

2025 Atlantic Hurricane Season Outlooks – Early August Update

Normal to Intense Season

compiled by CIMH (*issued: 08.08.2025*)

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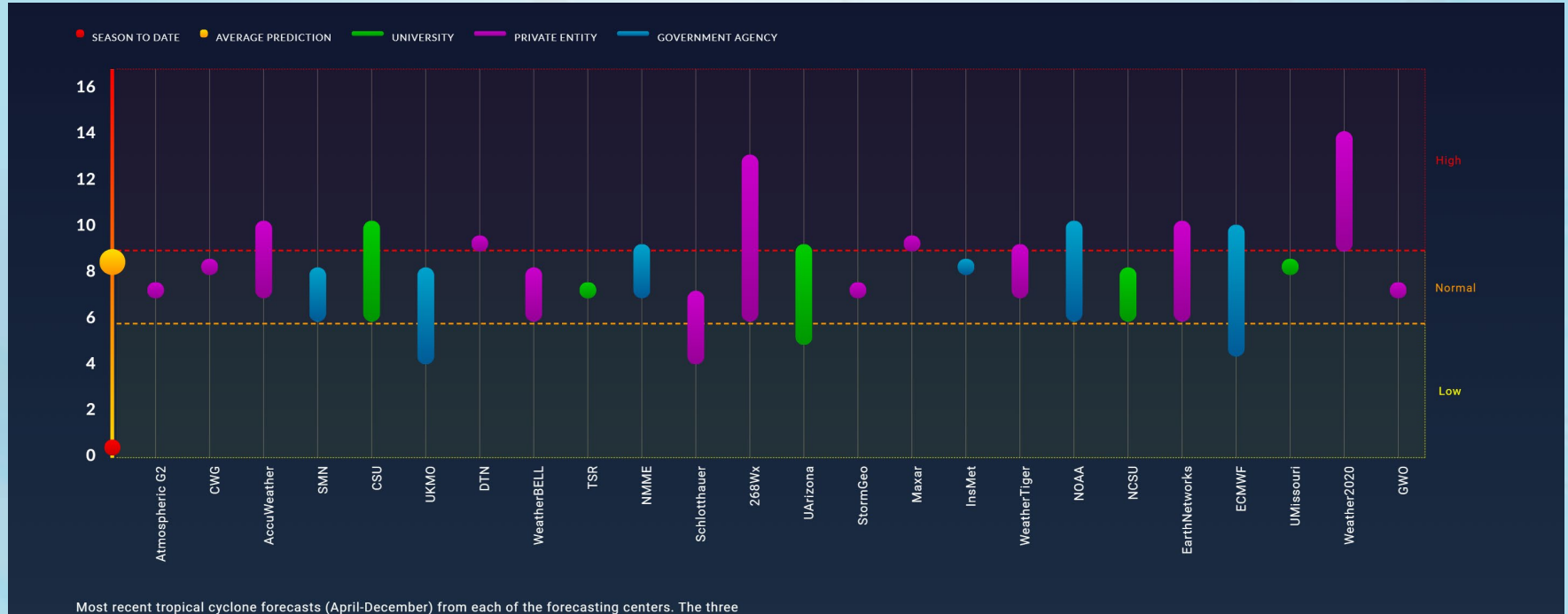
2024 Hurricane Season Forecasts – Likely a hyper-active season!!

Forecast Parameter (1991-2020 average in parentheses)	CSU 6 th August 2025	Tropical Storm Risk 07 th August 2025	Accu- Weather 26 th March 2025	NOAA CPC (70% confidence range) 07 th August 2025	CIMH (70% confidence range) 22 May 2025*
Named Storms (NS) (14)	16	16	13-18	13-18	20 (16-24)* *8 th August update
Hurricanes (H) (7)	8	8	7-10	5-9	9 (6-12)
Major Hurricanes (MH) (3)	3	3	3-5	2-5	4 (2-6)
Accumulated Cyclone Energy (ACE) (123)	140	144	125-175	90-160	125 (62-189)

Comparing 2025 CSU Atlantic Hurricane Season outlook to the hyperactive 2024, 2020 and 2017 seasons

Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date			
	6 August 2025	2024 Obs.	2020 Obs.	2017 Obs.
Named Storms (NS) (14.4)	16	18	30	17
Named Storm Days (NSD) (69.4)	80	77.25	118	91.25
Hurricanes (H) (7.2)	8	11	13	10
Hurricane Days (HD) (27.0)	30	37.5	34.75	51.25
Major Hurricanes (MH) (3.2)	3	5	6	6
Major Hurricane Days (MHD) (7.4)	8	11.5	8.75	19.25
Accumulated Cyclone Energy (ACE) (123)	140	162	180	226

Agencies predict around 12 Hurricanes in the Atlantic in 2025 (as of 8 August 2025)



Caribbean Landfall probabilities

► CSU:

- **52% probability for at least one major hurricane (Cat 3, 4 or 5) after 5 August**, tracking into the Caribbean (10-20°N, 60-88°W).
1880-2020 average probability for major hurricanes in an entire year is 47%.

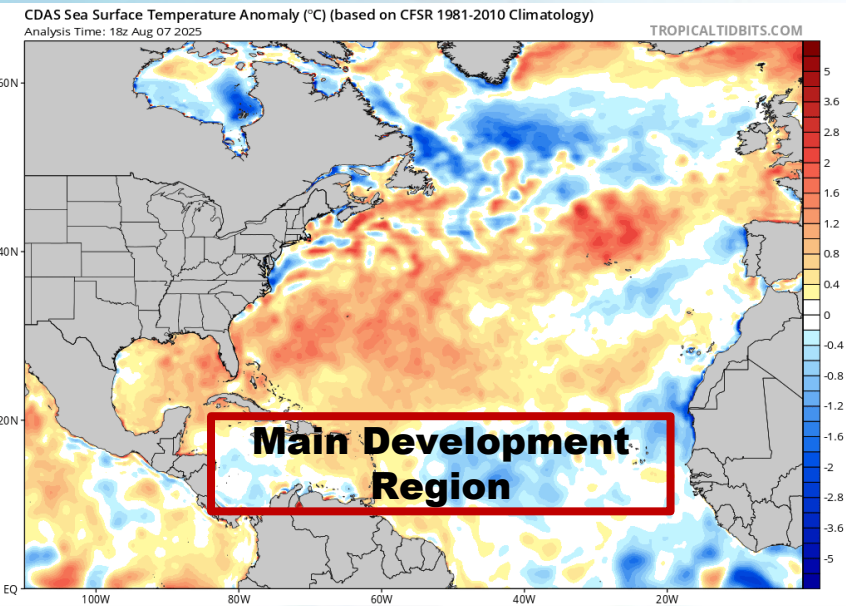
***Note: In late June/early July when Beryl became the earliest category 4 (30 June) and category 5 (1 July) on record in the Atlantic, making landfall in several islands of the southern Grenadines (in the countries of Grenada and St. Vincent & the Grenadines).

- For **country-by-country forecasted probabilities** of named storms and hurricanes passing within 50 miles of the location, see <https://tropical.colostate.edu/resources.html> .

Drivers of hurricane season activity in 2025

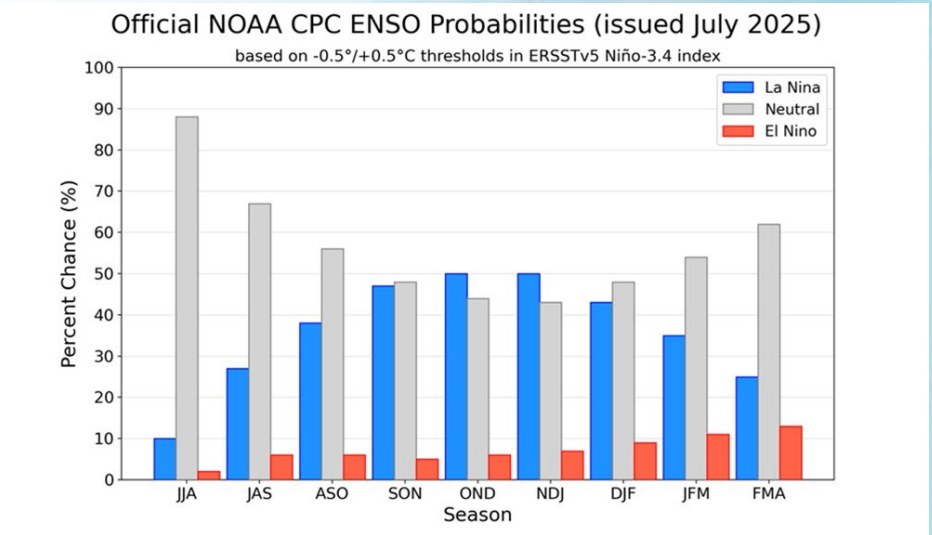
Main Development Region of tropical cyclones in the Atlantic: **unusually warm** around Antilles, elsewhere **initially cooler**

