

FIVE HURRICANE COMMANDMENTS

Getting Your Facility
& Its Occupants
Through the Next Big One

Josh Morgerman
iCyclone

20 May 2025





CRUEL FACTS









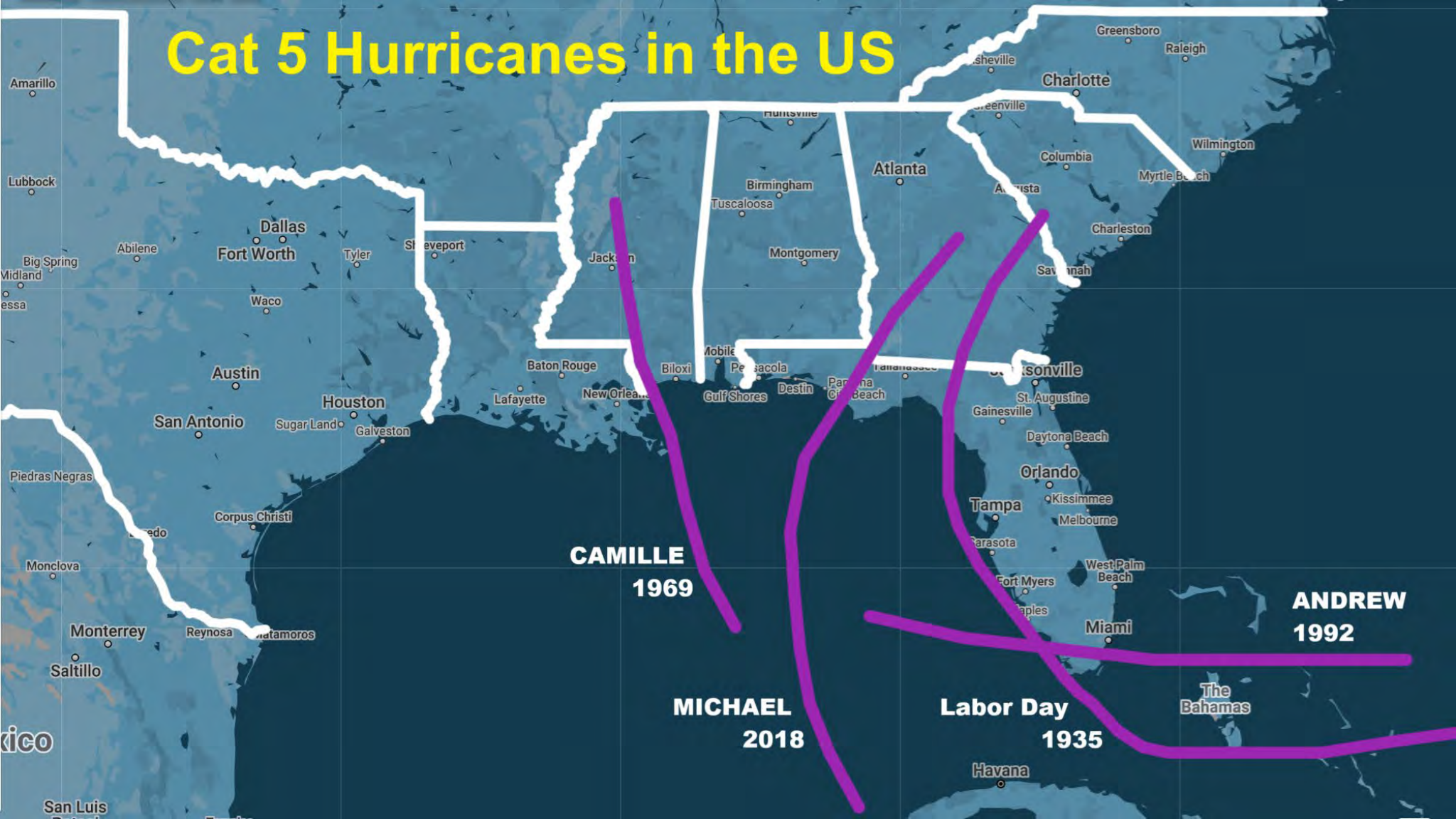
Fact No. 1

It's not even close.

(Texas—in 2nd place—has about half Florida's hurricane impacts.)

And Florida gets the strongest ones.

Cat 5 Hurricanes in the US







Fact No. 2

For example:

- **Northeast US: 1954-1955**



Fact No. 2

For example:

- **Northeast US: 1954-1955**
- **Louisiana: 2020-2021**



Fact No. 2

For example:

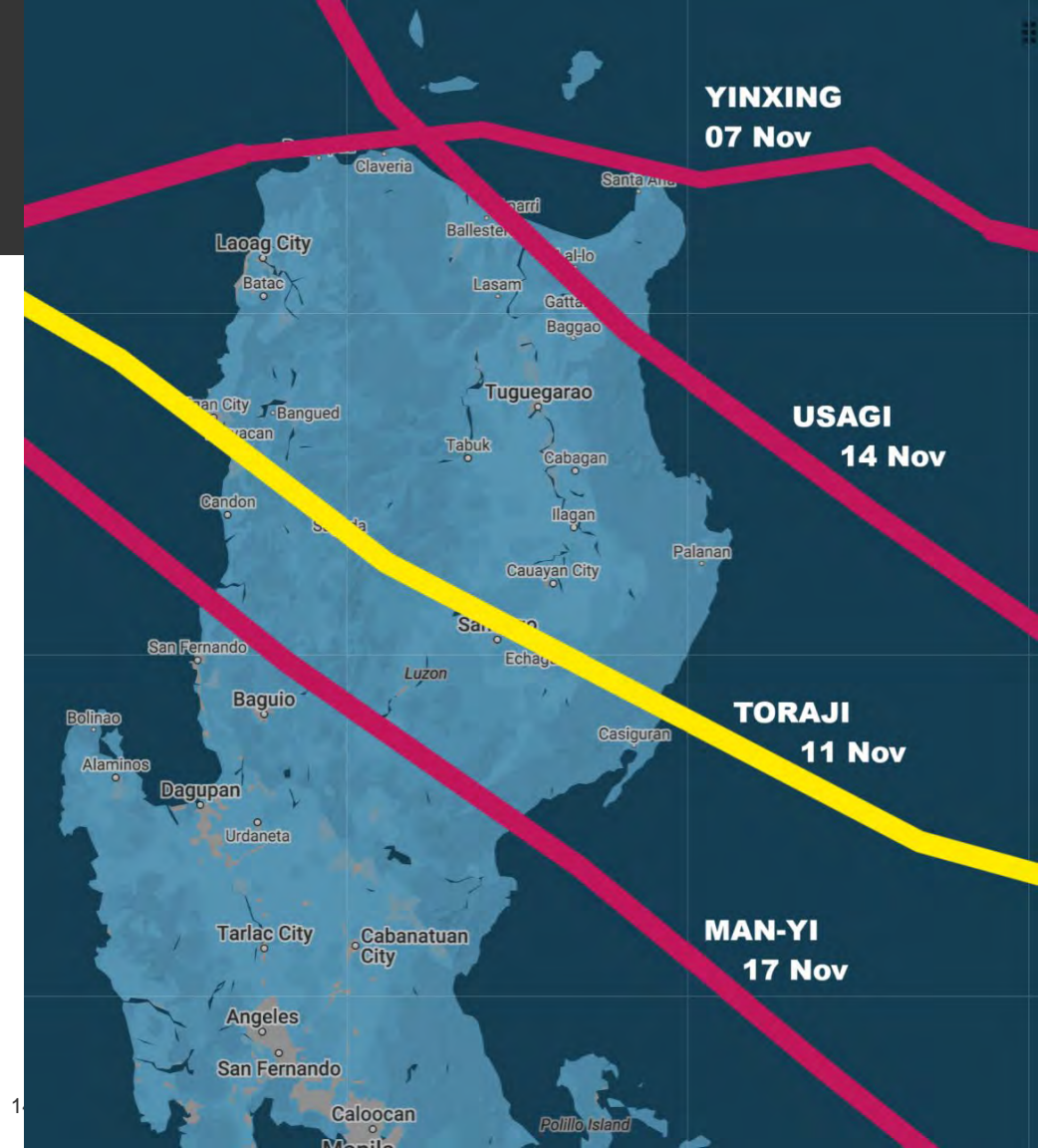
- **Northeast US: 1954-1955**
- **Louisiana: 2020-2021**
- **Nicaragua: Nov 2020**

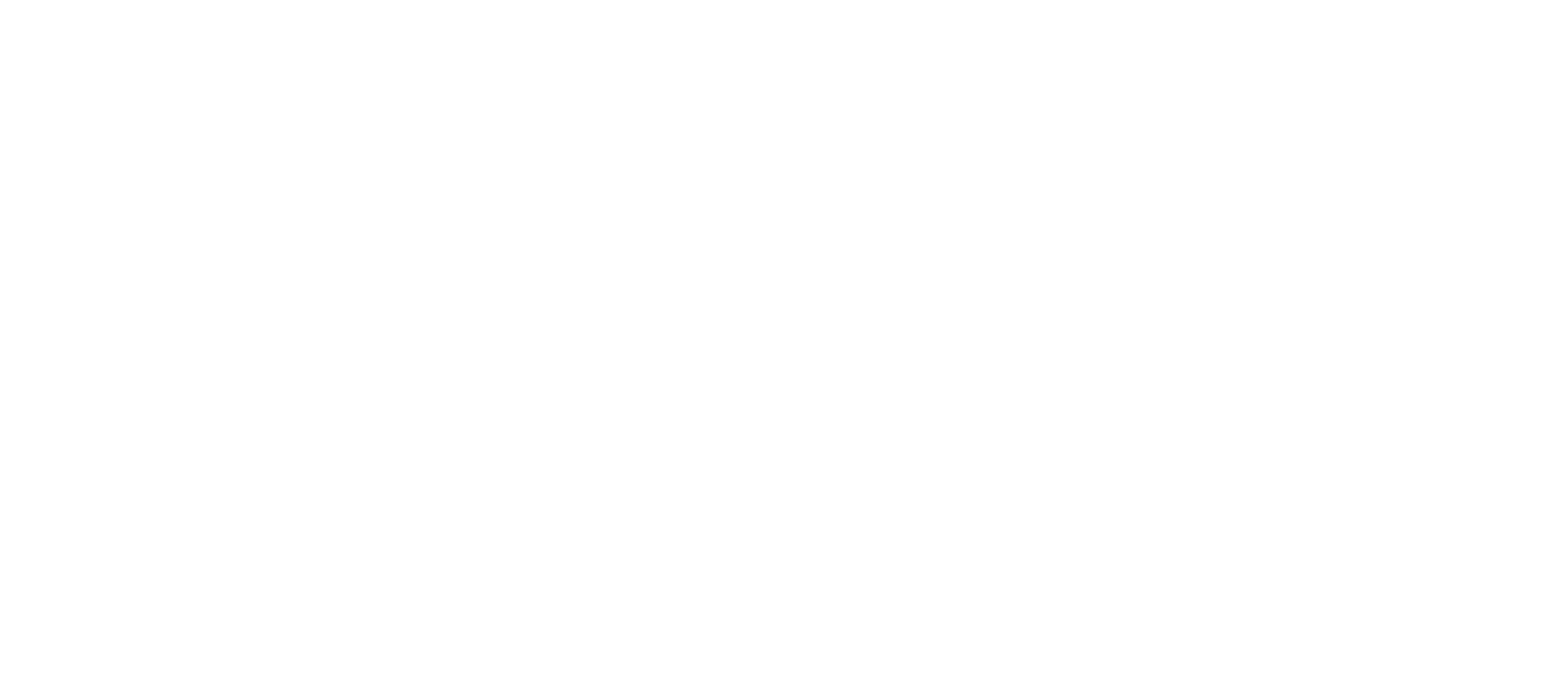


Fact No. 2

For example:

- **Northeast US: 1954-1955**
- **Louisiana: 2020-2021**
- **Nicaragua: Nov 2020**
- **Philippines: Nov 2024**

