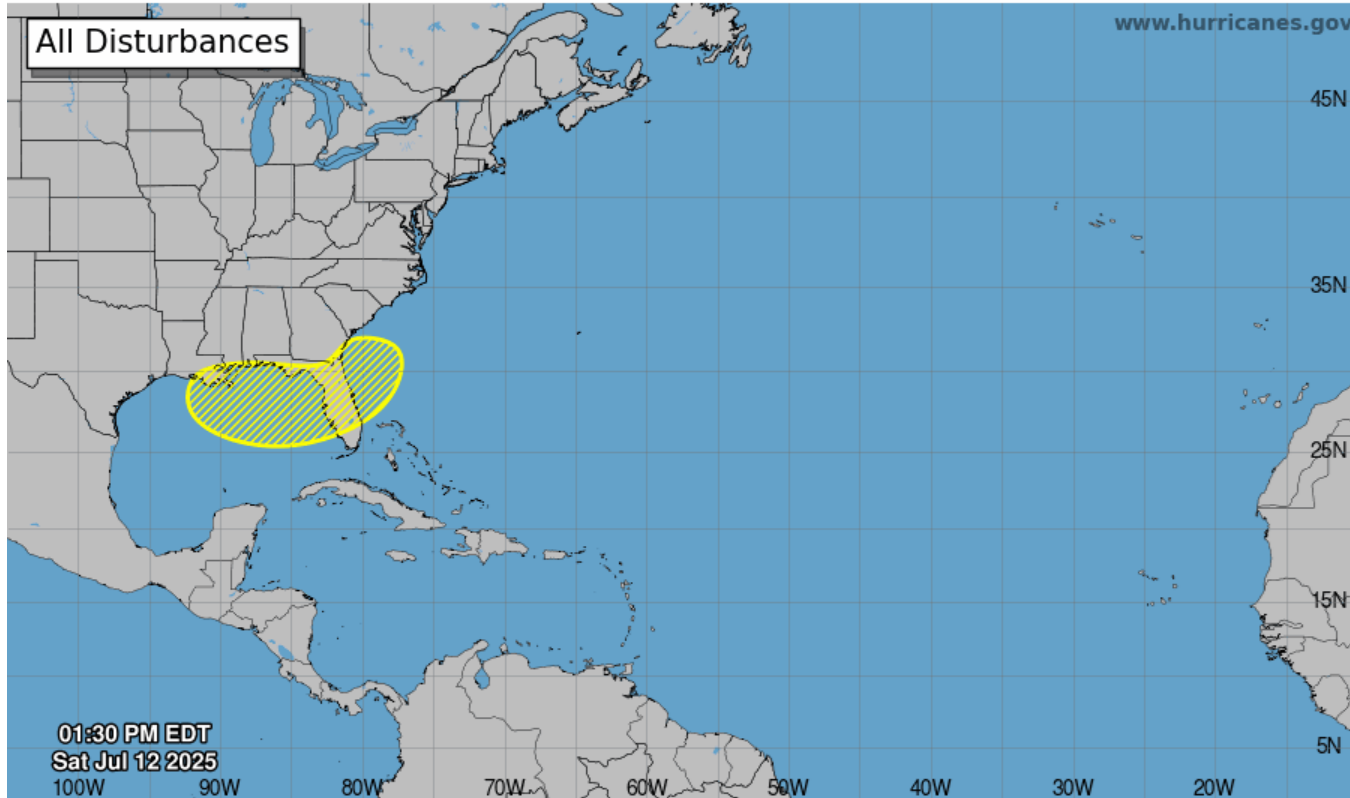
- **Track** – Average forecast is typically off by 30-40 miles per day
- **Intensity** – typically off by up to one Saffir-Simpson category