➔ **slight boost to mid-to late hurricane season activity** (less so than in 2024)



ENSO neutral conditions in the Pacific possibly to develop into **La Niña**

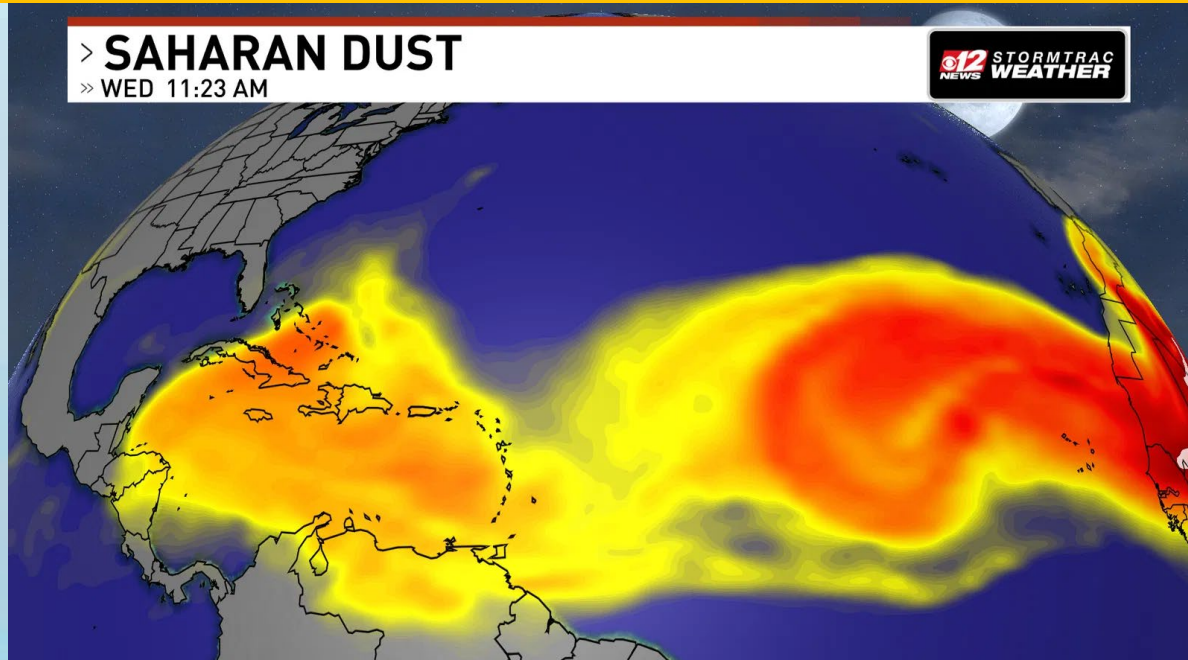
➔ **ENSO neutral / La Niña to promote late-hurricane season activity**



Drivers of Hurricane Season activity in 2025

What we do not know yet...

No predictions of **how often** intrusions of the dry (often dusty) Saharan Air Layer (**SAL**) will **stifle activity** through August.
Note: **Explosive activity** is possible between episodes of SAL intrusions.





Sahara Dust/SAL 2024

The possible effect of lower/higher frequency of dry, dusty Saharan air intrusions

Scenario A: infrequent Saharan air intrusions into the Tropical North Atlantic

tropical cyclone	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov

Active 2025 Atlantic Hurricane Season

- ➔ **historical average:** 14 tropical storms, 7 hurricanes, 3 major hurricanes
- ➔ **different this year:** unusually (but not record)-warm Atlantic providing additional fuel for storm activity
- ➔ **forecasts:** normal to intense season
 - ➔ potentially higher storm frequency & intensity
 - ➔ increased chance of rapid intensification

Scenario B: very frequent Saharan air intrusions

tropical cyclone	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov

- ➔ **Erratic** tropical cyclone activity until mid-August.