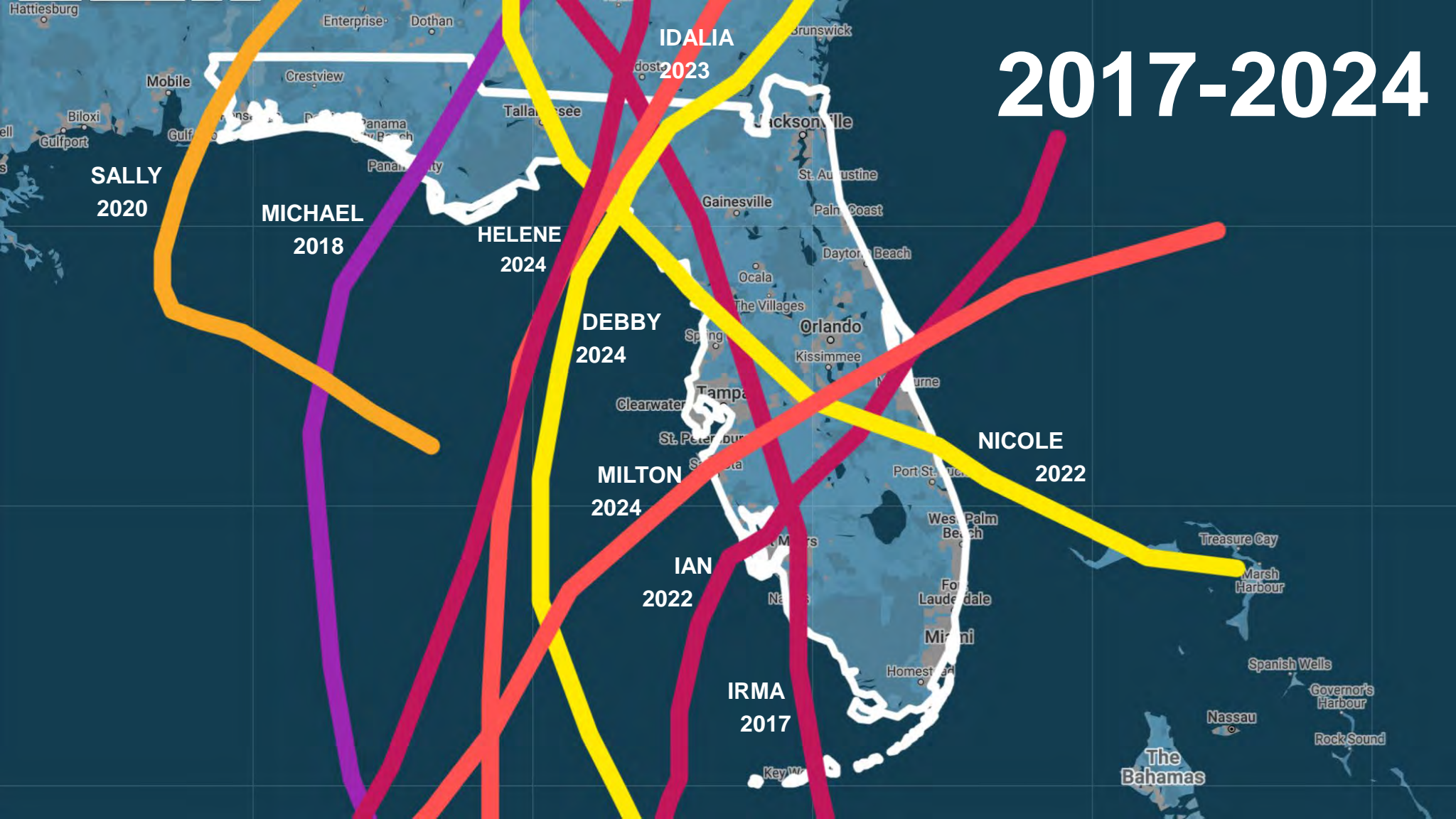




2022-2024



2017-2024



SALLY
2020

MICHAEL
2018

HELENE
2024

DEBBY
2024

MILTON
2024

IAN
2022

IRMA
2017

NICOLE
2022

IDALIA
2023



2004-2005

IVAN
2004

DENNIS
2005

CHARLEY
2004

WILMA
2005

FRANCES 2004

KATRINA
2005

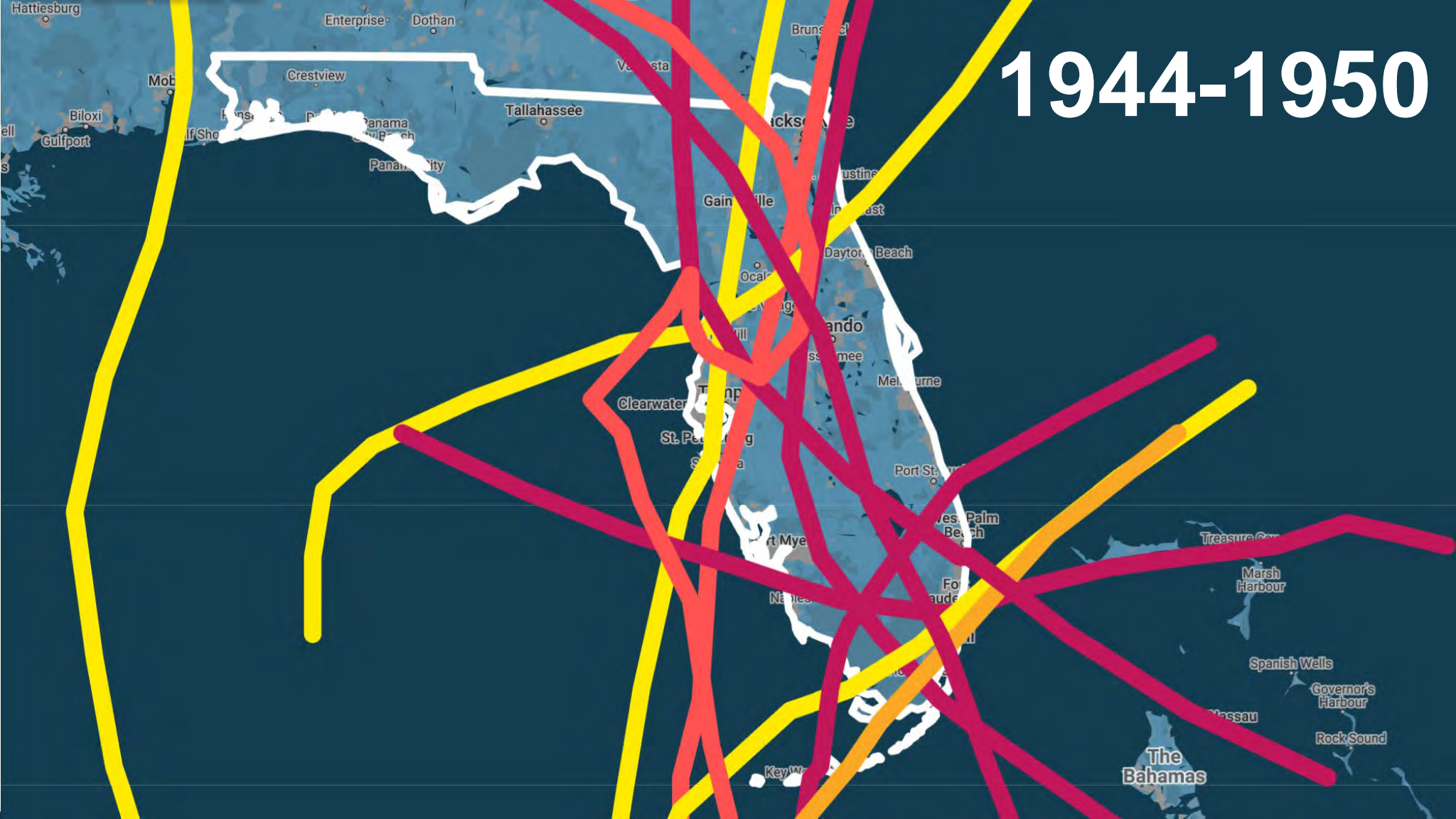
RITA
2005

JEANNE 2004

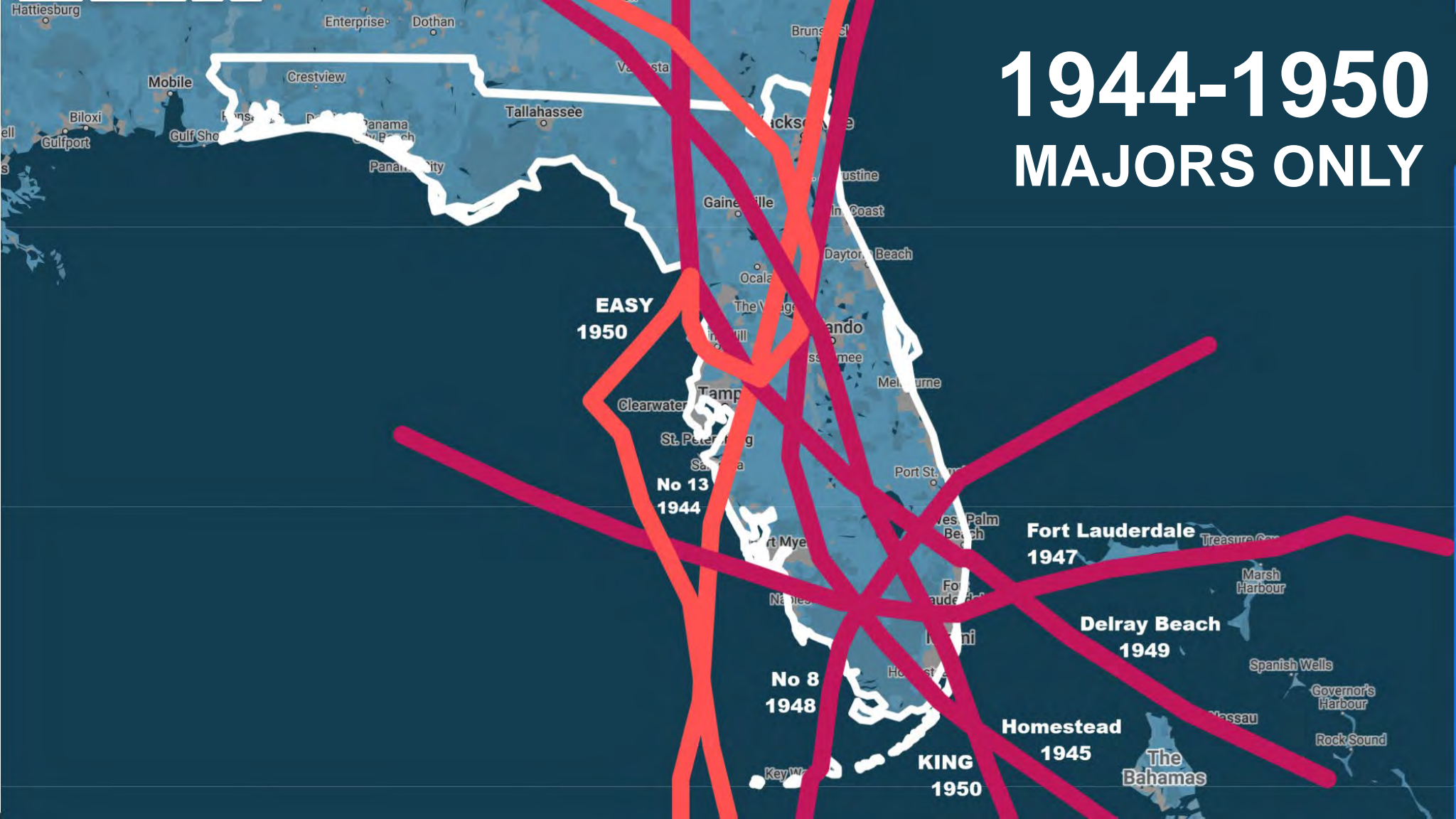




1944-1950

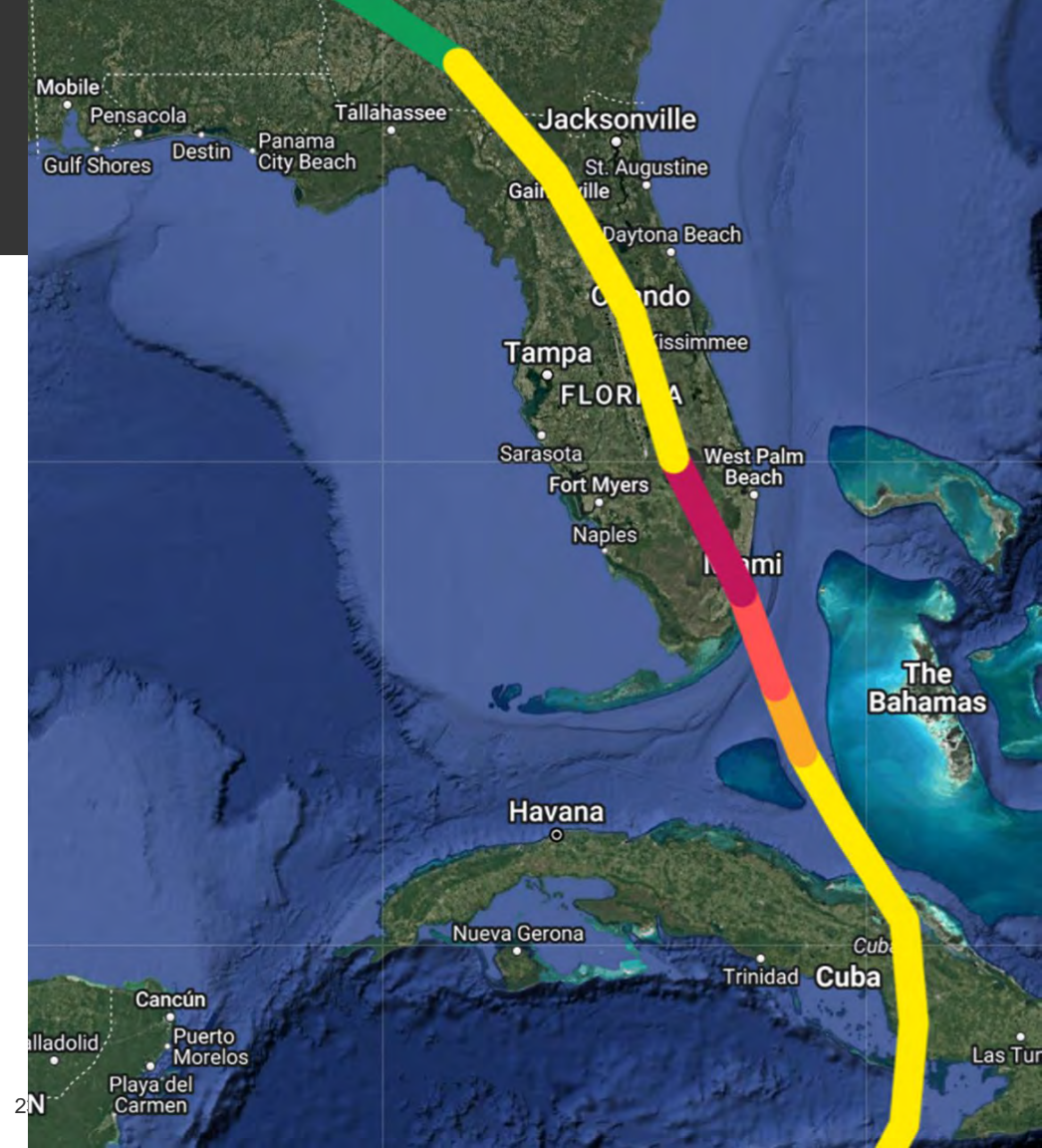


1944-1950 MAJORS ONLY



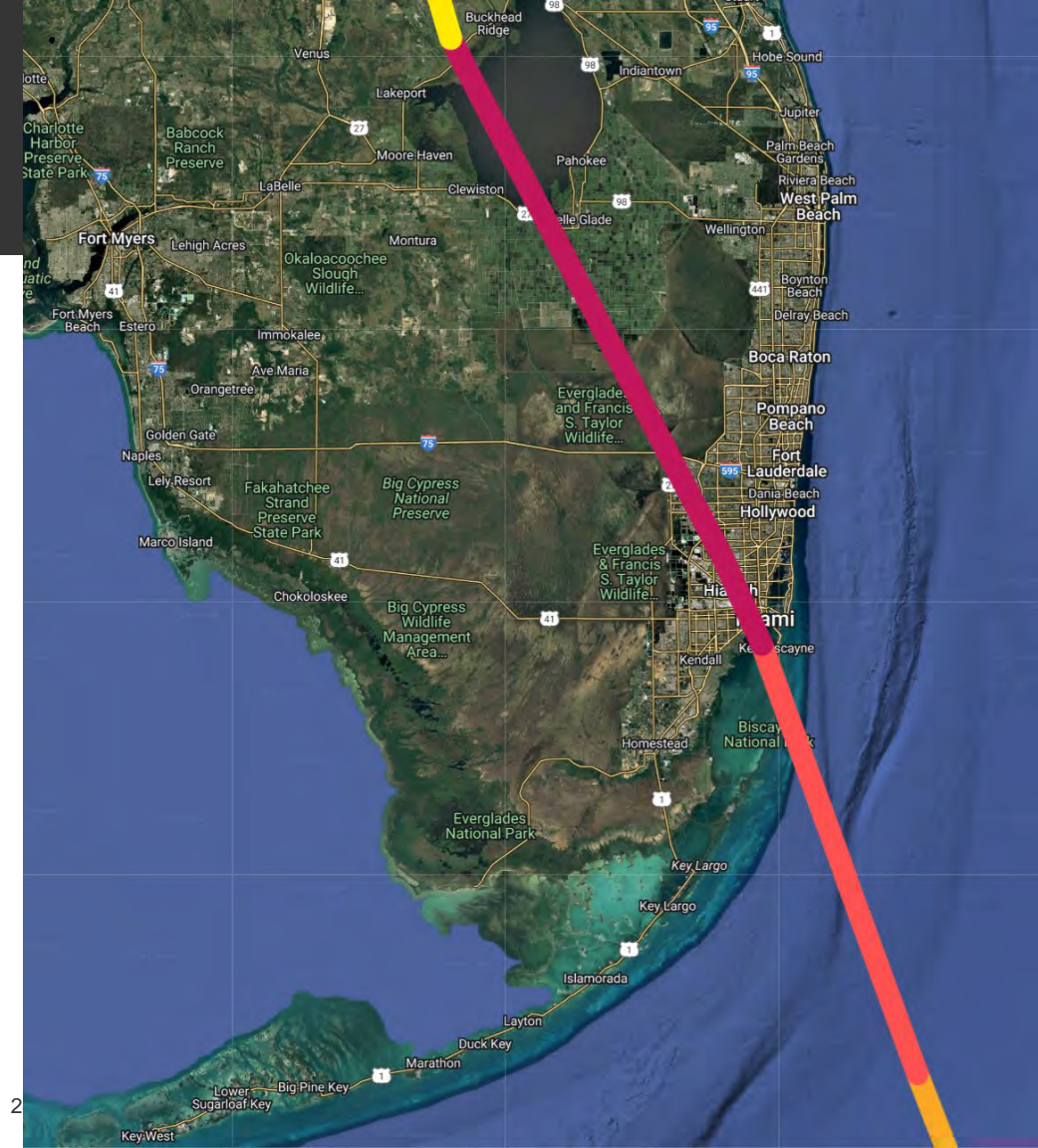
Hurricane KING 1950

- Late-season (mid-October)
- Category 4
- Tiny—but violent
- Direct hit on Downtown Miami
- Rapid intensification just before landfall



Hurricane KING 1950

- Late-season (mid-October)
- Category 4
- Tiny—but violent
- Direct hit on Downtown Miami
- Rapid intensification just before landfall



THE WEATHER

Strong westerly winds diminishing today. Cloudy with scattered showers through tomorrow. Temperature, 8 a. m., 78. Wind velocity, 9 a. m., southeast, 26 mph. Ocean temperature, 8 a. m., 81, 77, 80, 78.