Beware of Social Media Traps



Seven-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



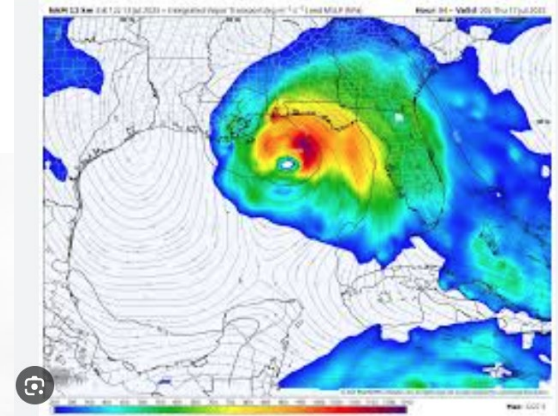
Current Disturbances and Seven-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
 Post-Tropical Cyclone or Remnants

Department of Commerce | National Oceanic and Atmospheric Administration | weather.gov

Throughout this period, NHC and NWS primarily focused on the rainfall threat and low to medium chance of a tropical depression forming, but some social media sources messaged something different...

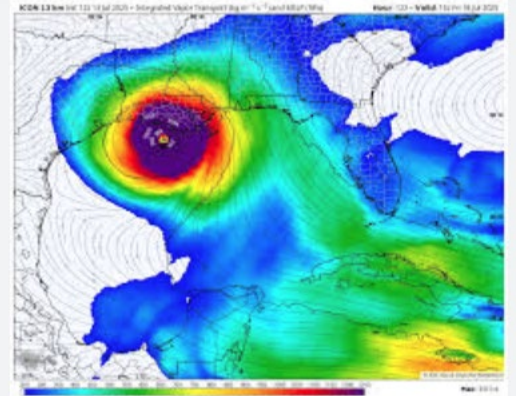
Houston TikTok sparks panic over a storm that doesn't exist

"I sometimes predict the storms better than the weathermen do."

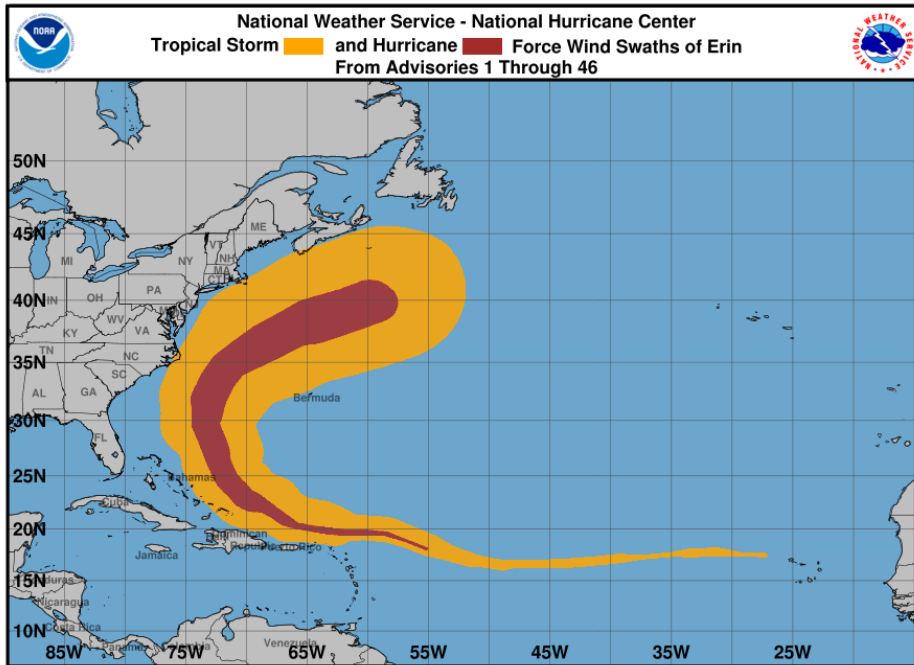


TROPICS: Dexter could be a thing this week. Sneaky system I think may need to be watched a lot closer....

