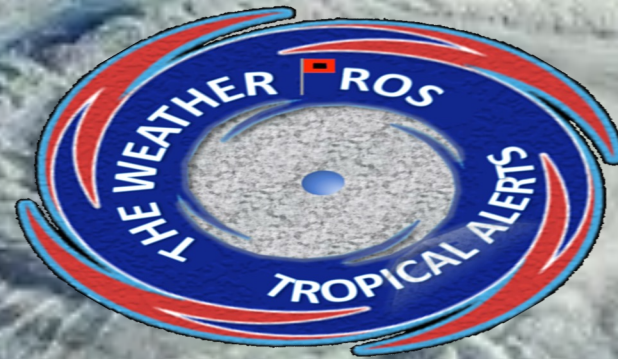


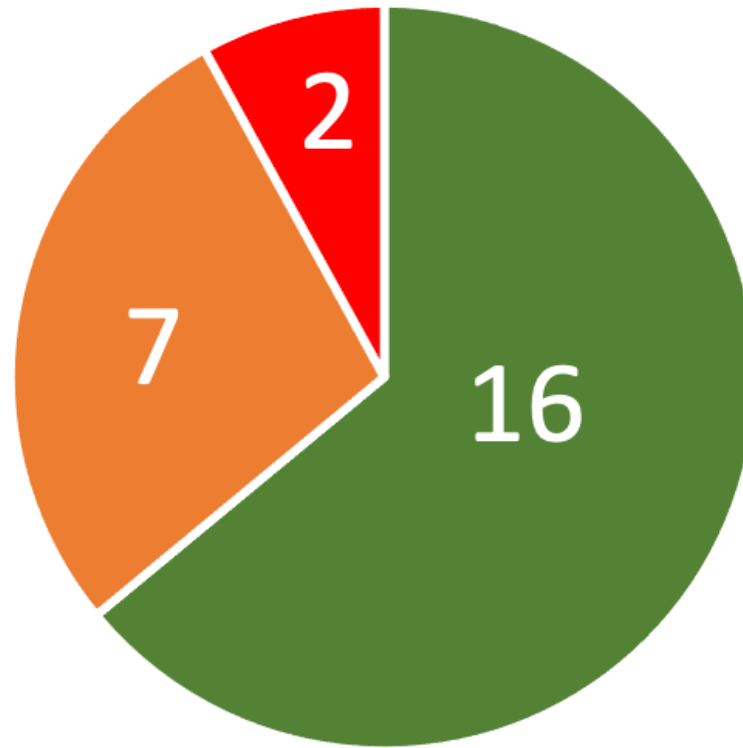
# THE WEATHER PROS: TROPICAL ALERTS



TOP 5 HURRICANE SEASON ANALOGS



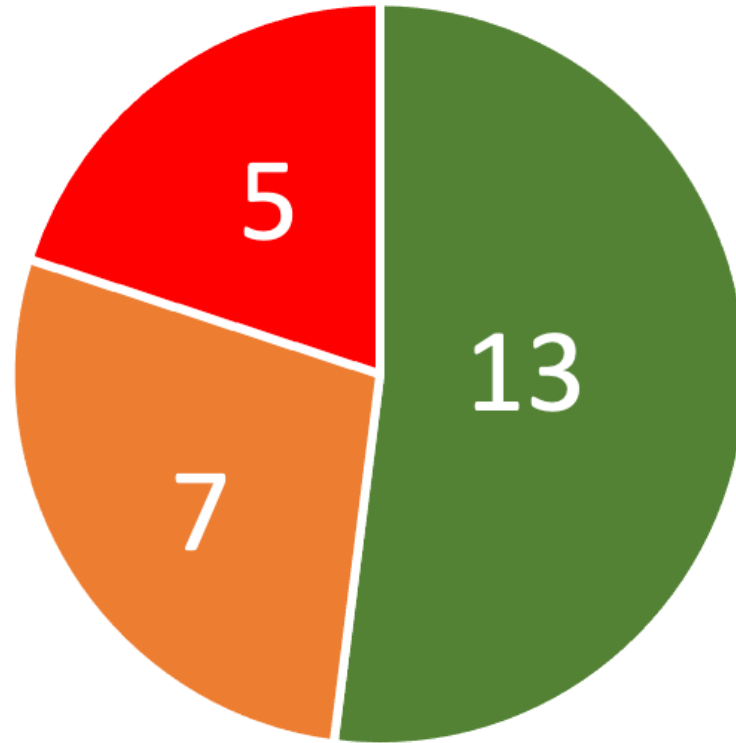
## 1949 Hurricane Season



■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



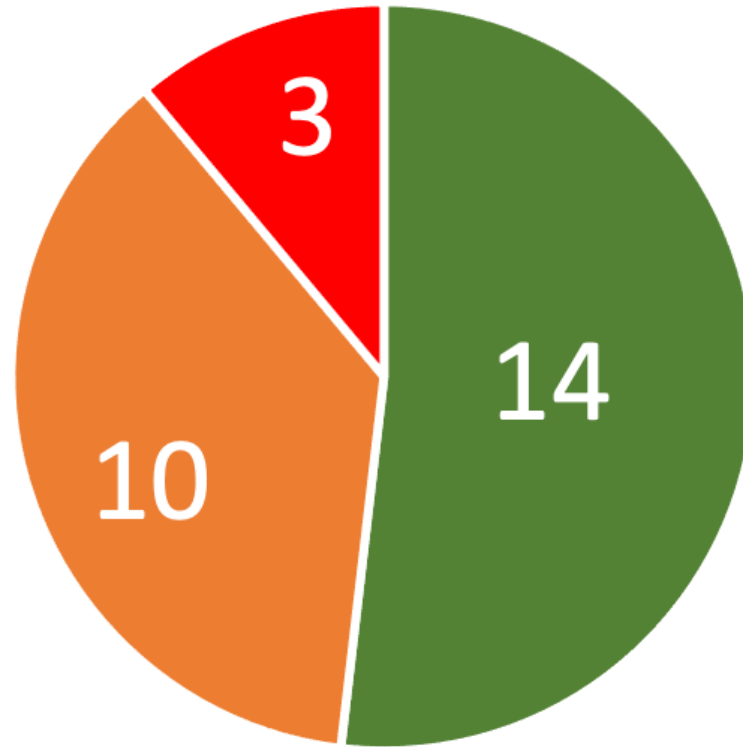
## 1964 Hurricane Season



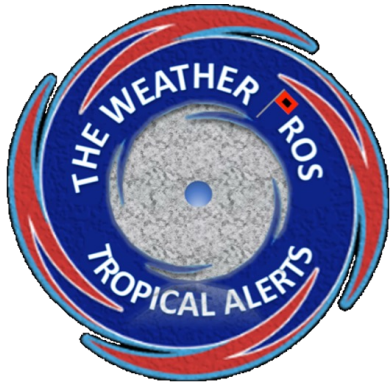
■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