TEMPERATURE ELSEWHERE

Atlanta	75	Albany, N. Y.	70
Asheville	74	San Francisco	67
Buffalo	82	St. Louis	66
Chicago	79	Washington	70

TABLE ON PAGE 12A

MIAMI DAILY NEWS

Today's News Today ★ Associated Press ★ United Press ★ AP Wirephoto ★ International News Service

CITY EDITION

Race Entries, Selections

VOL. LV., No. 261

PHONE 3-1191

MIAMI 30, FLA., WEDNESDAY EVENING, OCTOBER 18, 1950

Entered as Second Class Matter At The Postoffice, Miami Florida

FIVE CENTS

HURRICANE LOSS IS \$8,000,000



Minor Injury Cases Pile Up In Hospitals

Center of the hurricane was churning northward between Lake Okechobee and Lake Istokoga at 3:30 a. m. today after passing over the former with gusts of 70 to 90 miles an hour. Miami Weather Bureau said in the 6:30 a. m. bulletin the storm has apparently lost force since striking Miami, and will continue to lose more throughout the day.

By HOLLAND BEEBER
Miami Daily News Staff Writer

A tiny but tough hurricane, swinging suddenly from the Atlantic, sliced across Greater Miami last midnight causing property damage that may total \$8,000,000.

No fatalities were reported by midnight, but numerous persons with minor injuries — mostly cuts from shattered glass — jammed hospital emergency rooms.

At Jackson Memorial, first aid was administered in the pale glow of lanterns spotted through emergency sections after the main Florida Power and Light circuits went out.

Principal property damage appeared to center around downtown stores where unshattered windows burst in gusts estimated

Hurricane pictures appearing in this edition of The Miami Daily News were taken by Chief Photographer Walter Davis and Staff Photographers Ralph Kestly, John Walther, William Sanders and Paul

MIAMI'S FAMOUS BISCAYNE BOULEVARD HAD PLENTY TO SHOW FOR THE ROUGH AND TUMBLE NIGHT





A photograph capturing the intense power of a hurricane. Several palm trees are shown being blown over by the wind, their fronds whipping around. In the foreground, the dark, textured thatched roof of a building is visible, partially obscured by the wind-blown trees. The overall scene is hazy and filled with the chaotic energy of the storm.

**Hurricanes are
a fact of Florida life.**

And they're not gonna stop.



But...

The good news?

There are things
you can do.





MY PERSPECTIVE







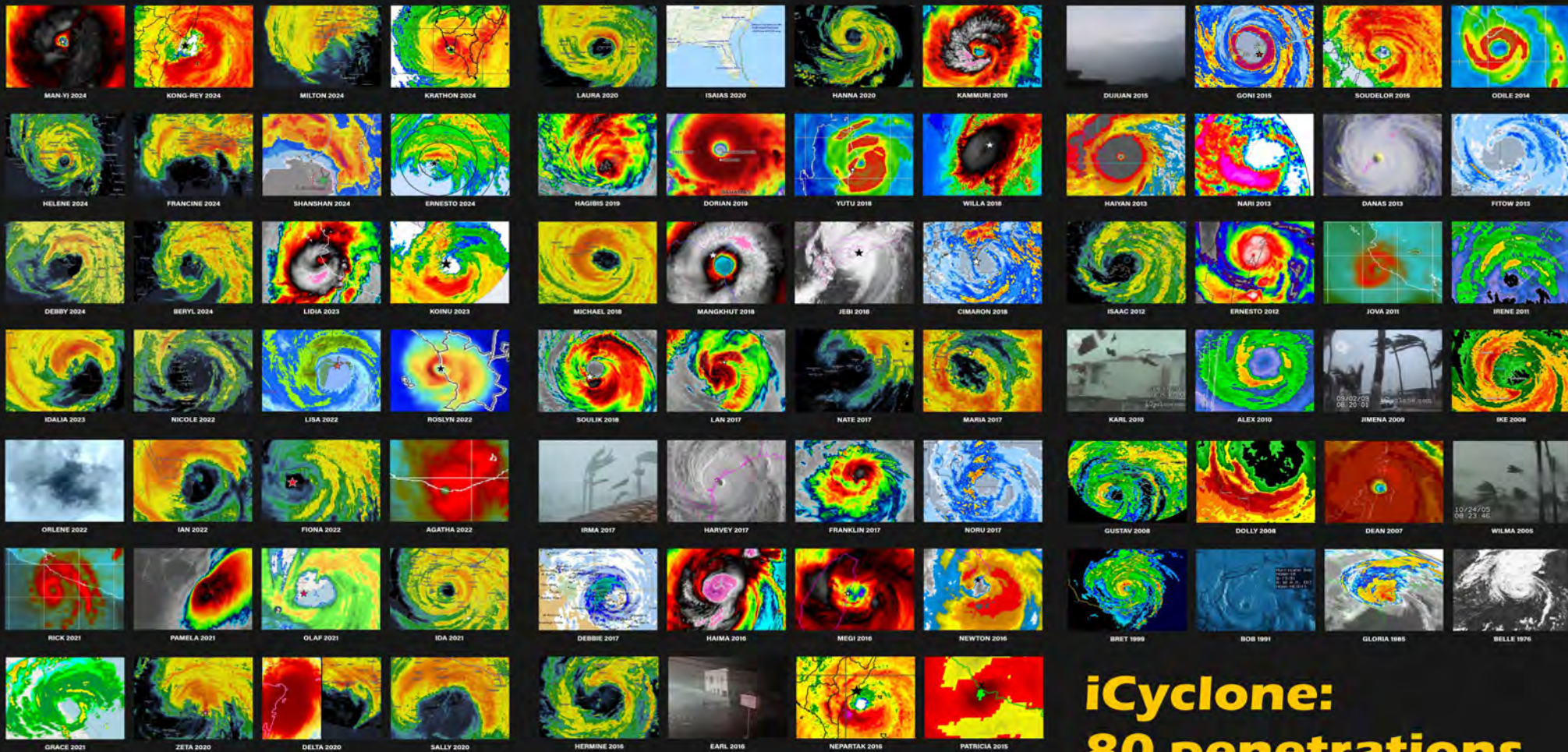
In a Nutshell

I'm an extremely prolific **hurricane chaser**.

- Subjects: **hurricanes only**.
- Specialization: **narrow**.
- When: **34 years**.
- Where: **around the world** (every hemisphere).
- Meteorological credentials: **none!**
- Style: **aggressive**.
- Attitude: **competitive**.

I treat chasing like a sport—and I'm **obsessive** about it.

My Penetrations: 80 Hurricane Cores (up to now)

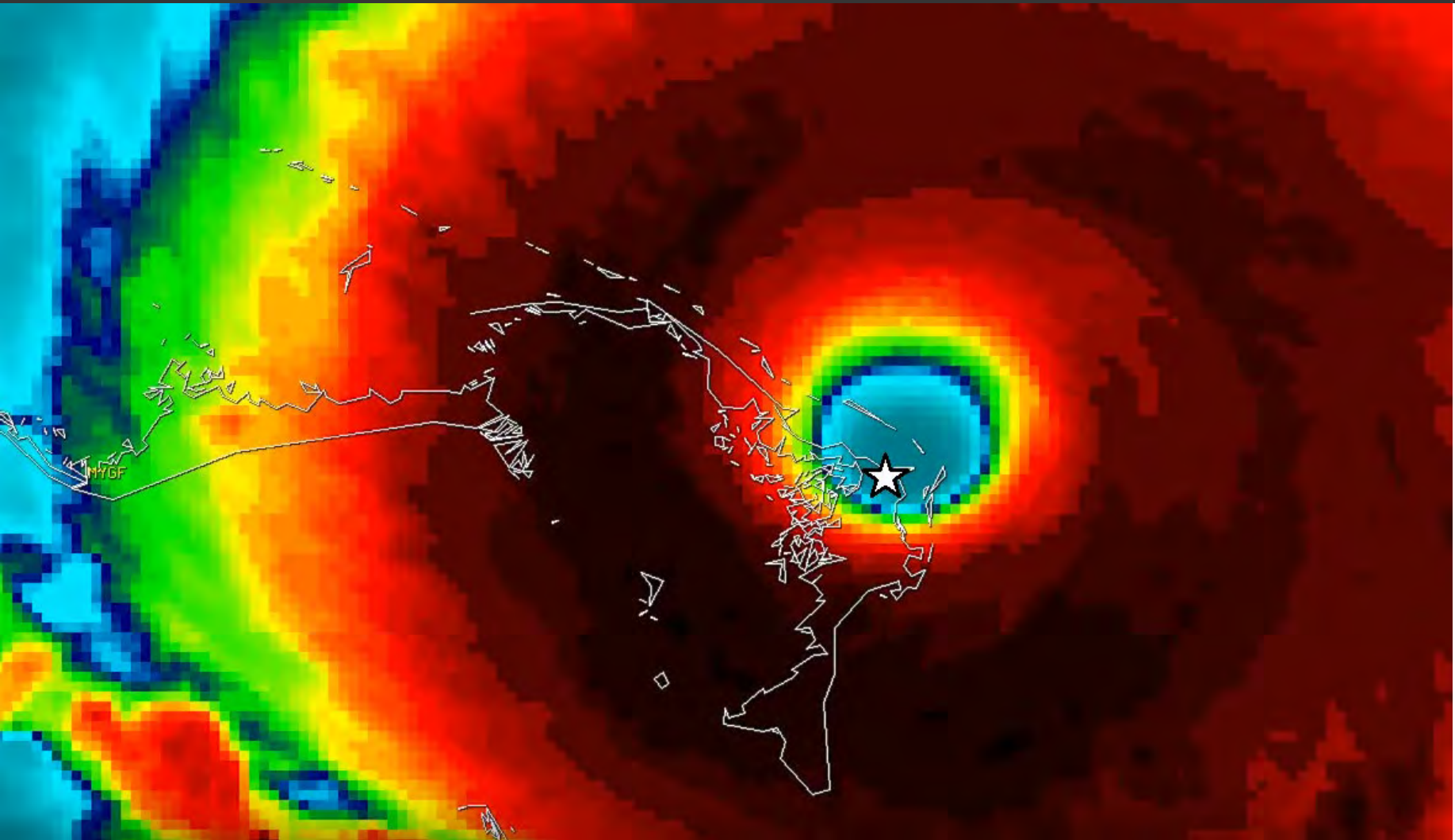


iCyclone:
80 penetrations

2024

IN 90 SECONDS

Most Extreme Experience – DORIAN 2019



Most Extreme Experience – DORIAN 2019



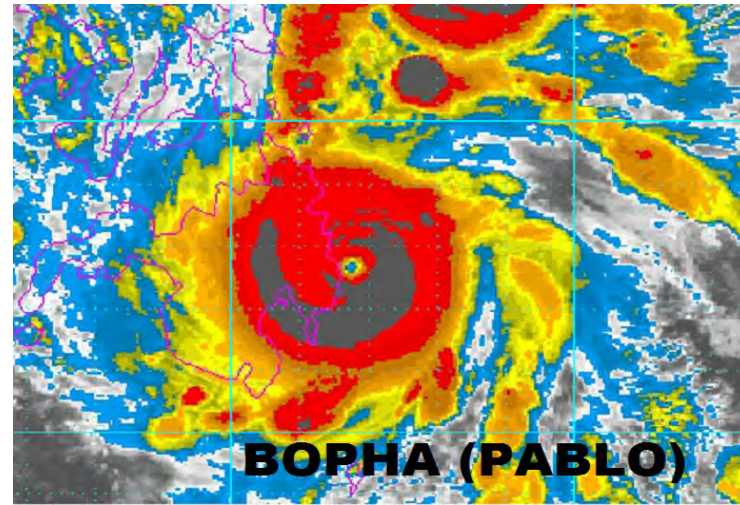
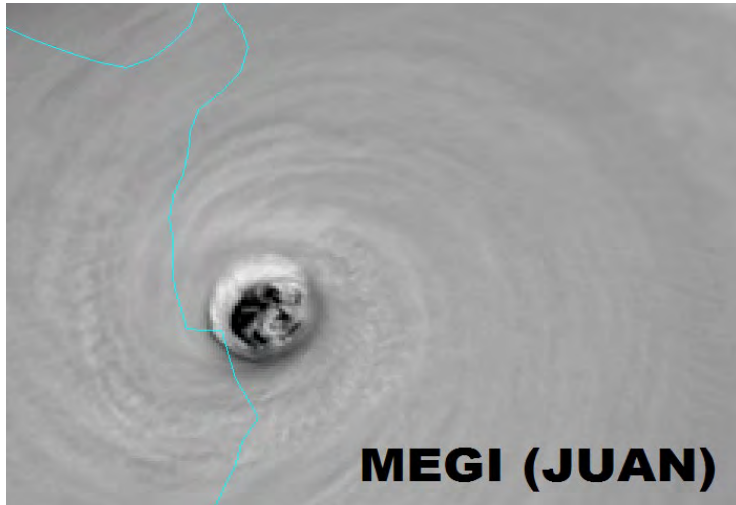
Most Extreme Experience – DORIAN 2019







The Need for Ground Truth



Tremendous landfall events occur around the world with **zero ground truth**.

How strong were these cyclones? **We don't really know.**



Documentation & Data Collection

So, documentation is my passion now—
especially with remote cyclones.

I record:

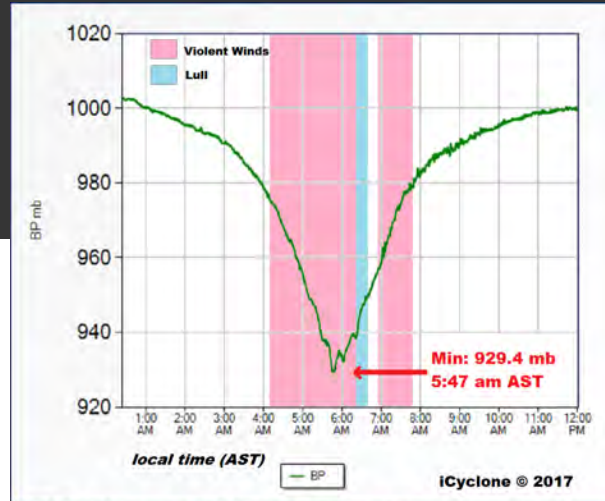
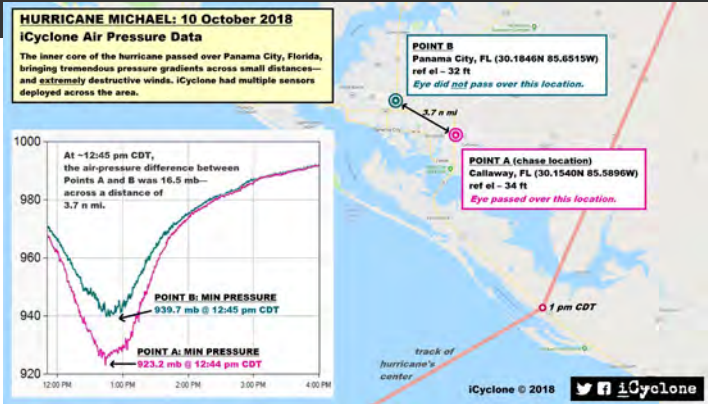
- Air pressure
- Video
- Location

Just these bits from a cyclone's core tell us a lot.