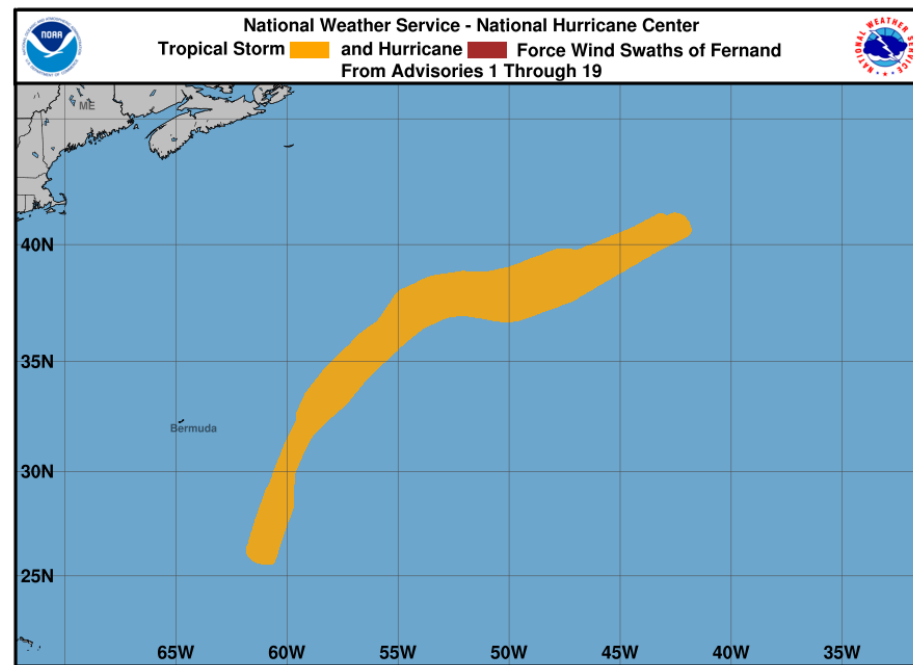
Visit >





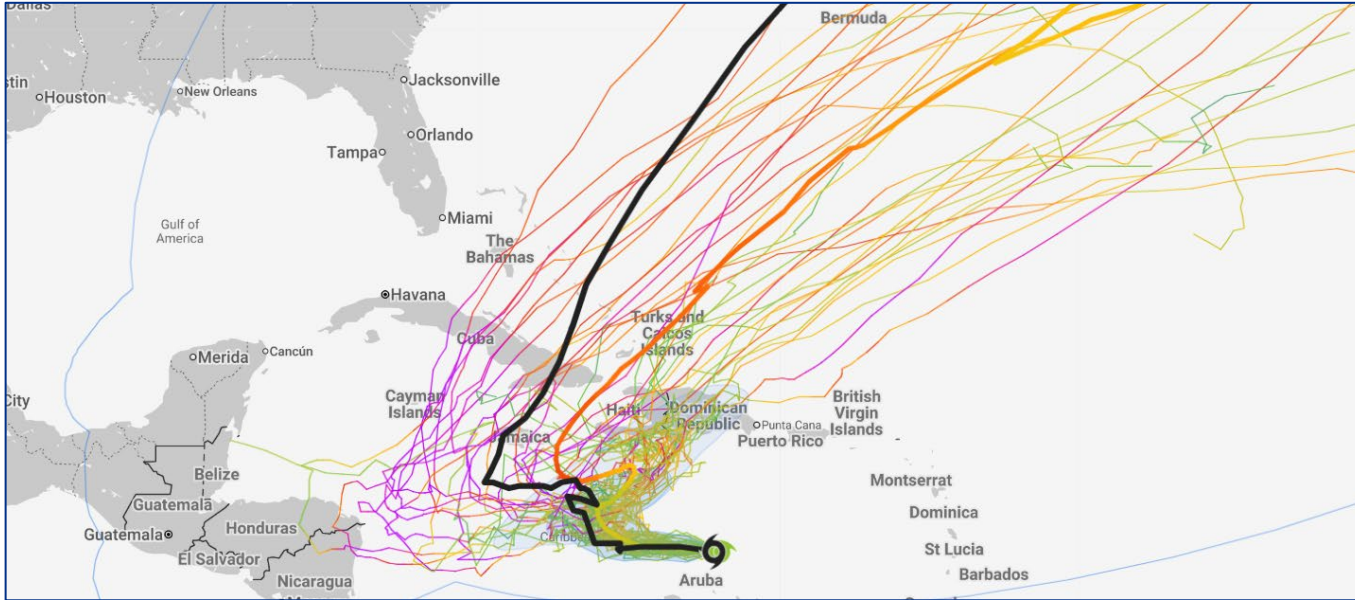


Hurricane Erin



**Tropical Storm Fernand
 “the hurricane behind Erin”**

AI Has All the Answers