## 1998 Hurricane Season

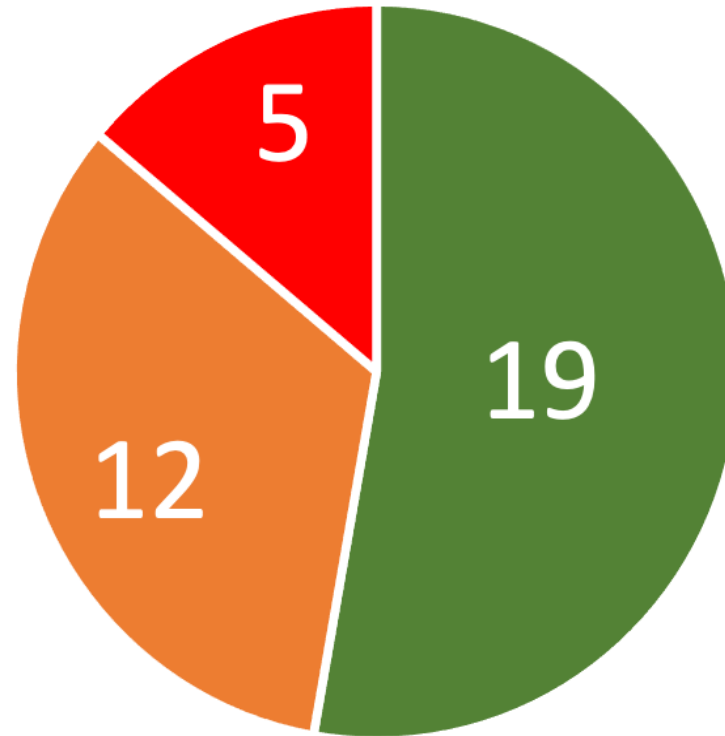


■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



## 2010 Hurricane Season

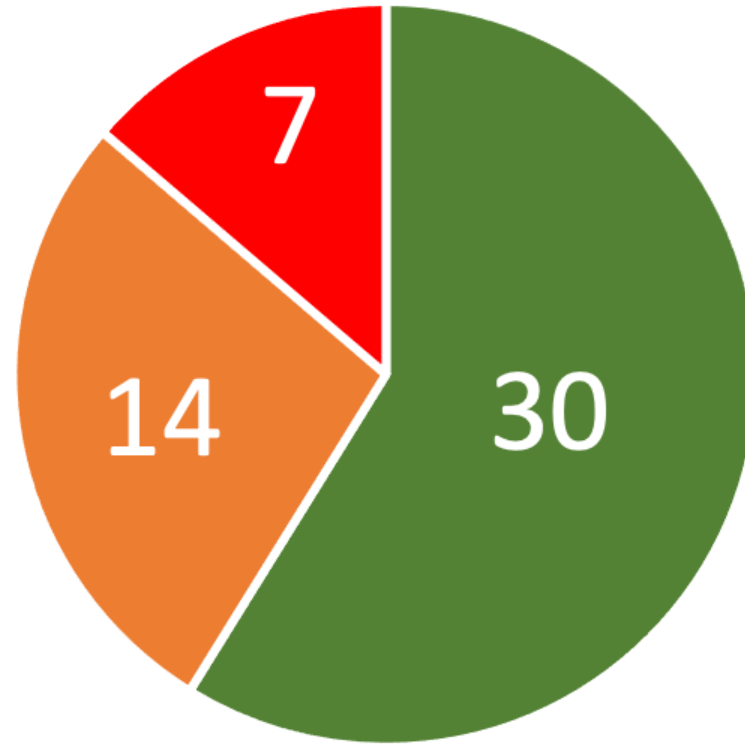
**\*\*TOP ANALOG\*\***



■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



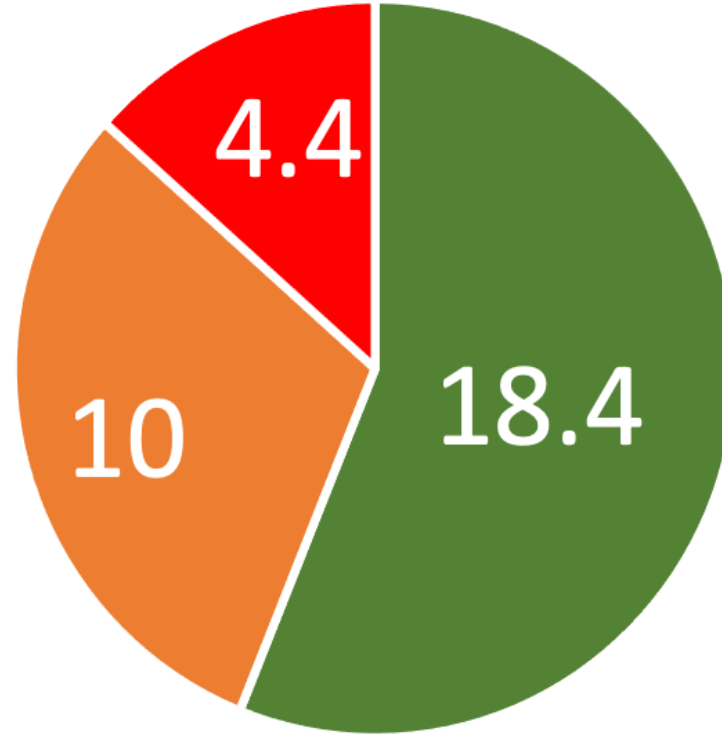
## 2020 Hurricane Season



■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



## Analog Avg.

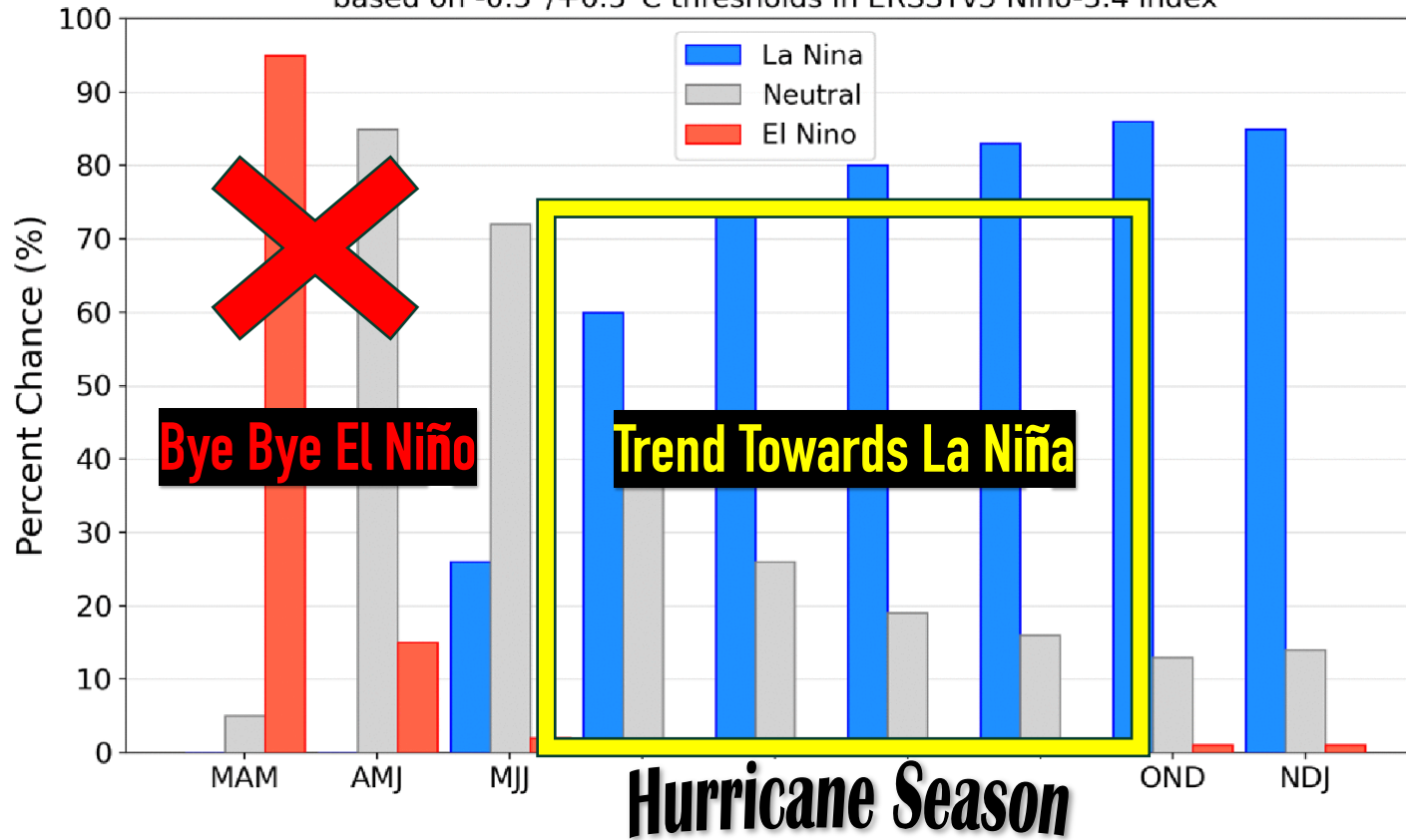


■ Tropical Storms   ■ Hurricanes   ■ Major Hurricanes



