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## Tropical Storm Risk

### Atlantic Hurricane Season Forecast

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#### Overview

Tropical Storm Risk (TSR) has issued its May forecast for the 2022 Atlantic Hurricane Season. The agency is forecasting **18 named storms, 8 hurricanes, and 4 major hurricanes** (Category 3+) between the months of June and November. This is unchanged from TSR's projection of tropical activity released in April 2022. The projected activity is expected to be roughly 10 to 15 percent above the 30-year climatology (1991-2020 average) based on the Accumulated Cyclone Energy (ACE) metric.

#### Forecast Details

The agency, which originates from University College London (UCL), cites that the main predictor(s) for this forecast is the projected slightly warmer than normal sea surface temperatures in the tropical North Atlantic Ocean and an expectation of persistent La Niña conditions by the peak hurricane season months of August / September / October. These expected conditions have resulted in an anticipated lessening of trade winds throughout the Atlantic's Main Development Region (MDR) – including the Caribbean Sea and tropical North Atlantic – that typically leads to more cyclonic vorticity (spin) and decreased vertical wind shear. Each of these parameters should allow for more favorable atmospheric and oceanic conditions that lead to above-average tropical cyclone formations.

The group notes that in its UCL statistical model analysis between the 1950 and 2021 seasons in which La Niña conditions were present in March / April / May, it also persisted through August / September / October in 12 of 13 instances.

TSR currently projects that there is a 40 percent probability that the 2022 Atlantic Hurricane Season ACE Index will be above-average, a 48 percent likelihood it will be near-normal, and a 12 percent chance it will be below-normal.

The Accumulated Cyclone Energy Index is equal to the sum of the squares of 6-hourly maximum sustained wind speeds (in knots) for all systems while they are at least tropical storm strength. The ACE Landfall Index is the sum of the squares of hourly maximum sustained wind speeds (in knots) for all systems while they are at least tropical storm strength and over the United States mainland (reduced by a factor of 6).

The tables on the next page show the TSR forecast and the range of uncertainty that surrounds the forecast. Visit the Appendix below to view historical seasonal forecast performance versus the actual observed Atlantic activity. The full report is available at TSR's webpage (<http://tropicalstormrisk.com/>). The next forecast update is expected in early August 2022.



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

Forecast Parameter	Average (1991-2020)	April 2022	May 2022
Named Storms	14	18	18
Hurricanes	7	8	8
Major Hurricanes	3	4	4
Accumulated Cyclone Energy (ACE)	123	138	140

### TSR U.S. Landfalling Atlantic Hurricane Season Forecast (June 1 – November 30)

Forecast Parameter	Average Year (1991-2020)	April 2022	May 2022
Named Storms	4	4	4
Hurricanes	2	2	2
U.S. ACE Landfall Index	2.7	2.8	2.8

\*There is a 39 percent chance that the U.S. landfalling ACE index will be above average, a 40 percent chance it will be near-normal, and a 21 percent chance that it will be below normal.

Source: Tropical Storm Risk



## Appendix

### Historical Tropical Storm Risk 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	16	15	15	9	9	8	6	4	4	4	2
2008	15	14	18	16	8	8	10	8	4	3	5	5
2009	15	11	13	9	8	5	7	3	4	2	3	2
2010	16	18	18	19	9	10	10	12	4	4	5	5
2011	14	14	16	19	8	8	9	7	4	4	4	4
2012	13	14	14	19	6	6	6	10	3	3	3	2
2013	15	16	15	14	8	8	7	2	3	4	3	0
2014	12	12	12	8	5	5	6	6	2	2	2	2
2015	11	10	11	11	5	4	4	4	2	1	1	2
2016	12	17	15	15	6	9	7	7	2	4	3	4
2017	11	14	17	17	4	6	7	10	2	3	3	6
2018	12	9	11	15	6	4	5	8	2	1	1	2
2019	12	12	13	18	5	6	6	6	2	2	2	3
2020	16	17	24	30	8	8	10	14	3	3	4	7
2021	17	18	18	21	8	9	7	7	3	4	3	4
2022	18	18			8	8			4	4		

NS: Named Storms

HU: Hurricanes (Category 1+)

MHU: Major Hurricanes (Category 3+)

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