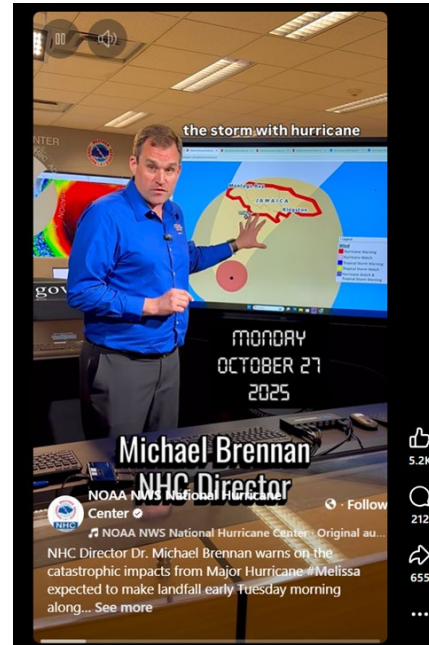
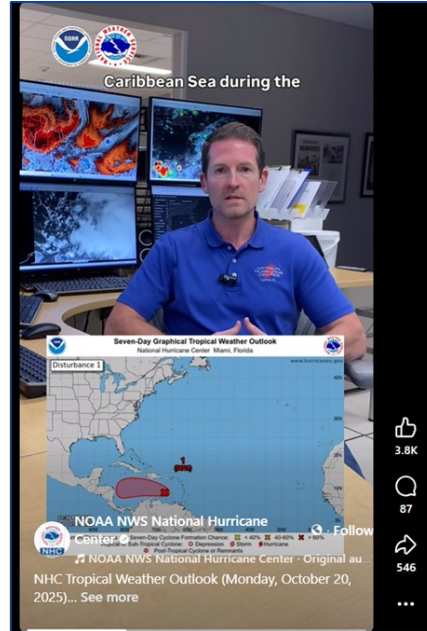
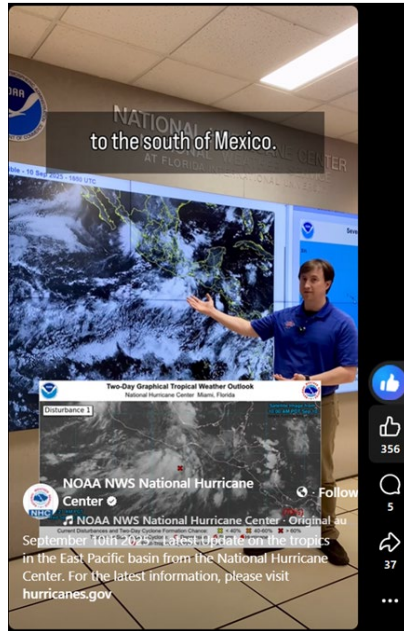


Google Deep Mind Forecast (Melissa)

1 - Does this answer your questions?