## Official NOAA CPC ENSO Probabilities (issued Apr. 2024)

based on  $-0.5^{\circ}/+0.5^{\circ}\text{C}$  thresholds in ERSSTv5 Niño-3.4 index



- La Niña conditions support less wind shear in the Atlantic (less wind shear = hurricanes develop and intensify).
- Reduces surface trade winds. Trade winds can disrupt necessary circulations and allow warmer water to build up across the “Main Development Region”. Weaker winds = more development.
- Transition away from El Niño to La Niña means warmer water now focuses across the Atlantic and Gulf. Warmer water “attracts” air to converge and “pile-up” creating conducive environment for storms to develop.
- La Niña influences where hurricanes form due to changing wind patterns. Across Africa and into the deep tropics, these waves can become very pronounced and develop into major hurricanes.



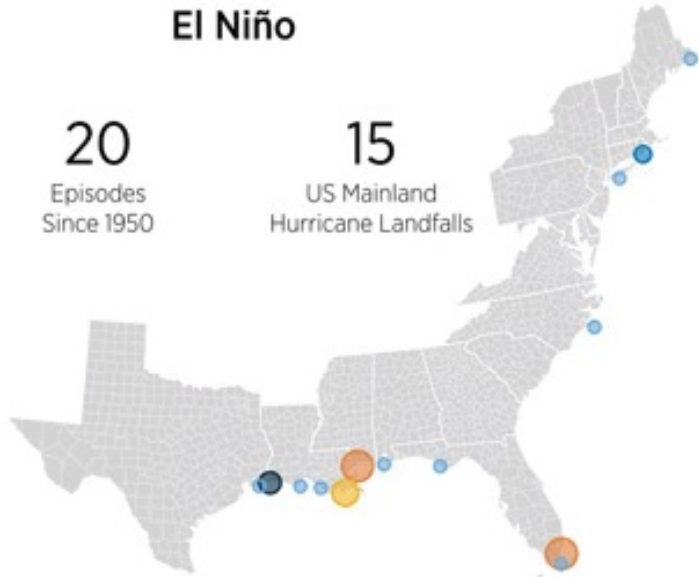


# La Niña Proven to be More Costly

## El Niño

20  
Episodes  
Since 1950

15  
US Mainland  
Hurricane Landfalls

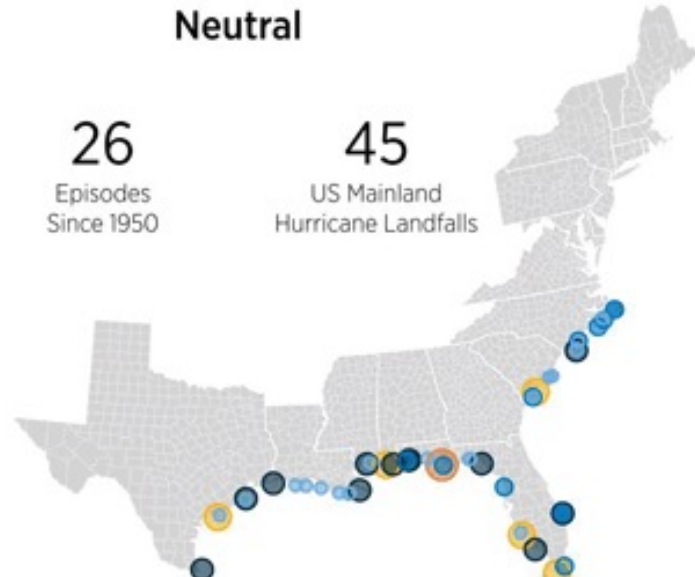


	Total Landfalls	Landfall Annual Avg	Economic Loss Annual Avg	Insured Loss Annual Avg
Tropical Storm	30	1.5	\$0.1B	\$0.3B
Cat. 1 & 2	10	0.5	\$0.2B	\$1.5B
Cat. 3, 4, 5	5	0.3	\$2.2B	\$4.6B

