
Colorado State University

Atlantic Hurricane Season Forecast

Overview

Colorado State University (CSU) has issued its August forecast for the 2022 Atlantic Hurricane Season. The forecast now calls for **18 named storms, 8 hurricanes, and 4 major hurricanes** (Category 3+). This is a slight reduction from the June forecast and includes the three named storms which have already formed in 2022 (Alex, Bonnie, Colin).

Forecast Details

With the release of their forecast, CSU is continuing to predict above-normal tropical cyclone activity in the Atlantic Basin during the 2022 season despite the slight reduction from their earlier forecast. The report cites several factors as to how and why this activity was forecast. The biggest reason surrounds the fact that the tropical Pacific Ocean remains characterized by La Niña conditions. CSU notes that these conditions have become more prominent in the central Pacific Ocean during the last four weeks that is expected to spawn more cooling in the eastern Pacific in the coming weeks. This should keep La Niña conditions in place for the rest of the hurricane season through November. El Niño typically correlates with reduced tropical activity in the Atlantic Ocean; while La Niña conditions often lead to enhanced cyclogenesis. The most recent statistical and dynamical ENSO model output from NOAA currently highlights a 62 percent likelihood of a La Niña event during the peak development month timeframe (August-October) and a 38 percent chance of ENSO-neutral conditions. There is just a 2 percent chance of El Niño.

A second factor revolves around current sea surface temperatures across the Atlantic Ocean. Water temperatures are currently slightly above normal in the Tropical Atlantic – the 8th warmest year dating to 1982 as of July 31. However, ocean waters have cooled in the Subtropical Atlantic and is one of the main reasons for CSU's forecast reduction. CSU cites cooler subtropical Atlantic conditions as enhancing wavebreaking in the tropics which may somewhat counteract any reduced wind shear associated with La Niña. Wind shear has been slightly lower than normal in the Caribbean Sea, current temperatures are near or slightly cooler than normal which is due to stronger-than-normal trade winds in recent weeks. CSU notes that the current Atlantic sea surface temperature anomaly pattern is well correlated with what is typically seen in active Atlantic hurricane seasons.

As a reminder: Above or below average hurricane season forecasts are often a poor predictor of seasonal economic or insured losses. Landfall location, intensity, and coastal / inland storm behavior are the predominant loss correlation drivers.

The tables on the next page show the CSU forecast, including probabilities of landfall on the United States mainland. Visit the Appendix below to view historical seasonal forecast performance versus the actual observed Atlantic activity. The full report is available at CSU's Tropical Meteorology webpage (<http://tropical.atmos.colostate.edu/>).



CSU Atlantic Basin Hurricane Season Forecast (June 1 – November 30)

Forecast Parameter	Average (1991-2020)	April 2022	June 2022	August 2022
Named Storms	14	19	20	18
Named Storm Days	69	90	95	85
Hurricanes	7	9	10	8
Hurricane Days	27	35	40	30
Major Hurricanes	3	4	5	4
Major Hurricane Days	7	9	11	8
Accumulated Cyclone Energy (ACE)	123	160	180	150
Net Tropical Cyclone Activity	135%	170%	195%	160%

CSU Major Hurricane Landfall Probabilities (June 1 – November 30)

Forecast Parameter	Average Year	April 2022	June 2022	August 2022
Entire U.S. Coastline	52%	71%	76%	68%
U.S. East Coast (inc. FL Peninsula)	31%	47%	51%	43%
U.S. Gulf Coast	30%	46%	50%	43%

***Expected 57% risk of major hurricane tracking into the Caribbean (average is 42%)

Source: Colorado State University



Appendix

Historical Colorado State University Forecast Validation: Last 15 Years

Year	Named Storms				Hurricanes				Major Hurricanes			
	Apr	Jun	Aug	Actual	Apr	Jun	Aug	Actual	Apr	Jun	Aug	Actual
2007	17	17	16	15	9	9	8	6	5	5	4	2
2008	15	15	17	16	8	8	9	8	4	4	5	5
2009	12	11	10	9	6	5	4	3	2	2	2	2
2010	15	18	18	19	8	10	10	12	4	5	5	5
2011	16	16	16	19	9	9	9	7	5	5	5	4
2012	10	13	14	19	4	5	6	10	2	2	2	2
2013	18	18	18	14	9	9	8	2	4	4	3	0
2014	9	10	10	8	3	4	4	6	1	1	1	2
2015	7	8	8	11	3	3	2	4	1	1	1	2
2016	13	14	15	15	6	6	6	7	2	2	2	4
2017	11	14	16	17	4	6	8	10	2	2	3	6
2018	14	14	12	15	7	6	5	8	3	2	1	2
2019	13	14	14	18	5	6	7	6	2	2	2	3
2020	16	19	24	30	8	9	12	14	4	4	5	7
2021	17	18	18	21	8	8	8	7	4	4	4	4
2022	19	20	18		9	10	8		4	5	4	

NS: Named Storms

HU: Hurricanes (Category 1+)

MHU: Major Hurricanes (Category 3+)

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