It's not just for me: **scientists use my data.**

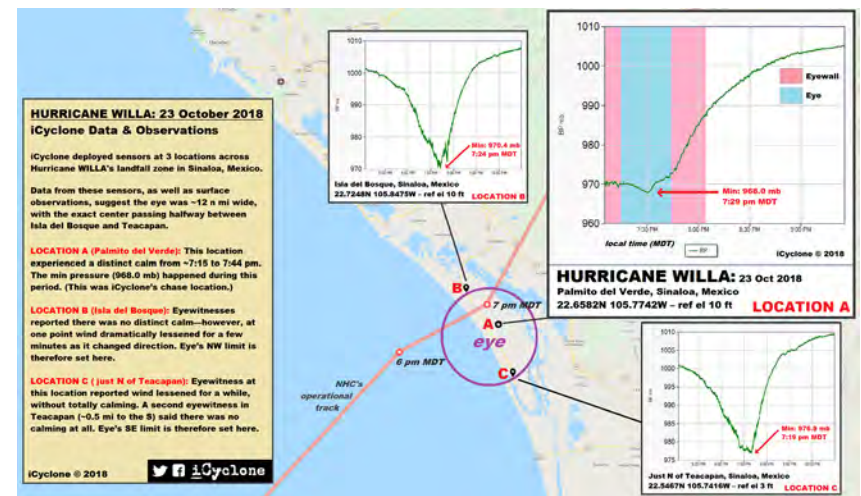
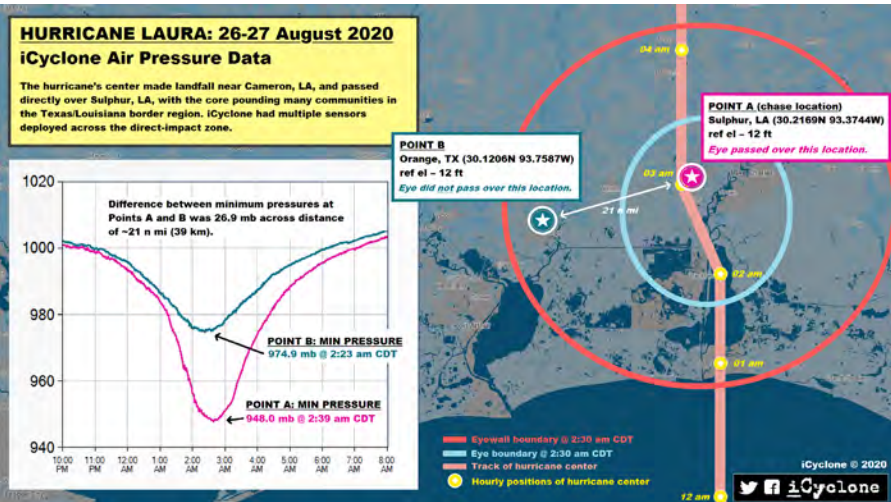


My Work



HURRICANE MARIA: 20 Sep 2017

Palmas Del Mar, Humacao, Puerto Rico, USA
18.08149N 65.79847W - ref el 25 ft **DEVICE 1**



Making a Difference



HURRI
iCyclo
 iCyclone
 Hurrican
 Data from
 observat
 with the
 Isla del E
LOCATIO
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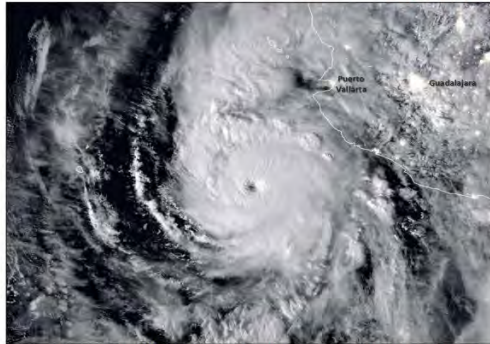


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

HURRICANE WILLA (EP242018)

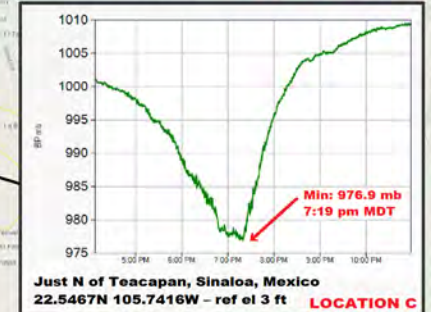
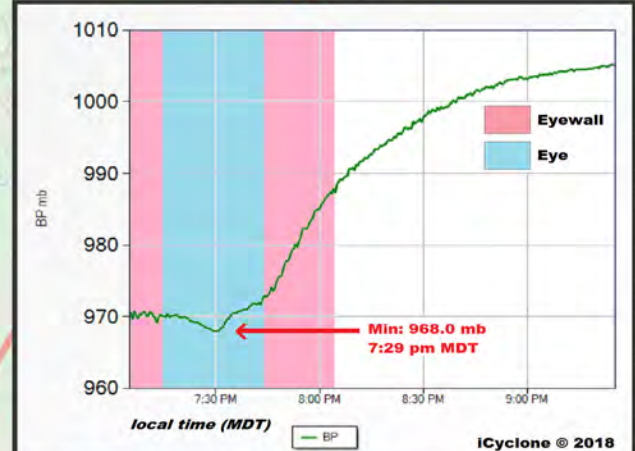
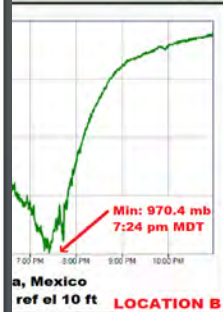
20–24 October 2018

Michael J. Brennan
 National Hurricane Center
 2 April 2019



NIGHTTIME VISIBLE IMAGE AT 0850 UTC 22 OCTOBER 2018, SHOWING HURRICANE WILLA NEAR CATEGORY 5 INTENSITY WHEN IT WAS APPROACHING SOUTHWESTERN MEXICO. NOAA-NASA SUOMI NPP SATELLITE IMAGE COURTESY OF NASA.

Willa became a category 5 hurricane (on the Saffir-Simpson Hurricane Wind Scale) before it weakened and made landfall along the west-central coast of Mexico as a category 3 hurricane. In the states of Nayarit and Sinaloa, Willa's heavy rains produced widespread lowland and river flooding along with mudslides that severely damaged and isolated several communities. Four direct deaths occurred as a result of the floodwaters.





Bottom Line

I'm not a scientist.

**I'm the scientists'
hunting dog.**





And sometimes...

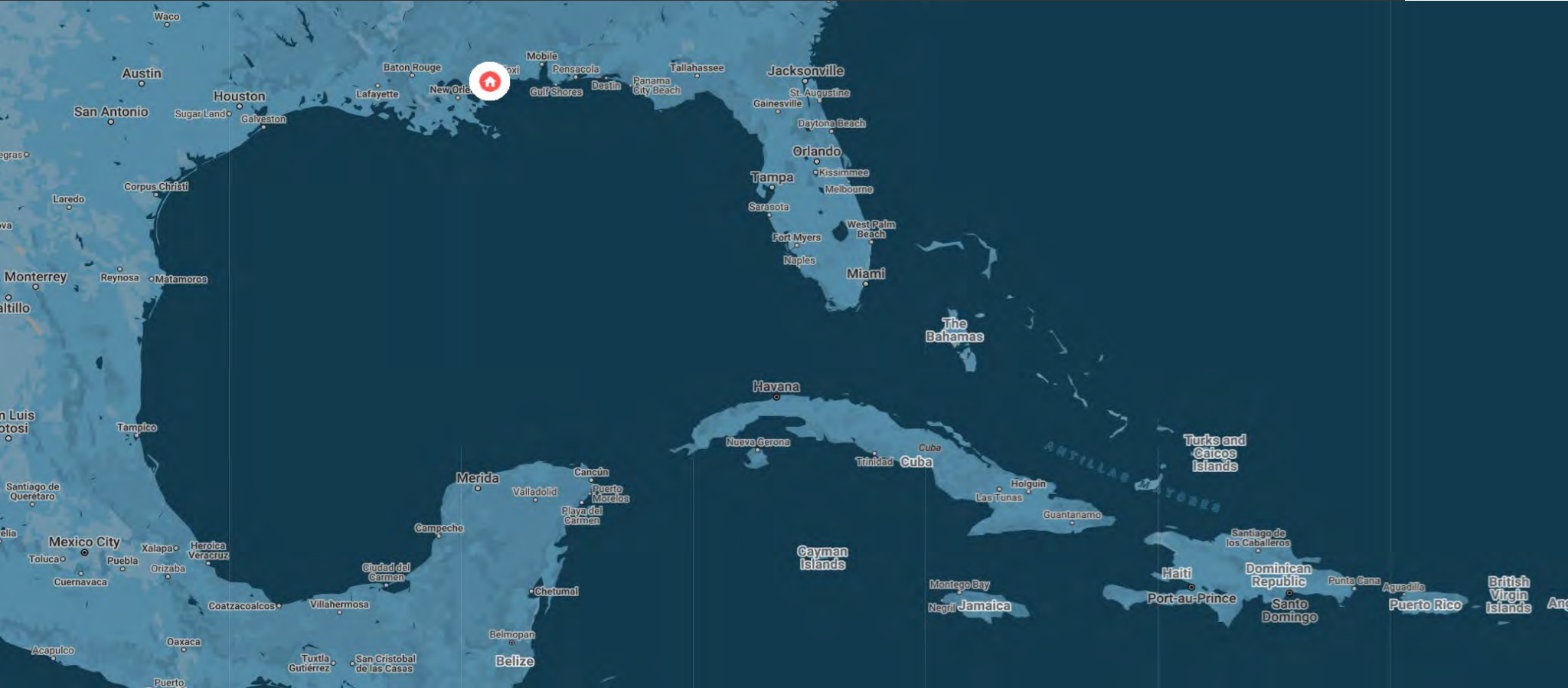
**I'm even
performing
rescues.**



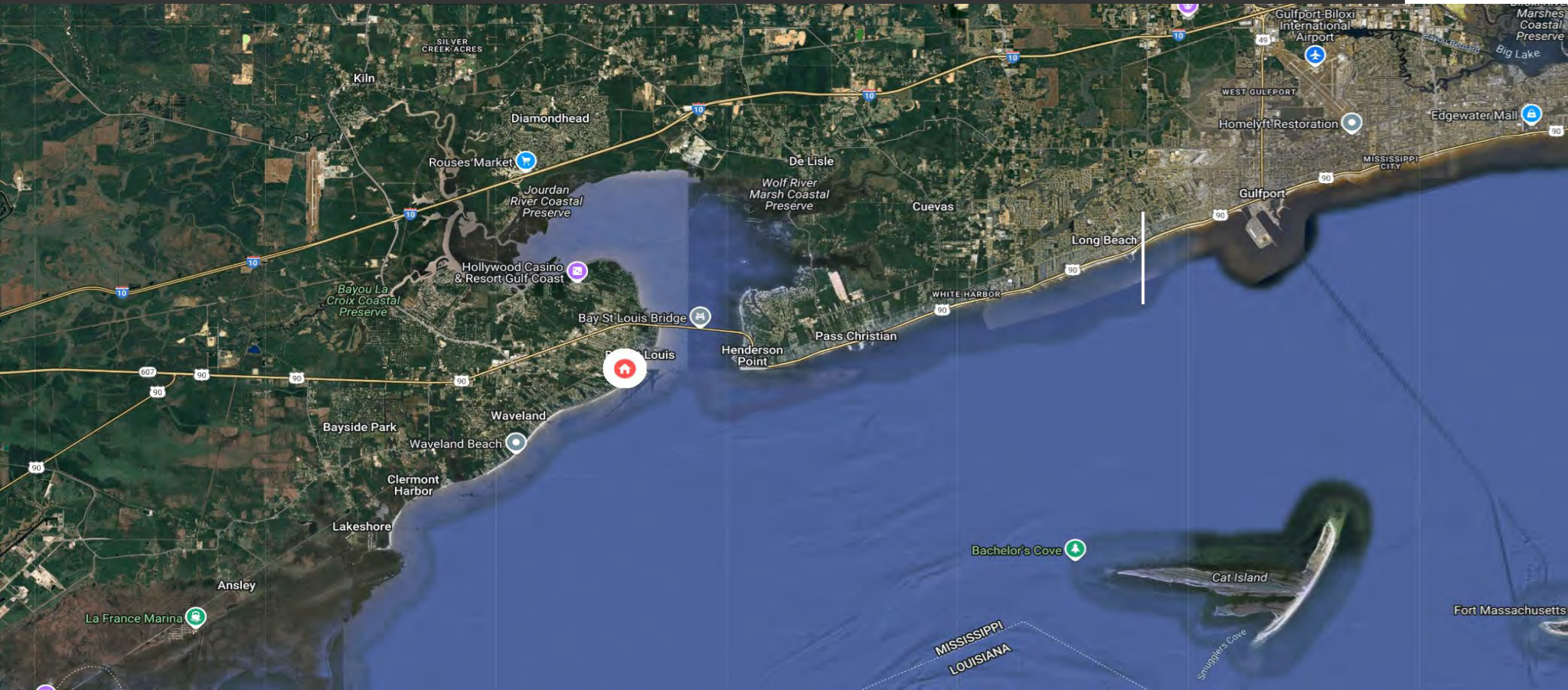
*Image: James Reynolds,
Earth Uncut TV*



Living Where I Hunt



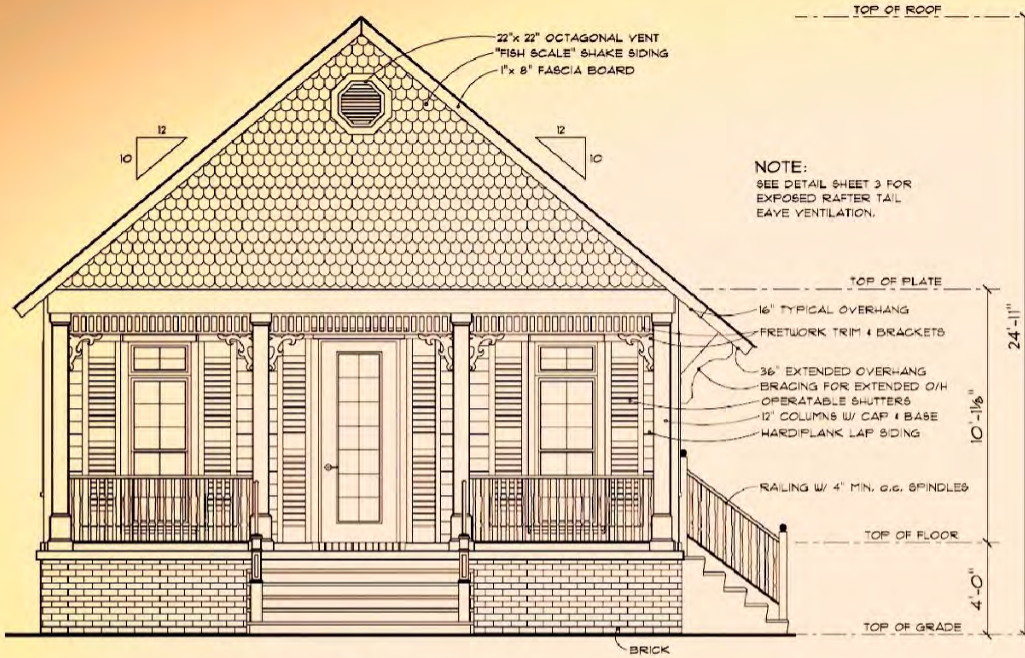
Living Where I Hunt





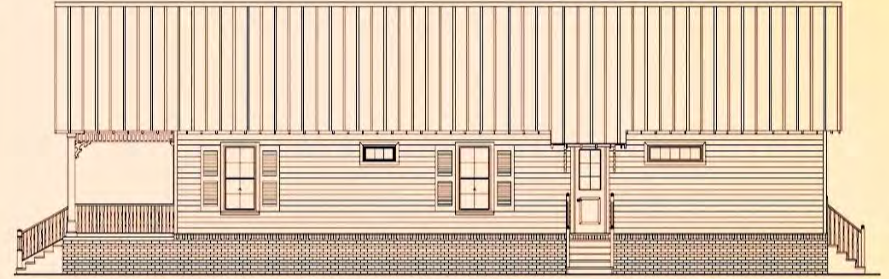
HURRICANE HOUSE 2.0

BAY SAINT LOUIS, MISSISSIPPI



FRONT ELEVATION

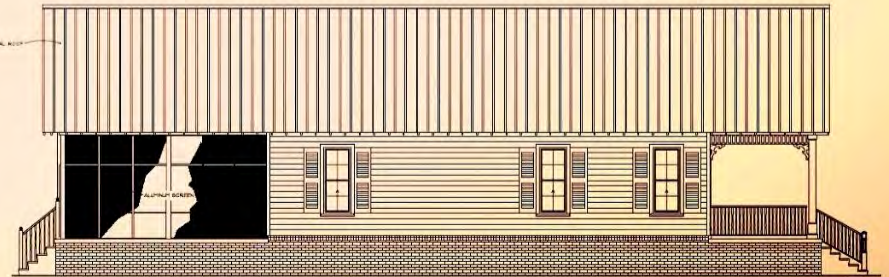
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"







A close-up photograph of a man's face and upper torso. He is wearing a black t-shirt with the words "HURRICANE MAN" printed across the chest in a large, white, blocky font. The text has a red and blue shadow effect. The background is out of focus, showing what appears to be an outdoor setting with some structures and trees.