## Neutral

26  
Episodes  
Since 1950

45  
US Mainland  
Hurricane Landfalls

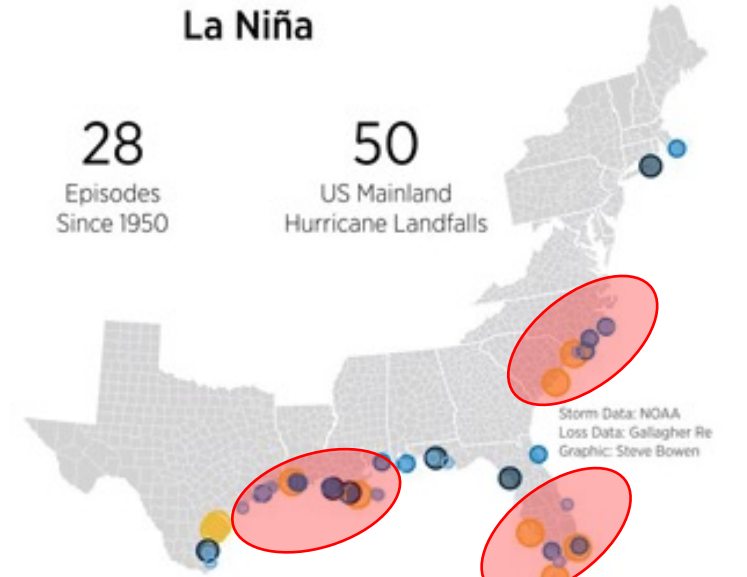


	Total Landfalls	Landfall Annual Avg	Economic Loss Annual Avg	Insured Loss Annual Avg
Tropical Storm	41	1.6	\$0.9B	\$0.4B
Cat. 1 & 2	30	1.2	\$3.4B	\$1.2B
Cat. 3, 4, 5	15	0.6	\$15.6B	\$7.6B

## La Niña

28  
Episodes  
Since 1950

50  
US Mainland  
Hurricane Landfalls



	Total Landfalls	Landfall Annual Avg	Economic Loss Annual Avg	Insured Loss Annual Avg
Tropical Storm	50	1.9	\$1.0B	\$0.2B
Cat. 1 & 2	33	1.3	\$4.9B	\$2.5B
Cat. 3, 4, 5	17	0.7	\$19.4B	\$8.2B

■ Category 1 ■ Category 2 ■ Category 3 ■ Category 4 ■ Category 5

Notes: 1) ENSO phase determined by the June to November average from NOAA's MEI v2 dataset; the Multivariate ENSO index (MEI) combines oceanic and atmospheric variables to singularly assess ENSO  
2) The first and/or strongest US mainland landfall point per storm is included on this map; 3) Losses adjusted to 2024 USD using US CPI and a construction / cost of labor factor