2025 Atlantic Tropical Cyclone Names

August 7 Update

~~Andrea~~

~~Barry~~

~~Chantal~~

~~Dexter~~

Erin

Fernand

Gabrielle

Humberto

Imelda

Jerry

Karen

Lorenzo

Melissa

Nestor

Olga

Pablo

Rebekah

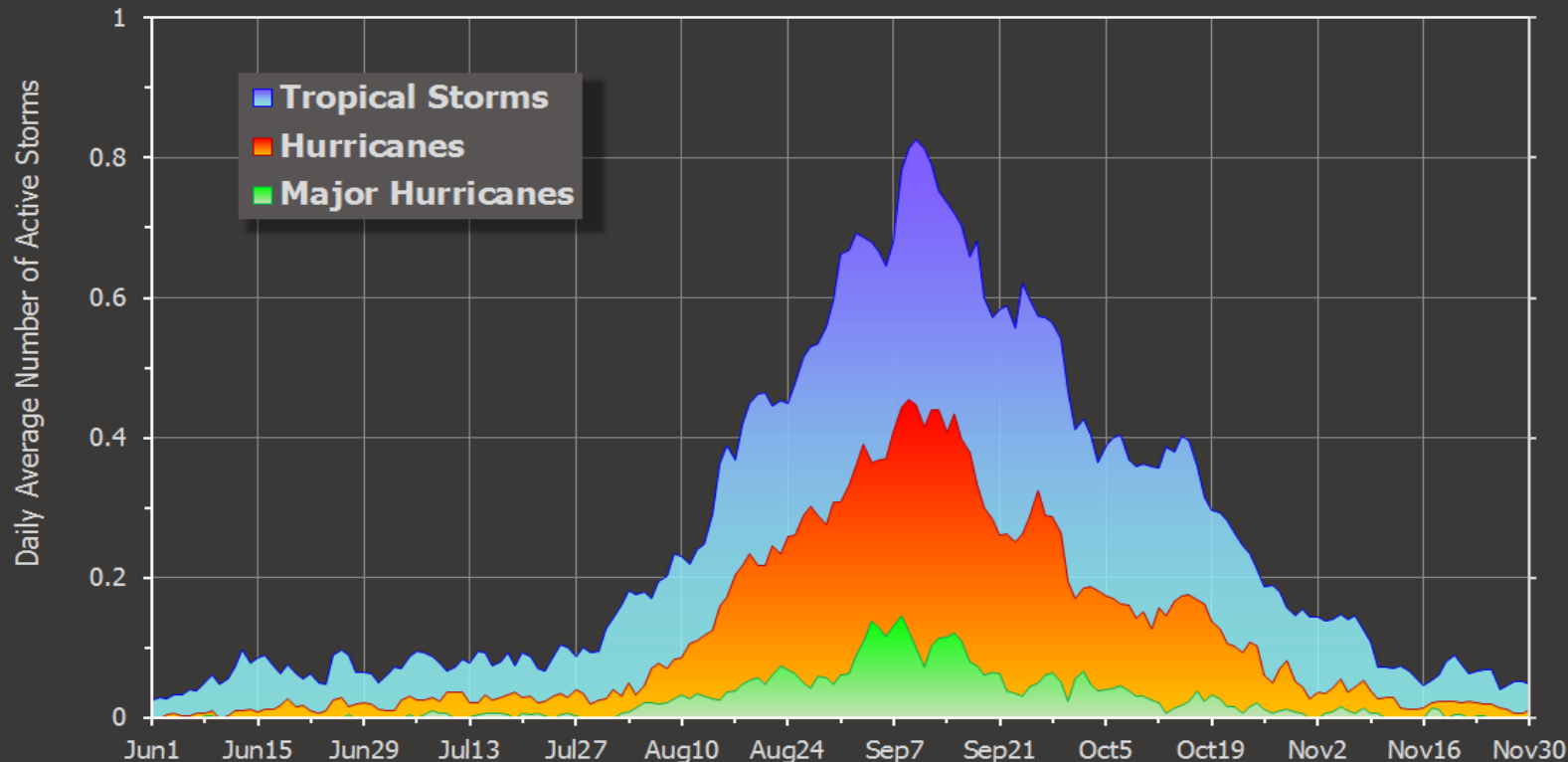
Sebastien

Tanya

Van

Wendy

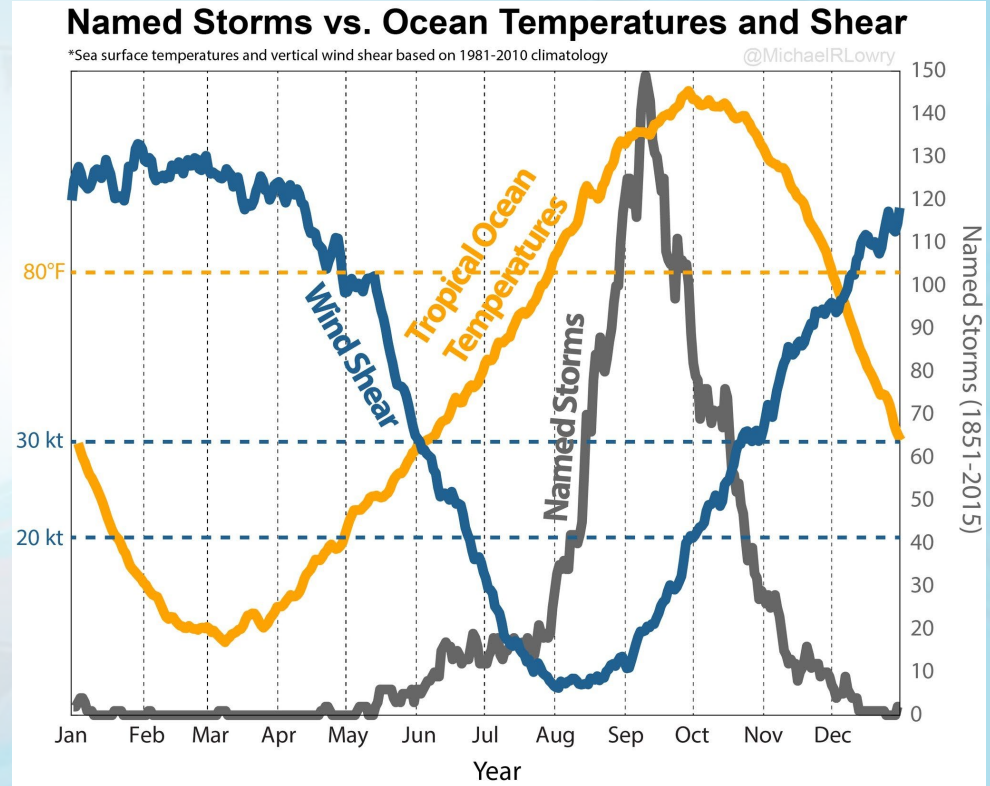
Atlantic Tropical Cyclone Climatology (1851-2013)



Basin-wide TC activity historically **peaks on 10 September**

Could we make useful predictions of parts of the season?

- ▶ The **peak of the season** is from August to October
- ➔ what will this period bring?
- ➔ What could the **first half** (June to August) and **second half** (September to November) of the season look like?



Source: Michael Lowry/FEMA

How good were the CIMH 2024 forecasts?

Forecasts (i.e., Scenario A) **overestimated** total activity as very frequent **Saharan dust episodes** (i.e., Scenario B) occurred through late-August