2 - Is this enough information to make decisions from?

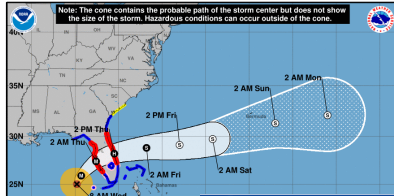
Focus on Communication



Reels reached millions of people in 2025



The "Other Hurricane" in the Room



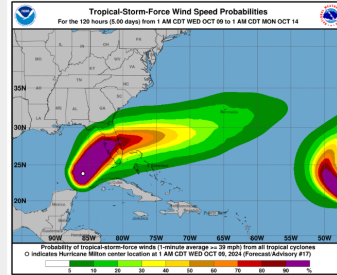
Tropical Storm Wind Speed Probabilities

Hurricane Milton

Hurricane Milton
 Wednesday October 09, 2024
 8 AM EDT Intermediate Advisory 17A
 NWS National Hurricane Center

Current Info
 Center location 25
 Maximum sustained
 Movement NE at 1

Potential track area: Watches:
 Day 1-3 Day 4-5 Hurricane Trop Strm

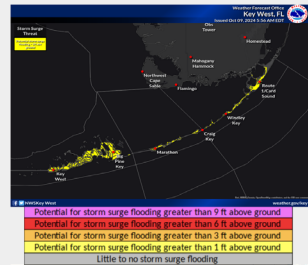


Community	Chance of Sustained Tropical Storm Force Wind (34+ knots / 39+ mph)
Key West	19%
Marathon/Key Colony Beach	16%
Layton	17%
Islamorada	17%
Key Largo	16%
Ocean Reef	17%

The chances for sustained tropical-storm-force winds have decreased to just below 1-in-5 throughout the Keys, from Key West to Ocean Reef.

Potential Storm Surge Impacts

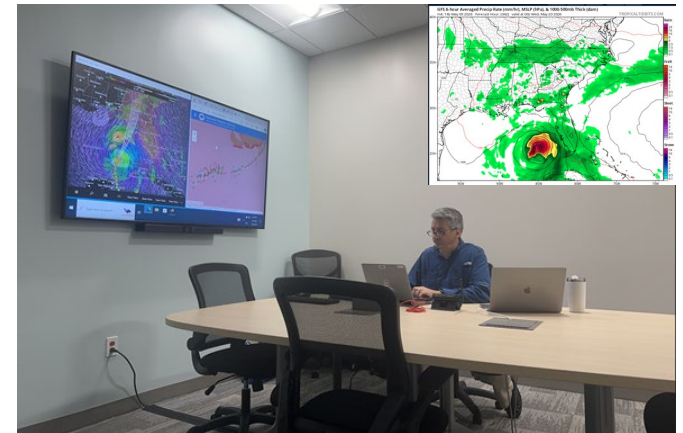
Hurricane Milton



A Coastal Flood Warning remains in effect for all of the Florida Keys.

- There is potential for:
- Storm surge (saltwater) flooding in 1 to 3 feet above ground level causing saltwater flooding on the Bay and Gulf side, especially of lowest elevation streets, parking lots and waterfront yards. Some waterfront streets may be impassable.
 - Moderate beach erosion and minor damage to docks, and a few small craft may drag or break moorings.
 - Timing: this afternoon through Thursday afternoon.
 - Atlantic-facing shorelines will continue to experience crashing waves and overwash through today and into tonight, leading to saltwater flooding in the adjacent neighborhoods.

National Weather Service - Key West, FL



“Modelcanes” In Your Conference Call...