# NMME Sea Surface Temperature Anomaly (C)

Init: 00z Apr 08 2024

Valid for: Jul-Aug-Sep 2024

TROPICALTIDBITS.COM

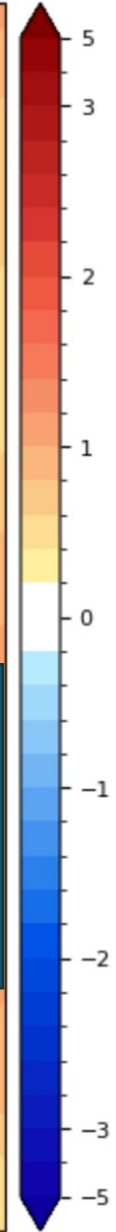


30°N

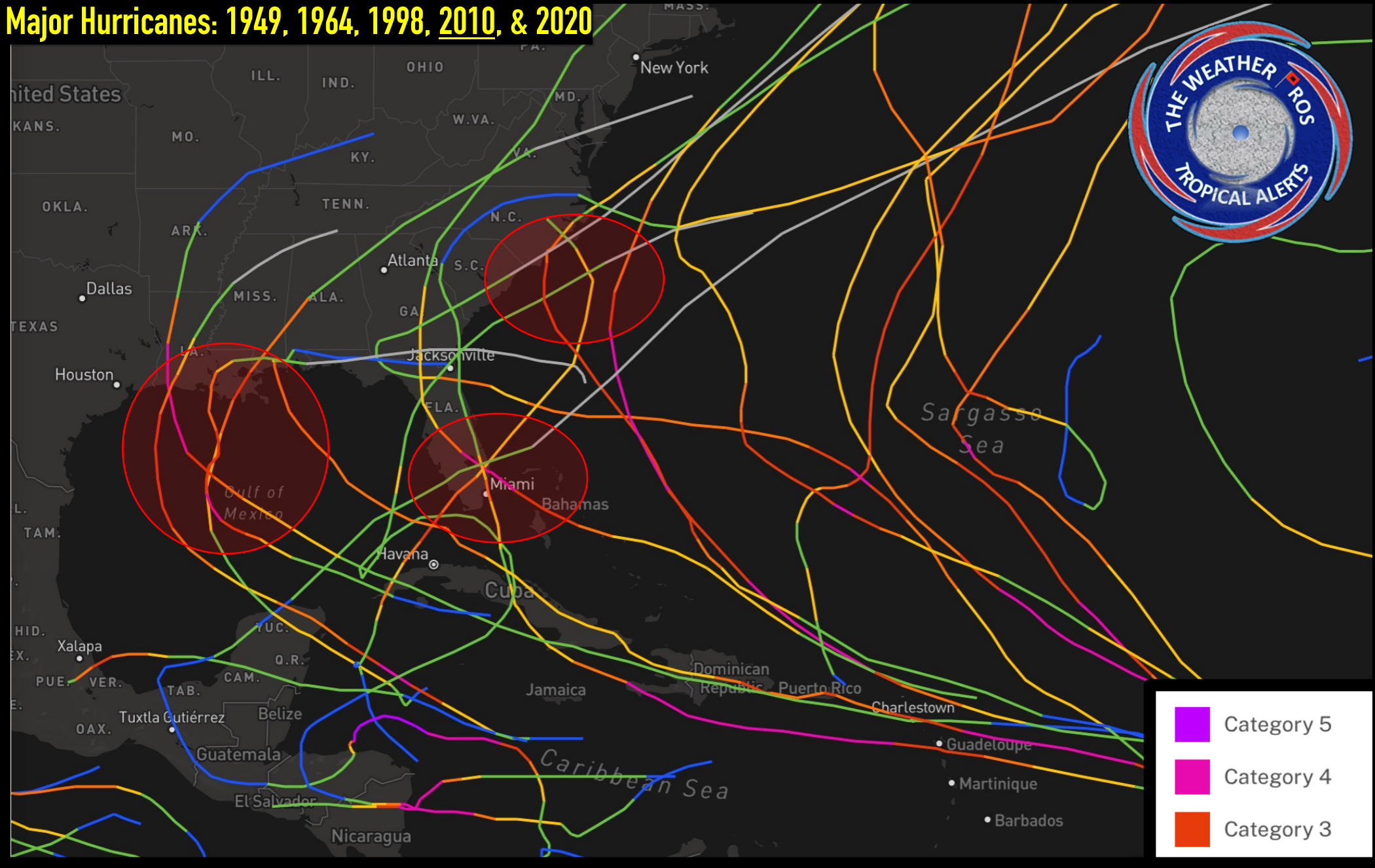
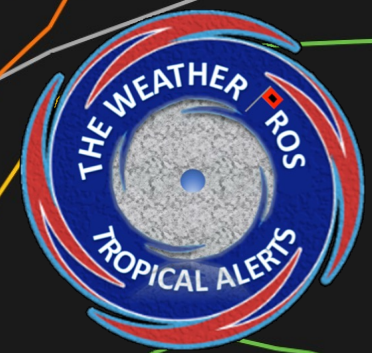
**DEVELOPMENT ZONE**