HURRICANE MAN

Catch Episode 2

HURRICANE MAN

7 pm Sunday (31 March) on

Dave





WEATHER (SPY)

MISSION:
HURRICANE

NEW SERIES

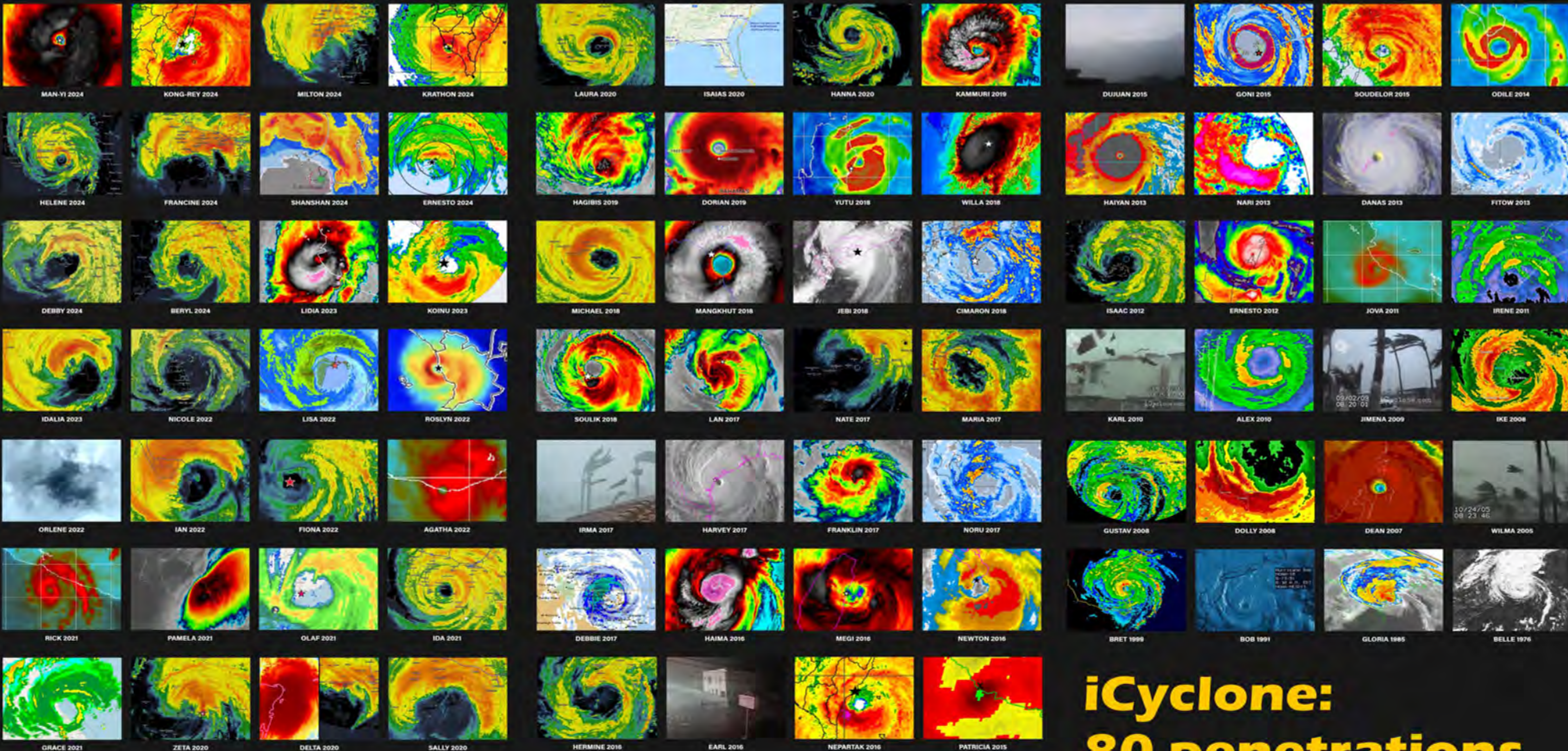
SUNDAYS 7PM ET
STARTING APRIL 9



WEATHERNATION



My Penetrations: 80 Hurricane Cores (up to now)



iCyclone:
80 penetrations





Hurricane Commandments

I handpicked takeaways that are:

- Specific to large buildings & facilities.
- Useful to those who need to plan operations & emergency response.
- Actionable.
- **Not the obvious stuff you've heard 100 times.**



The Goal

Ensure the survival of your facilities—and the people working in them—during the next hurricane.

COMMANDMENT No. 1





See these?



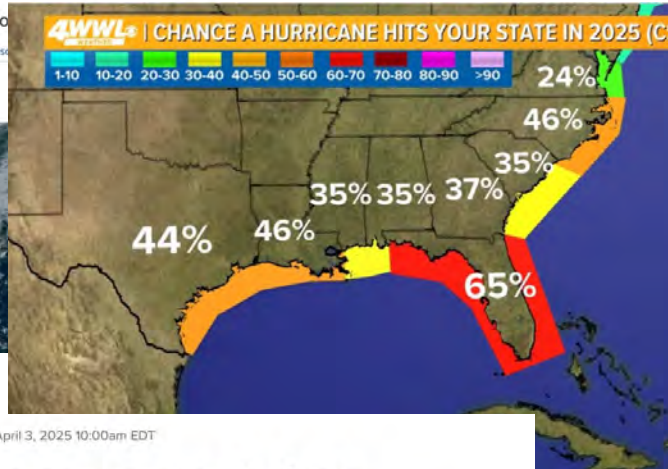
Home / News & Features

NOAA predicts above-normal 2024 Atlantic hurricane season

La Nina and warmer-than-average ocean temperatures are major factors in the forecast.

Focus areas: Weather, Climate Topics: hurricanes, hurricane season, forecasts, Atlantic hurricane season

May 23, 2024



WEATHER NEWS | Published April 3, 2025 10:00am EDT

2025 Atlantic hurricane season brings elevated risk of major landfalls, experts predict

On Thursday, Colorado State University (CSU) released its initial extended-range forecast for the upcoming season, which will officially begin on June 1 and last through Nov. 30.

2025 Hurricane Season: Colorado State forecasts more hurricanes than normal

Share

WVTM13 Updated: 5:12 PM CDT Apr 16, 2025

Infinite Scroll Enabled

Jordan West Meteorologist



U.S.

2025 Atlantic hurricane season will be above average, researchers predict

By Emily Mae Czachor Updated on: April 3, 2025 / 9:04 PM EDT / CBS News







Reason No. 1

Sometimes they're wrong.

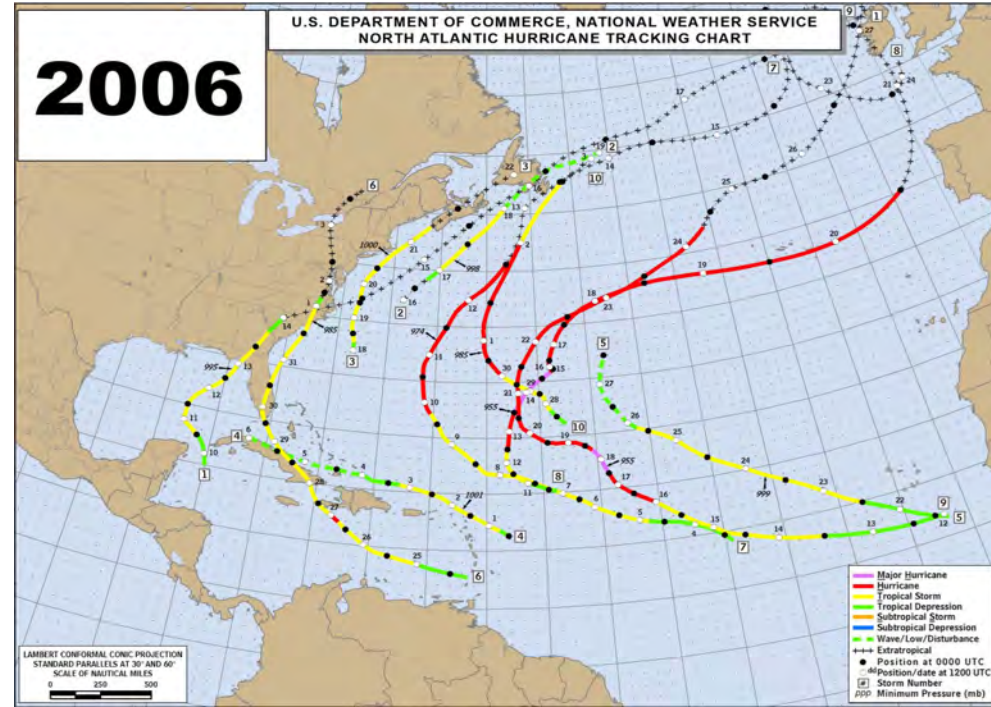
2006

CSU Forecast (May)

17 storms, 9 hurricanes, 5 majors

Actual

9 storms, 5 hurricanes, 2 majors





Reason No. 2

We don't know where they'll hit.

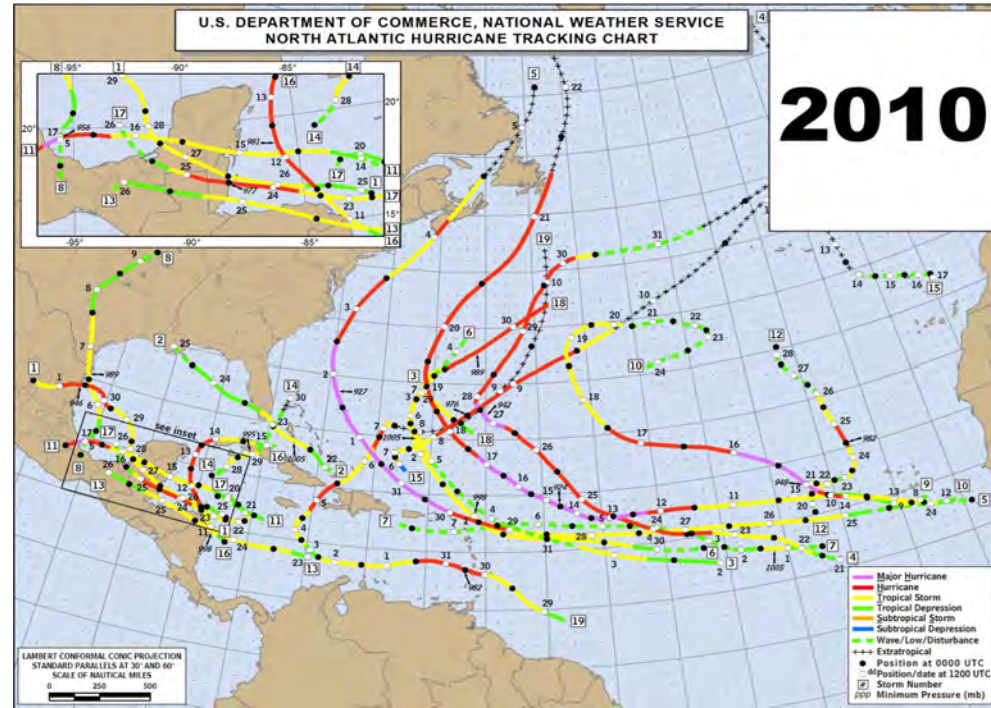
2010

CSU Forecast (June)

18 storms, 10 hurricanes, 5 majors

Actual

19 storms, 12 hurricanes, 5 majors





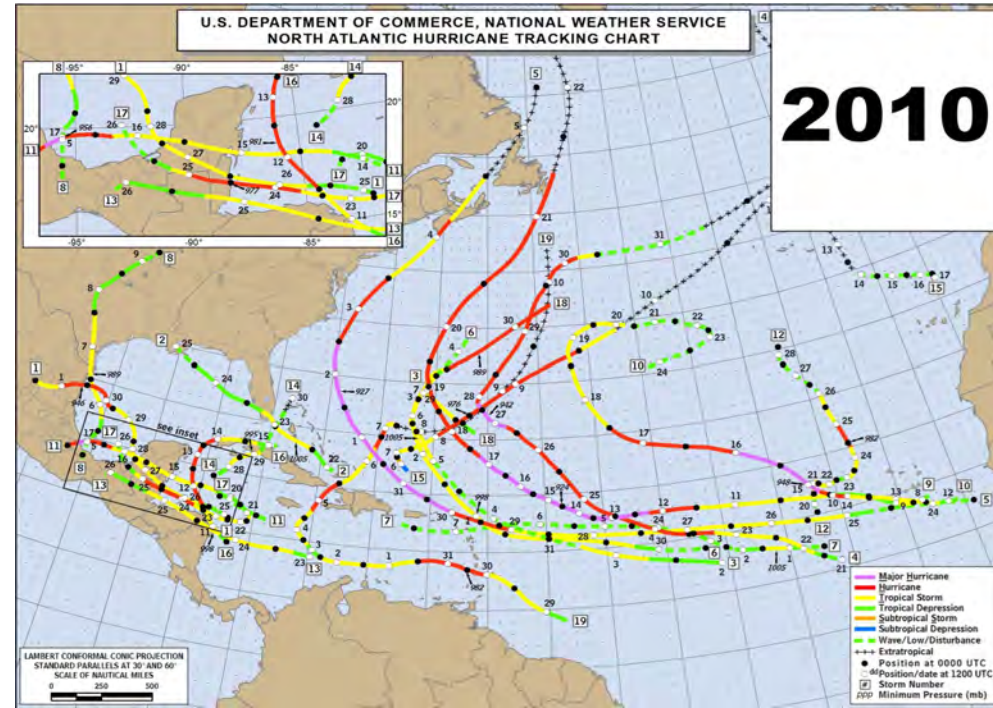
Reason No. 2

We don't know where they'll hit.