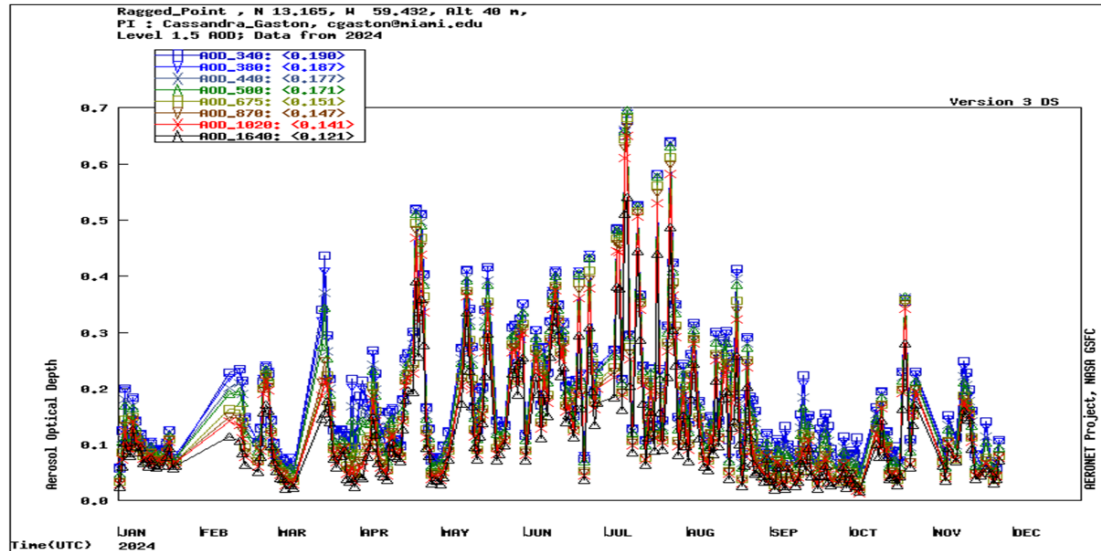
Period	Observed	Mid-May 2024		Early August 2024	
		Forecast	Range	Forecast	Range
Number of Named Storms					
2024 (entire season)	18	29	24-35	23	19-27
Jun.-Aug. (1 st half)	5	11	7-14		
Aug.-Oct. (peak)	12	21	17-25		
Sep.-Nov. (2 nd half)	13	16	13-19		
Aug.-Dec.	15			20	16-25
Accumulated Cyclone Energy (ACE)					
2024 (entire season)	162	211	146-277		

How good were the CIMH 2024 forecasts?

Forecasts (i.e., Scenario A) overestimated total activity as very frequent Saharan dust episodes (i.e., Scenario B) occurred through late-August

AERONET AOD 2024

- Most Saharan Dust in the Atlantic since 2022





2024 Atlantic Hurricane Season Activity

CIMH forecasts

Period	1991-2020	Forecast	Range*	Confidence level
Entire season (issued May 16th, 2025)				
Named storms	14	19	13-25	High
Hurricanes	7	9	6-12	Medium
Major Hurricanes	3.2	4	2-6	Medium
ACE	123	145	83-225	Medium
August 2024 forecasts for the Number of Named Storms				
Entire season	14	20	16-24	High
Aug. to Dec. 2024	12	17	13-21	High

*70% confidence range, i.e. the observed number has a 70% chance of falling in this range

The new norm

'Average' Atlantic Hurricane Season

*** Effective 2021**

1981-2010

12 Named Storms
6 Hurricanes
3 Major Hurricanes



1991-2020

14 Named Storms
7 Hurricanes
3 Major Hurricanes

* Numbers for an average season reflect the climate record for tropical storms and hurricanes and use the most recent 3 decades as the period of reference. More at: <http://bit.ly/NOAAHurricaneSeasonAverages>



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

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IMPORTANT:

Number of major hurricanes up 14% from 2.8 to 3.2 /year

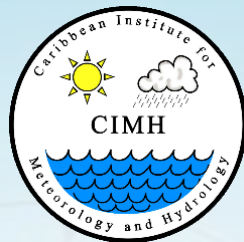
(and up by 60% compared to 1961-1990)

NOTE

- ▶ Authorities and interests are advised to **constantly monitor and abide by official weather advisories** issued by the **National Meteorological Services** and.
- ▶ They should also **constantly monitor** other information provided by the **Caribbean Disaster Emergency Management Agency** (<http://cdema.org/>) and the **US National Hurricane Center** (<https://www.nhc.noaa.gov/>).

DISCLAIMER

- ▶ CIMH provides special weather and climate interpretation of the current and forecasted tropical weather and climate conditions affecting the Caribbean region.
- ▶ CIMH is not an official forecasting authority.



For climate monitoring information, climate outlooks and climate bulletins, please visit:

rcc.cimh.edu.bb

Additional early warning tools are found at

www.cimh.edu.bb

Thank you