90°W

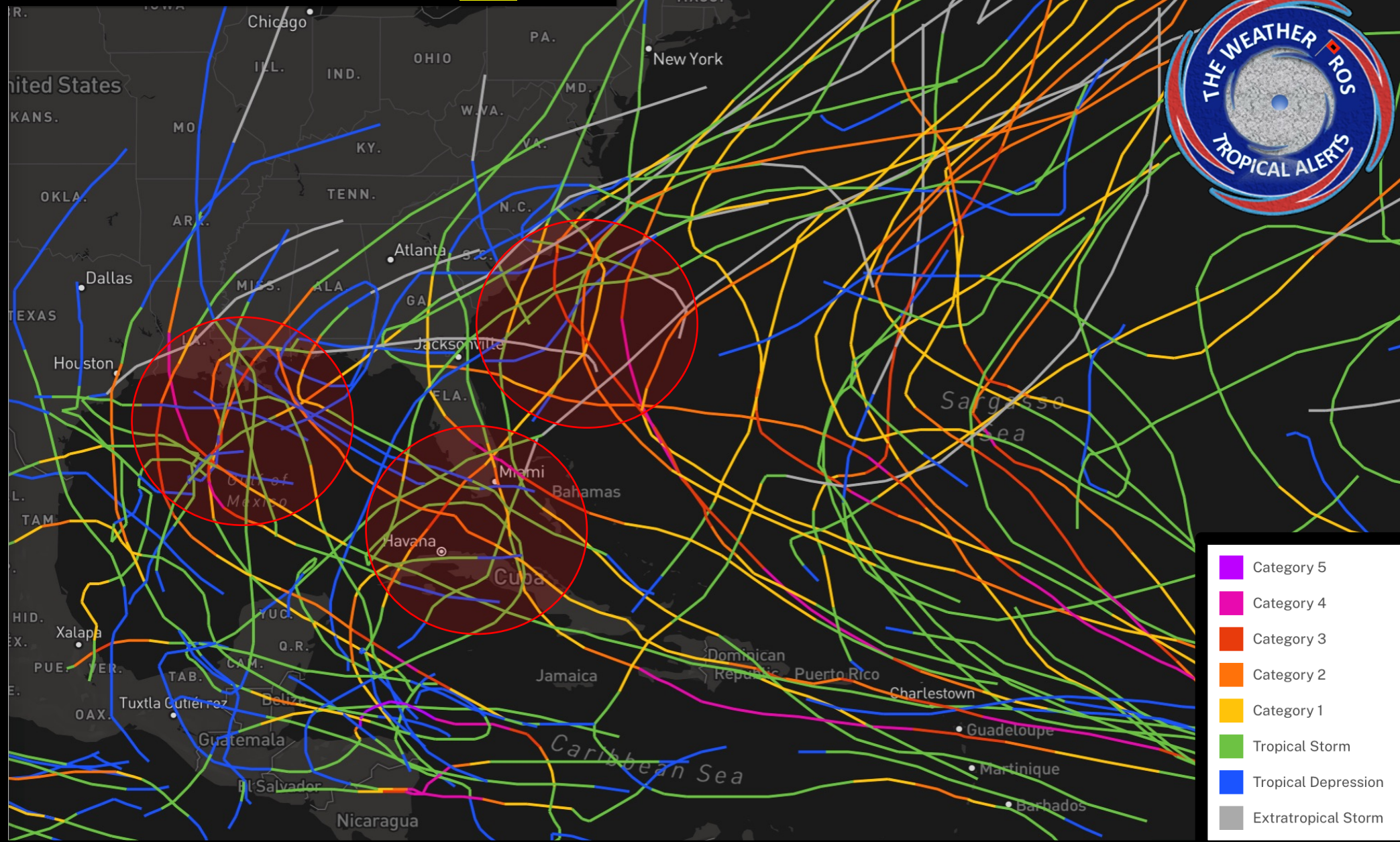
60°W



# Major Hurricanes: 1949, 1964, 1998, 2010, & 2020

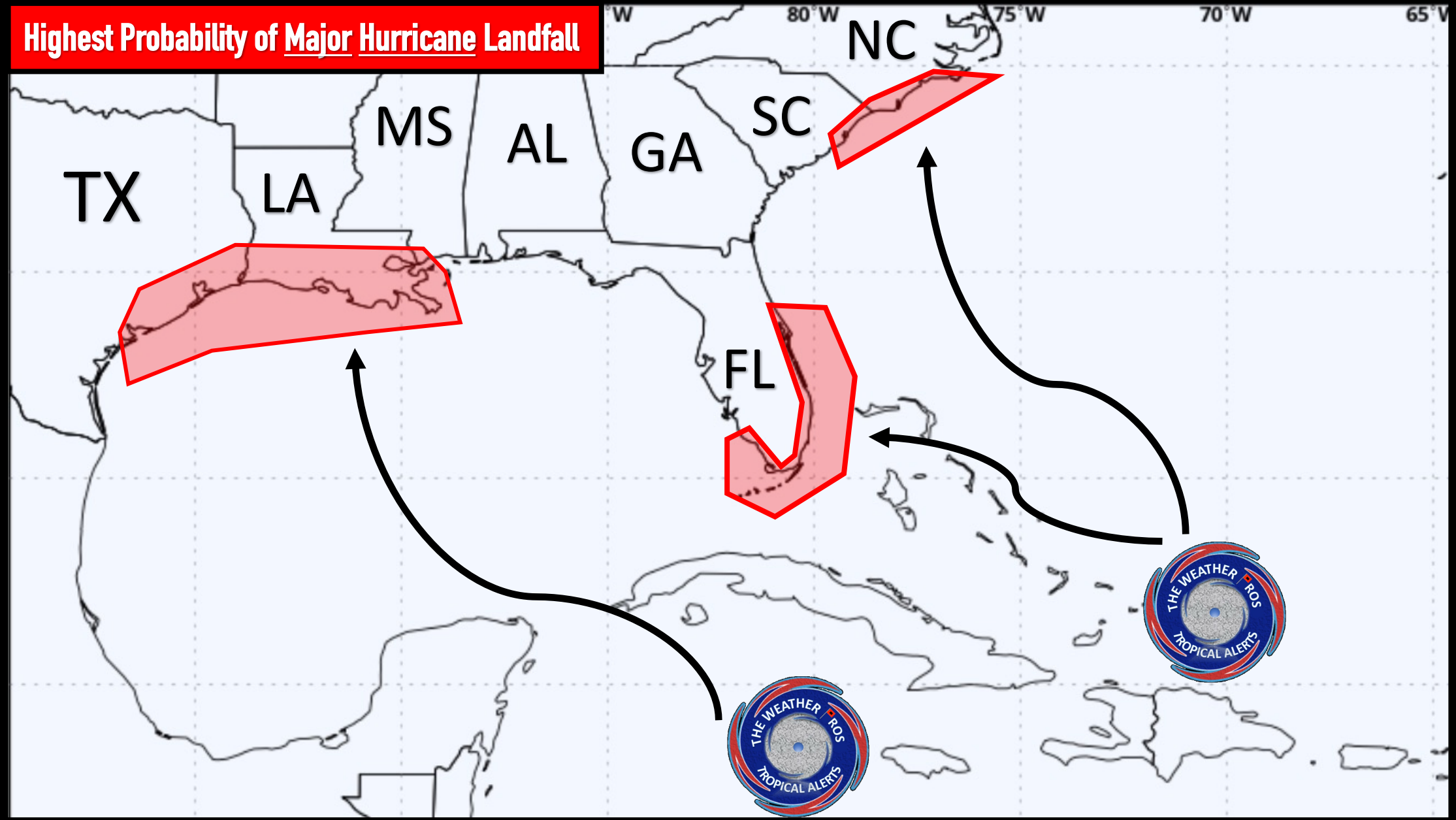


# All Named Storms: 1949, 1964, 1998, 2010, & 2020

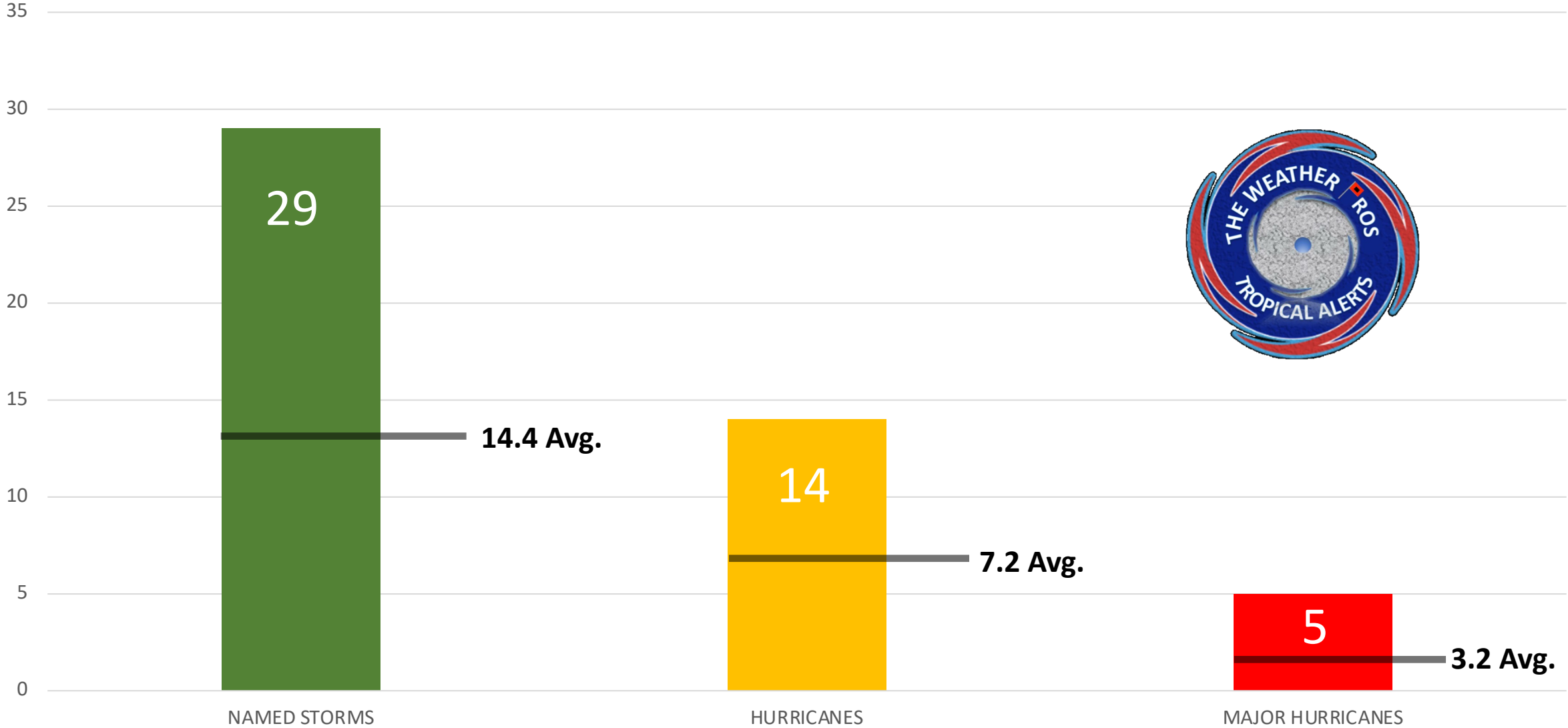


- Category 5
- Category 4
- Category 3
- Category 2
- Category 1
- Tropical Storm
- Tropical Depression
- Extratropical Storm

**Highest Probability of Major Hurricane Landfall**



# THE WEATHER PROS FORECAST



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