2010

Super-busy.

But no hurricanes hit the US.





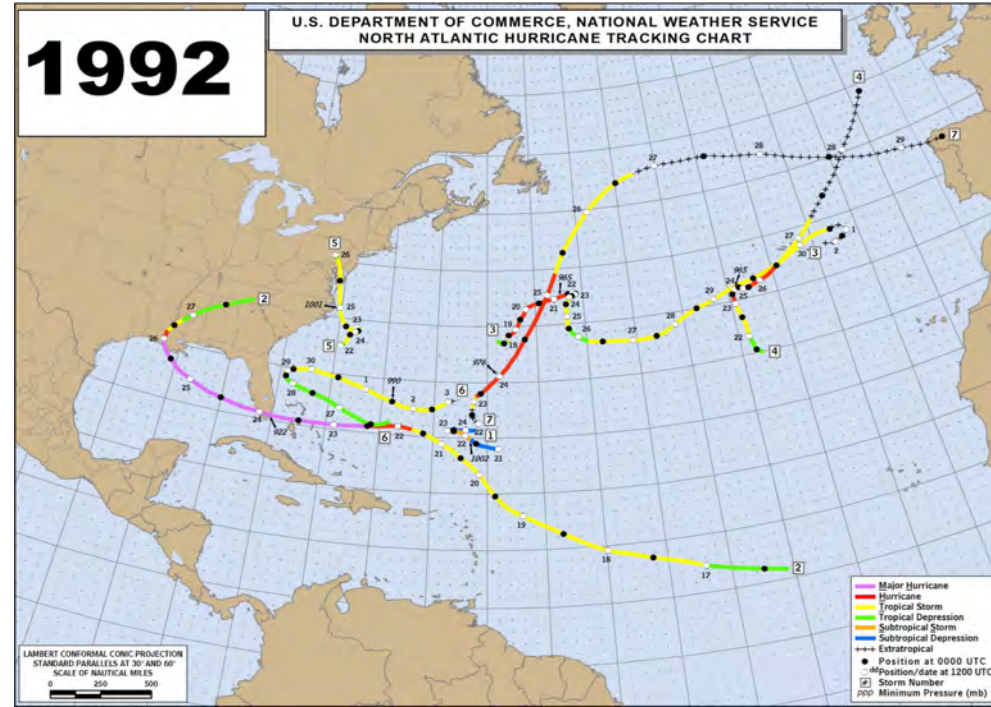
Reason No. 3

It only takes one.

1992

Totally dead...

Except for one catastrophic event.





ACTION

Go into every hurricane season with the same attitude:

- **Assume it's going to be big.**
- **Assume you're going to get nailed.**

COMMANDMENT No. 2



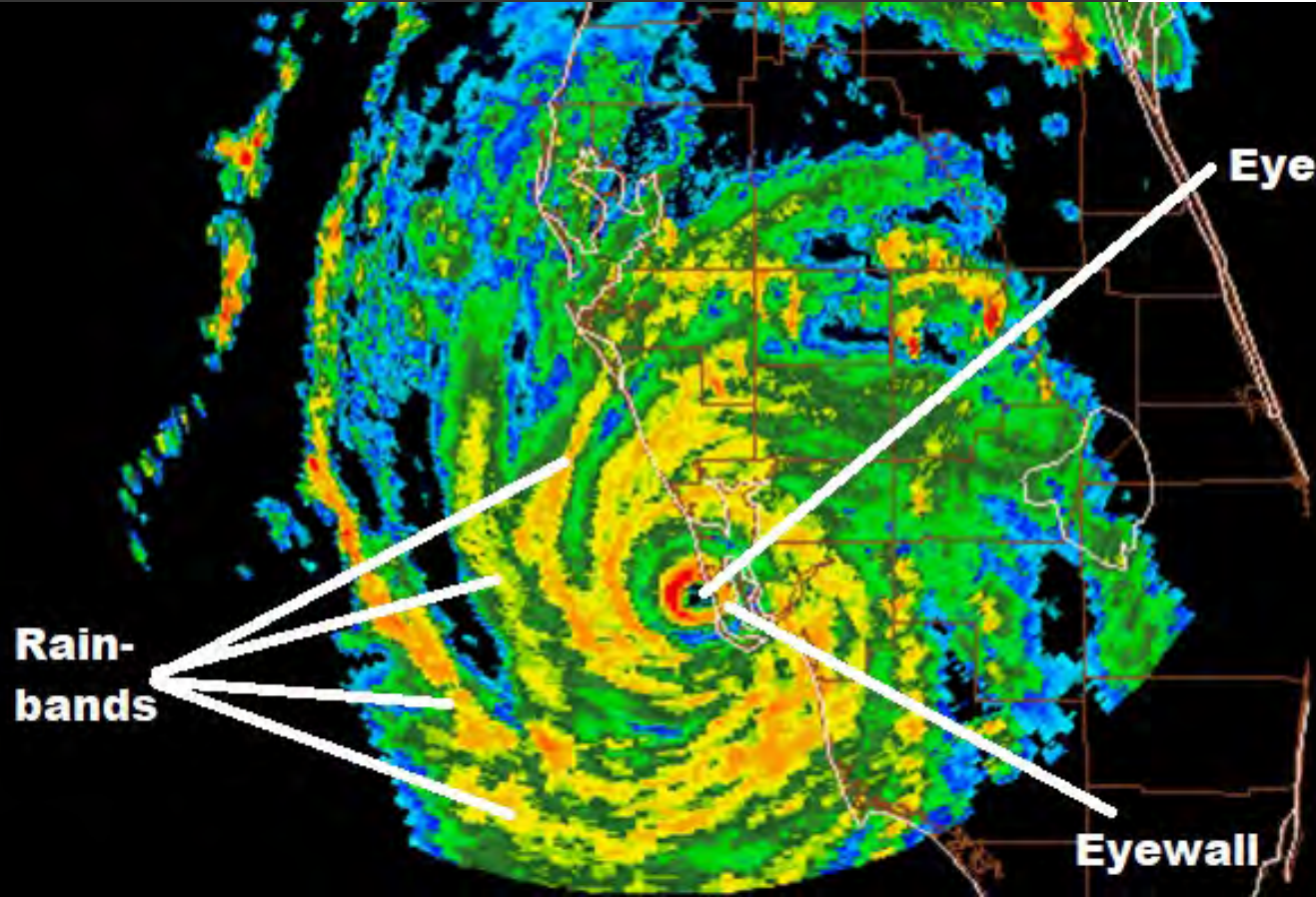






Anatomy of a Hurricane

- **Rainbands** = bands of messy weather
- **Eyewall** = inner ring of dangerous winds
- **Eye** = calm center

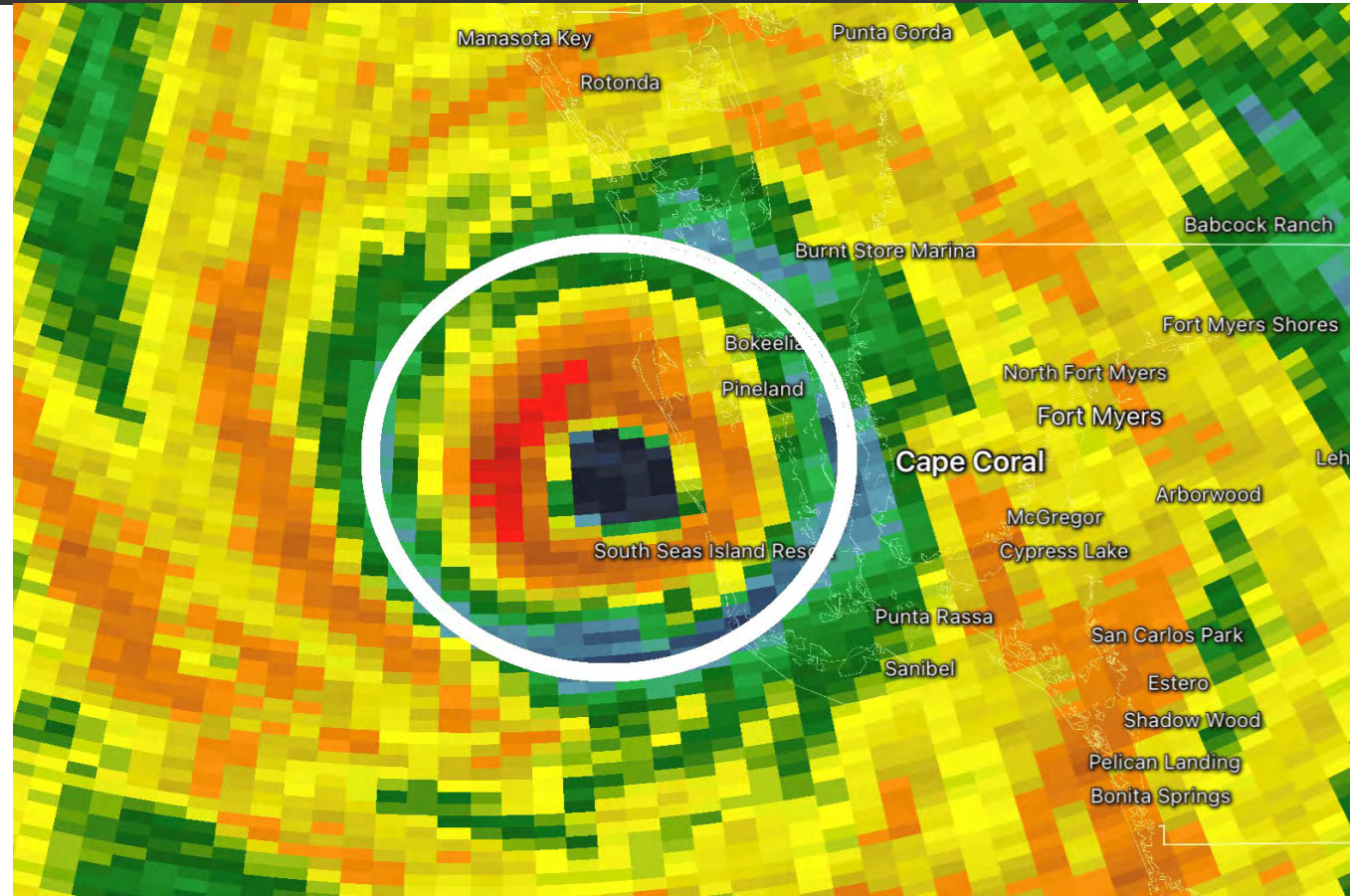




Anatomy of a Hurricane

This is the
nasty part.

This is the
direct hit zone.