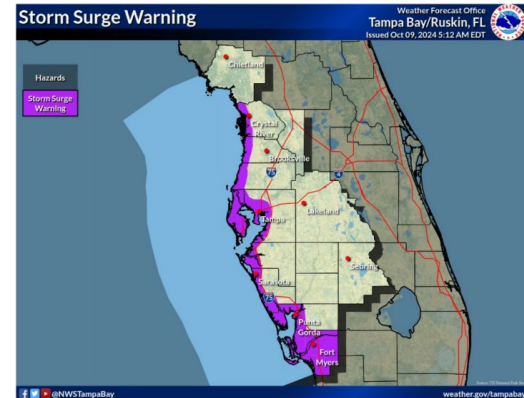


Do you take up the discussion?

Do you shut down the topic?

Do you call upon your NWS meteorologist in the call to briefly discuss?

Use your JIC to create a debunking post and redirect to the hazards at hand?



The “Hurricane Behind Milton” (2024)



Nassau EM
October 10, 2024 · 🌐

▪ Attention Nassau County Residents ▪

We've noticed false rumors circulating on social media about "Hurricane Nadine." As of 7 pm, October 10, 2024, there is no organized system heading toward Florida.

Stay informed with information from official sources such as [US National Weather Service Jacksonville Florida](#). #OneNassau

TROPICAL TRACKER
35 mph Gusts: 45 mph Moving: NNW at 6 mph Pressure: 10

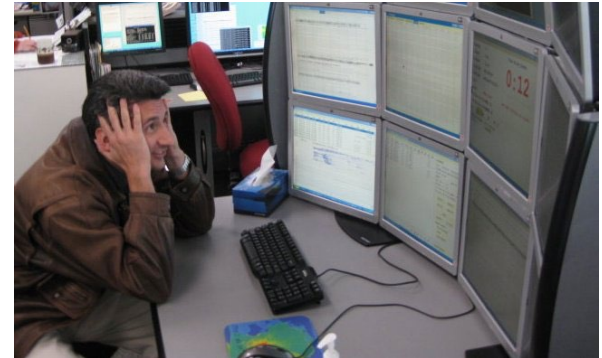
Thursday 8:00 PM EDT
110 mph
Gusts: 130 mph

Thursday 8:00 AM EDT
105 mph
Gusts: 125 mph

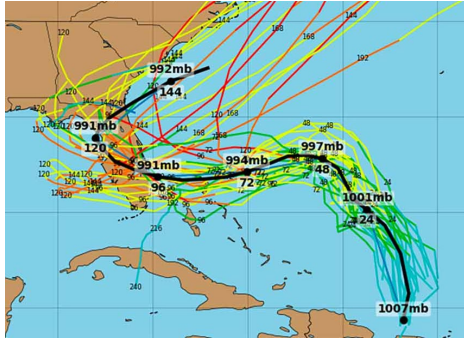
Wednesday 8:00 AM EDT
70 mph
Gusts: 85 mph

FAKE NEWS

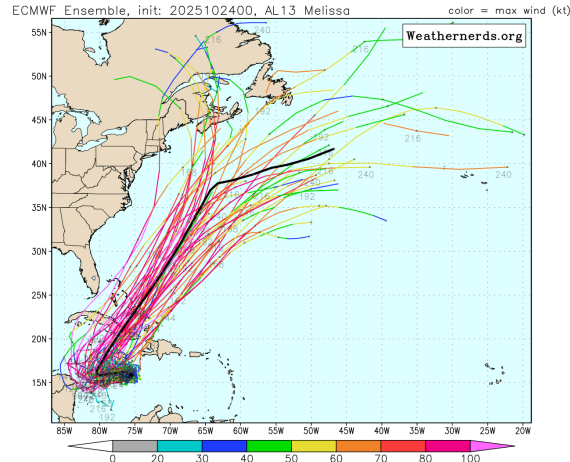
👍 244 27 comments 141 shares



The “Modelcanes” of Actual Storms



Individual ensemble member forecast position trackers that move through your jurisdiction



Questions framed as “What’s the chance the storm strikes us?”

vs.

“What’s the chance of sustained hurricane force winds? ...or storm surge over 6 feet over ground level?”