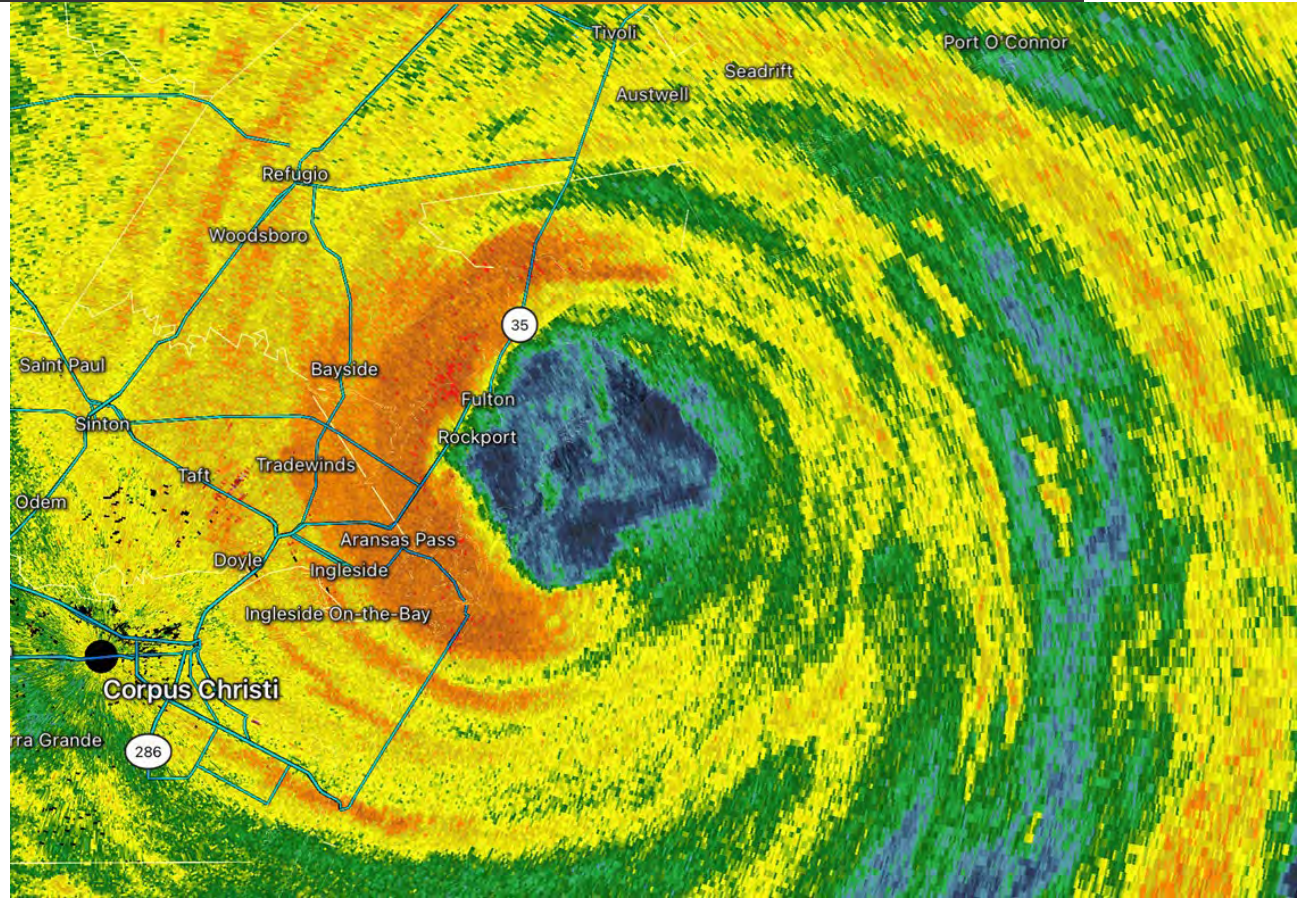




Direct vs. Indirect Hit: Hurricane HARVEY

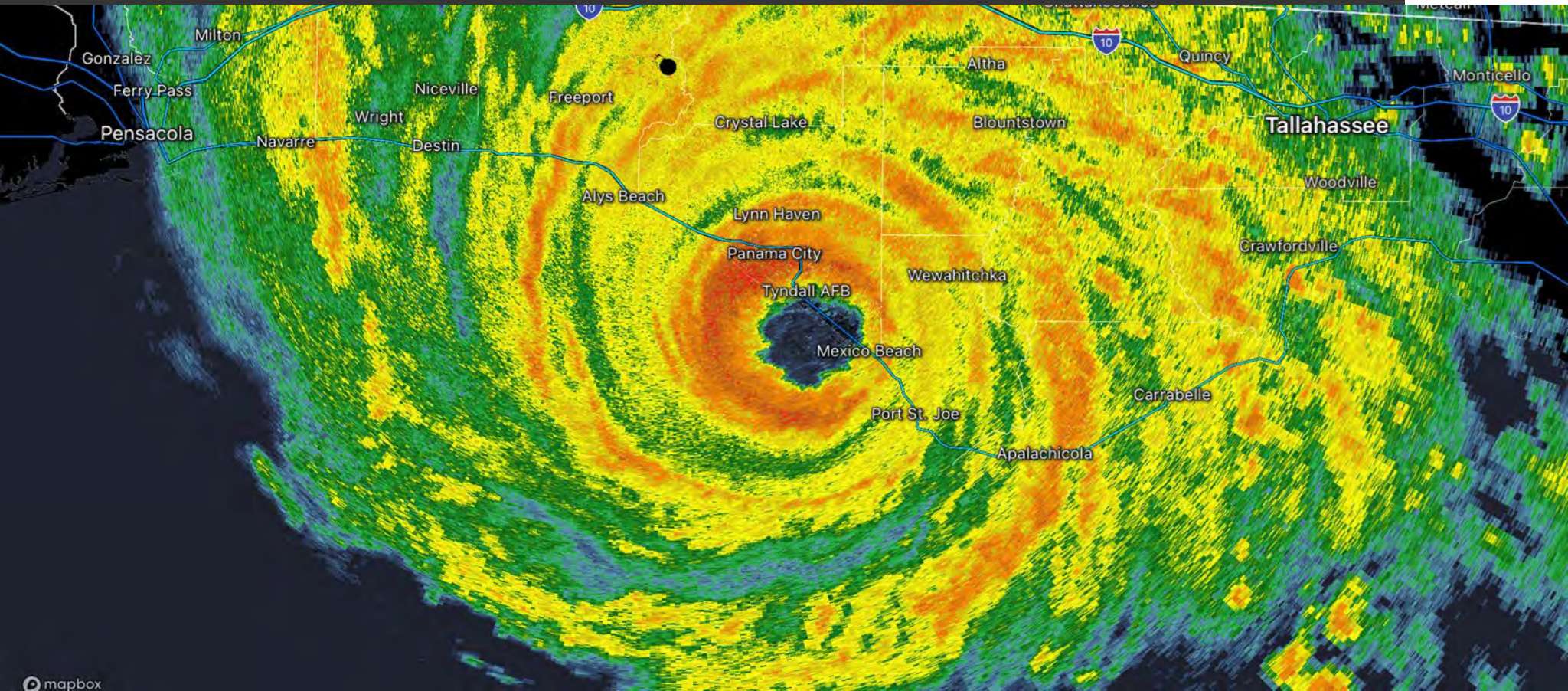
**Rockport, Aransas Pass:
DIRECT Hit**

**Corpus Christi:
INDIRECT HIT**



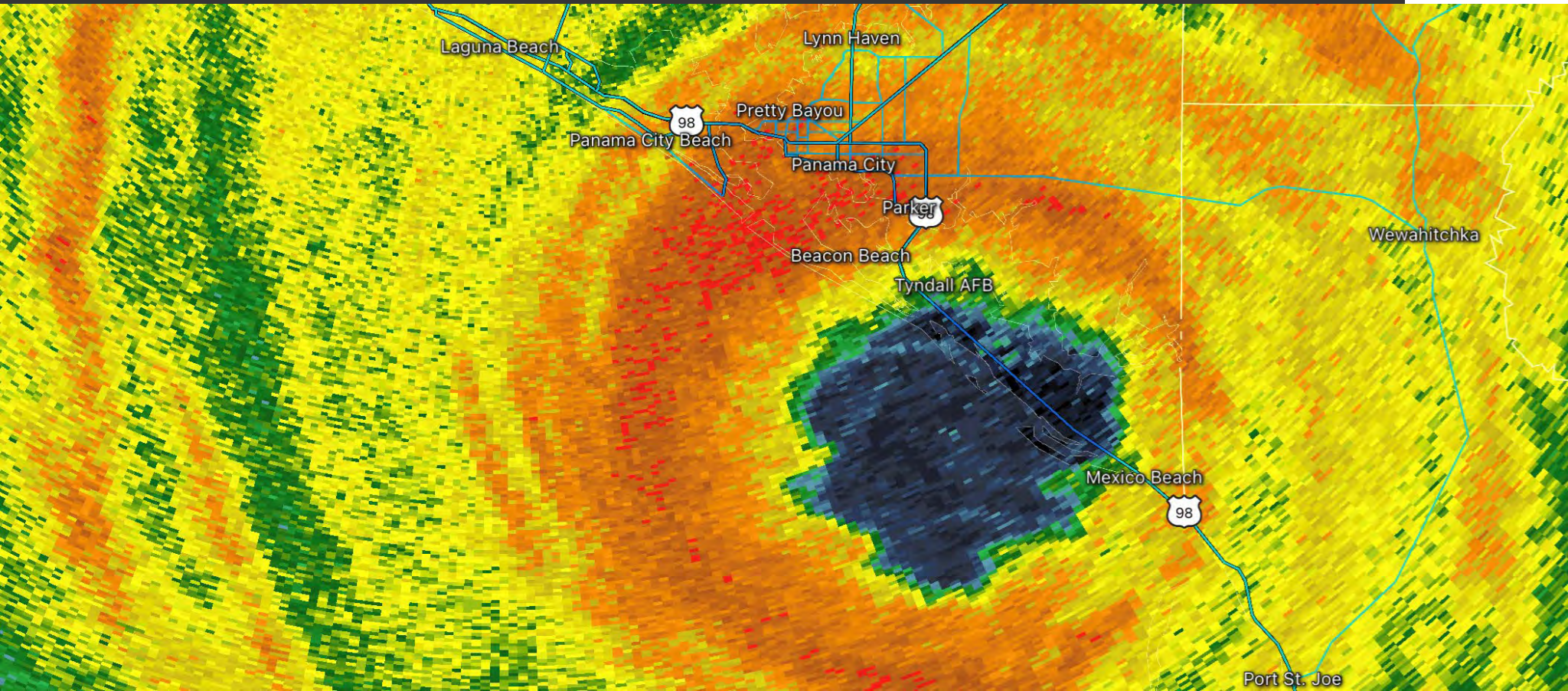


Direct vs. Indirect Hit: Hurricane MICHAEL





Direct vs. Indirect Hit: Hurricane MICHAEL

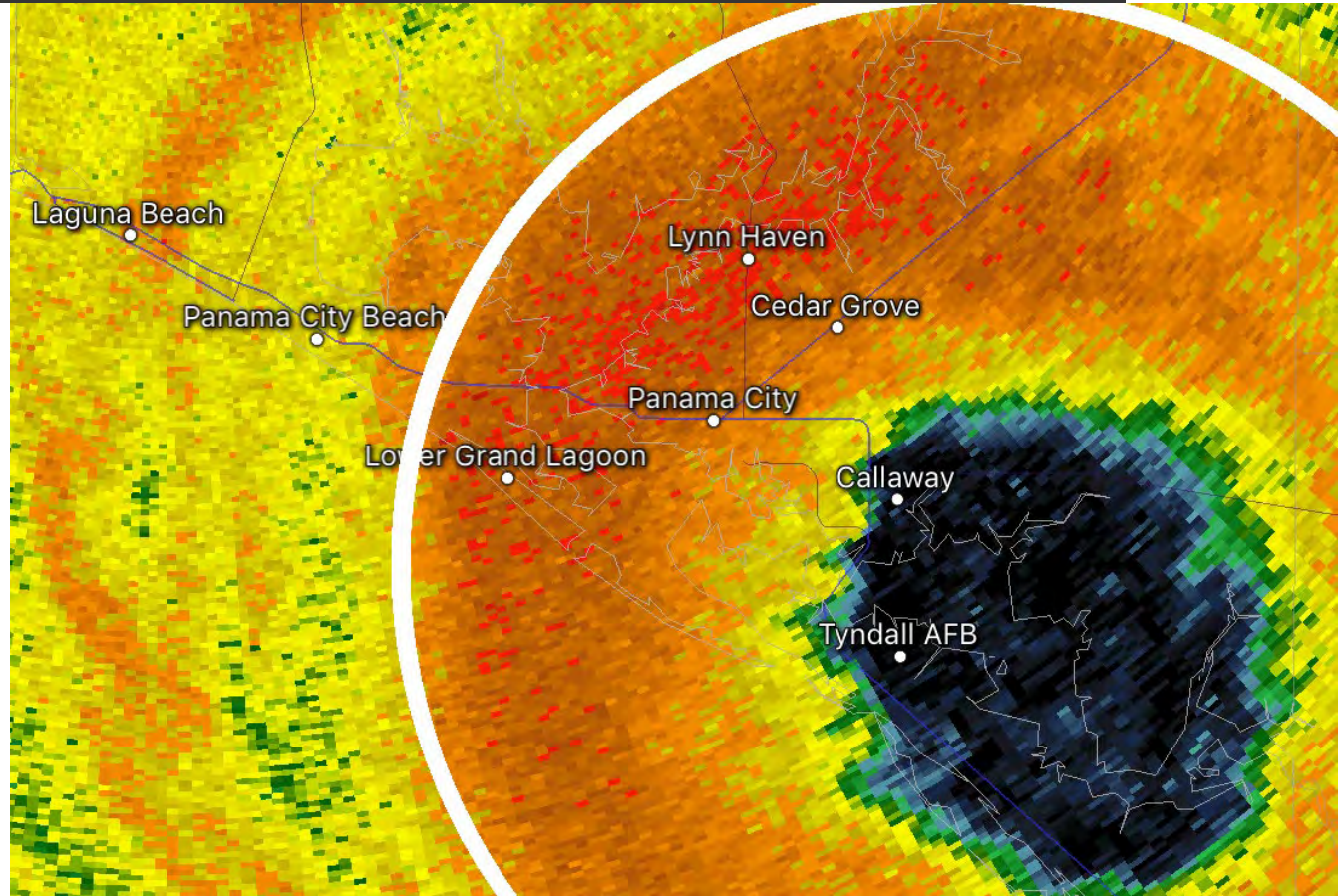




Direct vs. Indirect Hit: Hurricane MICHAEL

Panama City:
DIRECT Hit

Panama City Beach:
INDIRECT HIT







Why does this matter?

If you didn't get a direct hit, you didn't get the full force of the hurricane.

And it's important you understand this when making future decisions.

(I've been on a personal mission about this.)



Hurricane MICHAEL: W Cutoff of Heavy Wind Damage





Hurricane MICHAEL: Just INSIDE Direct Hit Zone











Hurricane MICHAEL: Just OUTSIDE Direct Hit Zone





ACTION

Know whether your facility has had a direct hit—whether it's been truly tested.

Either way, it's a good time for a checkup.



COMMANDMENT No. 3













21

iCyclone.com







What You Just Saw

- **Windows and doors are the Achilles heels of a building.**
- **“Ventilating” a building during a hurricane doesn’t help.**
- **Creating openings to “reduce wind resistance” doesn’t help.**



ACTION

Protect all windows & doors.

Options: impact glass, shutters, or boards. (Tape is a waste of time.)

Seal all openings.

Do not open large doors or windows.



ACTION

If staff must go in and out during the storm:

- Use small, solid doors—no glass.
- Go in and out through a two-door vestibule or small hallway.
- Only open one door at a time.

COMMANDMENT No. 4







First Off

**A big building provides protection in violent winds—
regardless of quality.**

But...

**The building's perimeter can be a deathtrap—inside
and outside.**







iCyclone





Home Depot

GP
GLASS GOLD

Home Depot









THAI CHEF RESTAURANT

LUNCH
SPECIAL

Steak
Crying Tiger

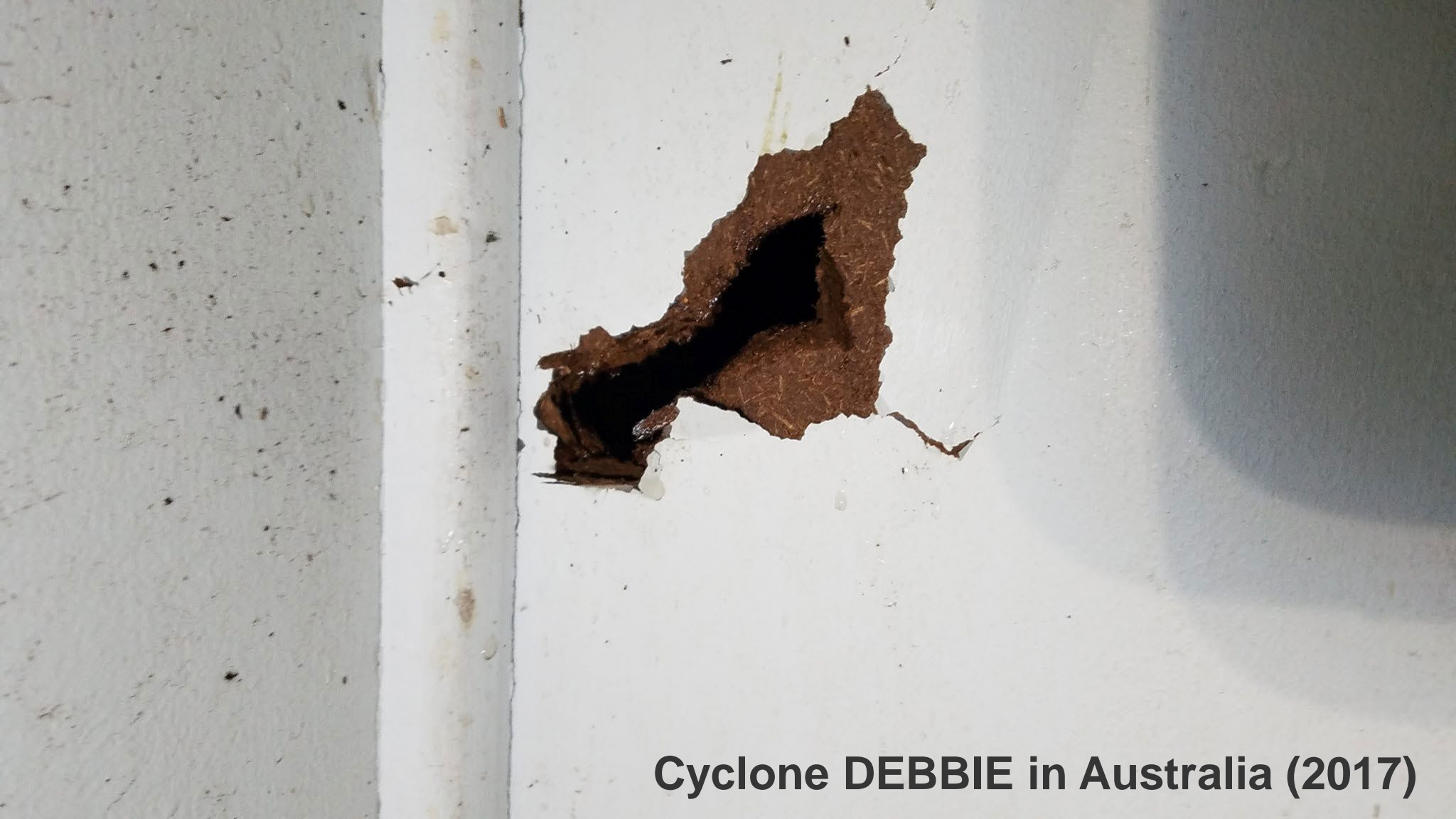
Chicken Teriyaki
Beef or Pork
Noodle Curry
Pancake











Cyclone DEBBIE in Australia (2017)



What You Just Saw

- **Facades and exterior walls can collapse in strong winds.**
- **Flying debris can penetrate through windows and doors—and even walls.**
- **Large spaces often present more danger.**

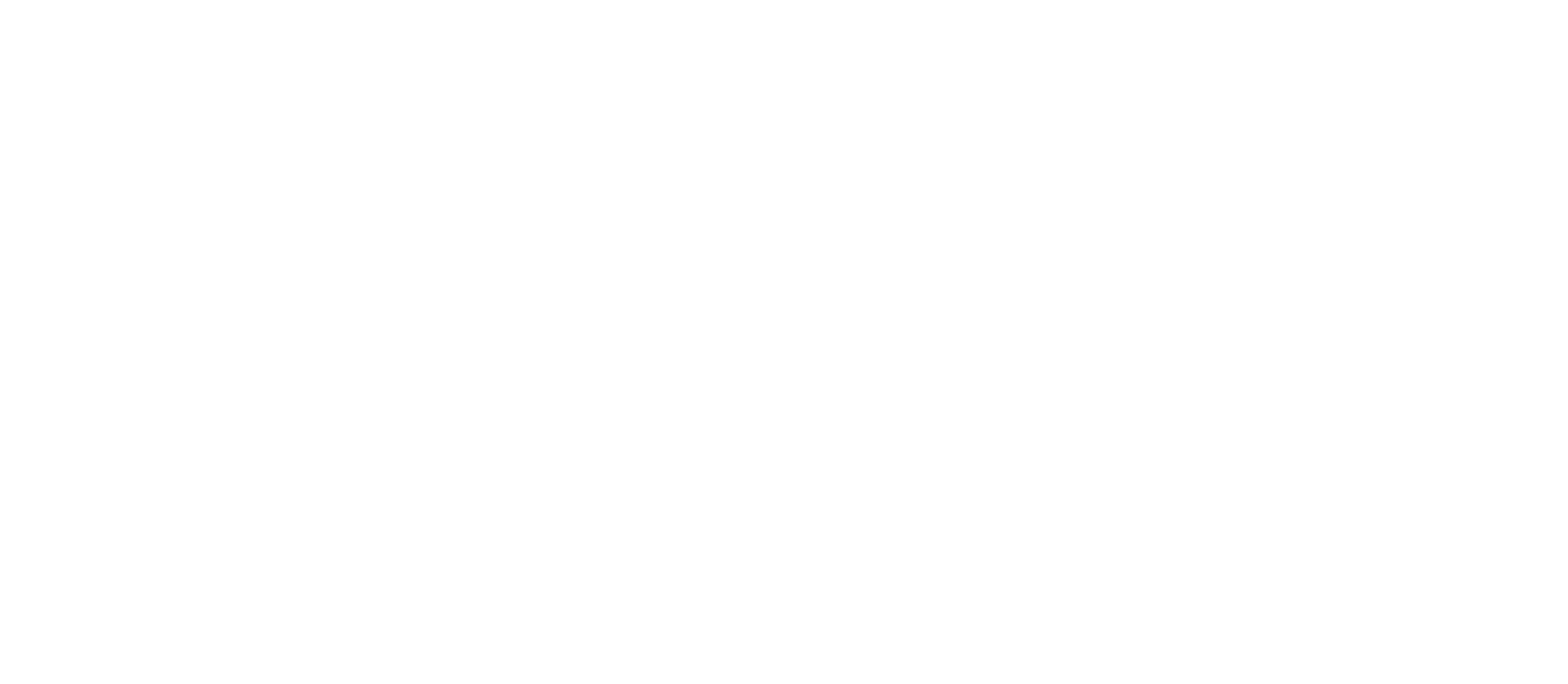


ACTION

Keep occupants away from a building's perimeter.

Get deep inside, with as many walls as possible between occupants and hurricane winds.

Get away from windows and exterior doors.







ACTION

**Don't park
vehicles near
this perimeter.**



COMMANDMENT No. 5









What You Can't See

Severe hurricanes can produce a whiteout.

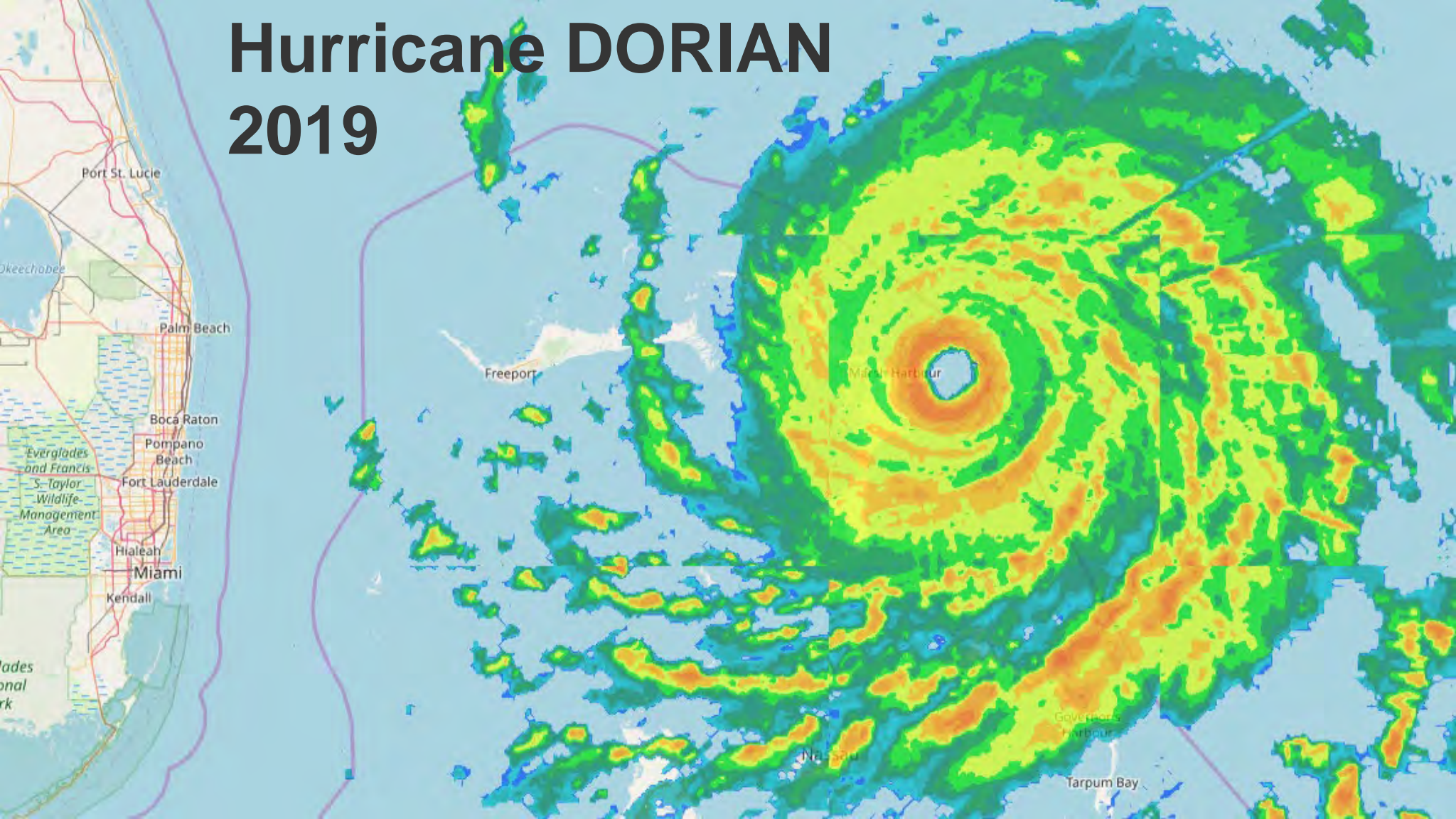
And it can look soft & pretty—like a blizzard. (You might hear a roar.)

It's mesmerizing.



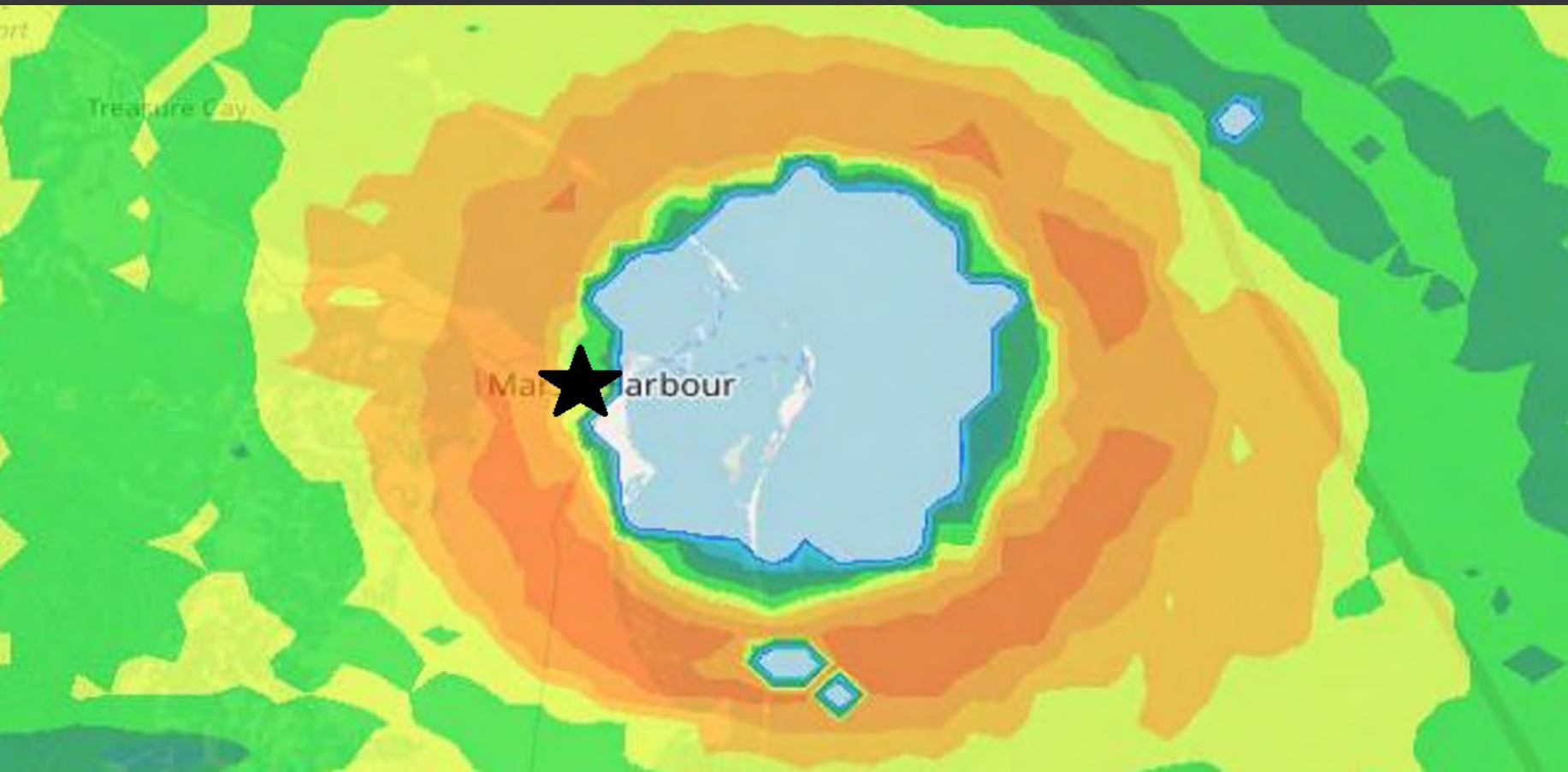


Hurricane DORIAN 2019





Hurricane DORIAN

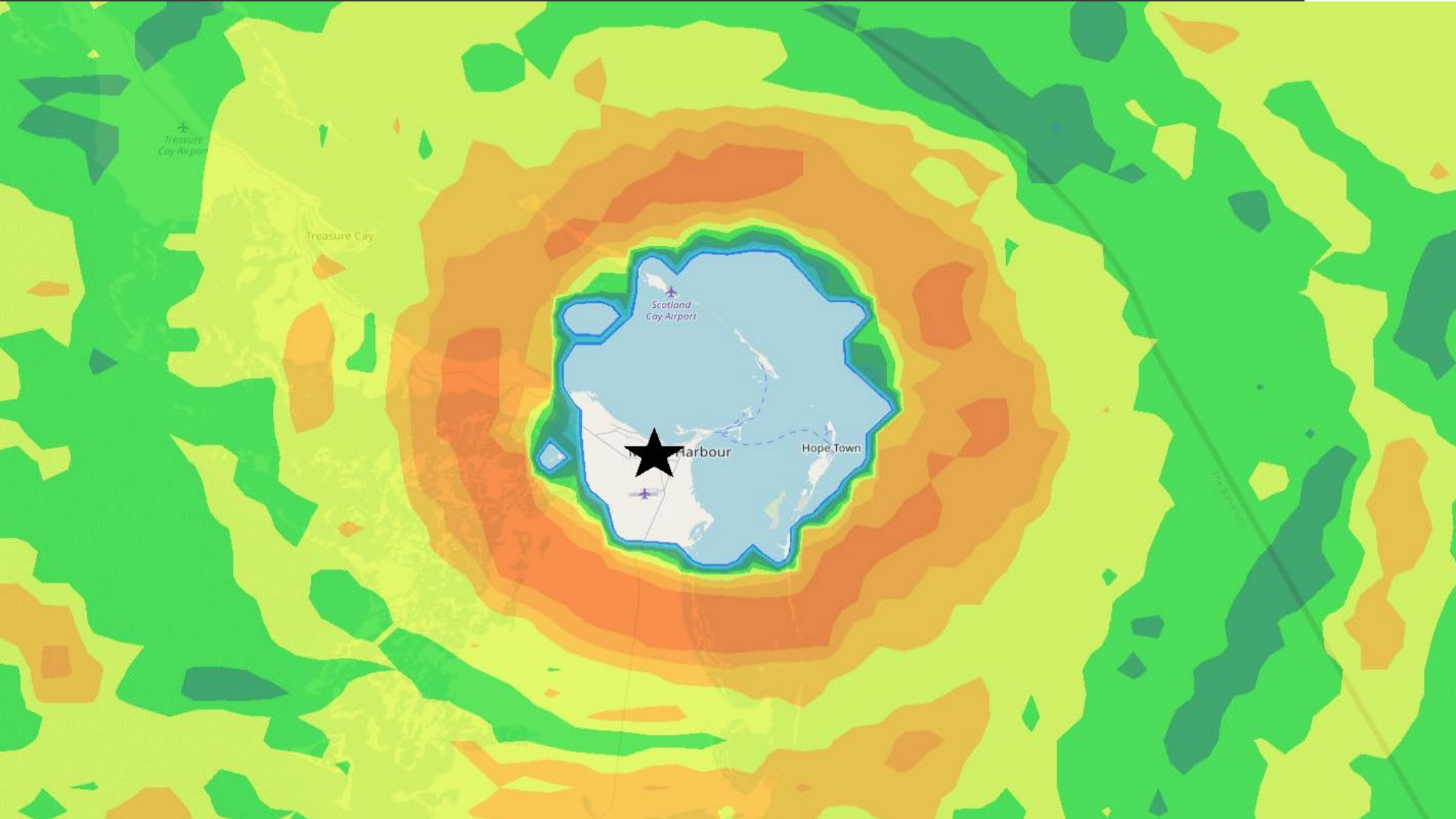




12:28pm

iCyclone





Treasure Cay Airport

Treasure Cay

Scotland Cay Airport

Harbour

Hope Town

Hope River

Before



10:57am

iCyclone

After



1:07pm

iCyclone

Before



11:57 am

iCyclone

After



1:10pm

iCyclone

Before



6:11am

iCyclone

After



1:11pm

iCyclone

















DUKE





IN CLOSING





Wrap-up

Hurricanes are a fact of life in Florida.

We seem to be in the middle of a busy phase.

But there are lots of simple things we can do to minimize destruction and casualties.



Twitter: iCyclone

Facebook: iCyclone

Instagram: icyclone1

THANKS

