



# 2024 Atlantic Hurricane Season Prediction Market Bulletin

September 26, 2024

Hurricane Helene has become the fifth hurricane of 2024 in an usually quiet first half of a season that was predicted to be very active.

The implied probability, according to prices in the CAHM24 expert prediction market, of more than 10 hurricanes has dropped since July from 42% to 23%, while the chances of more than 12 hurricanes has decreased to from 23% to 8%.

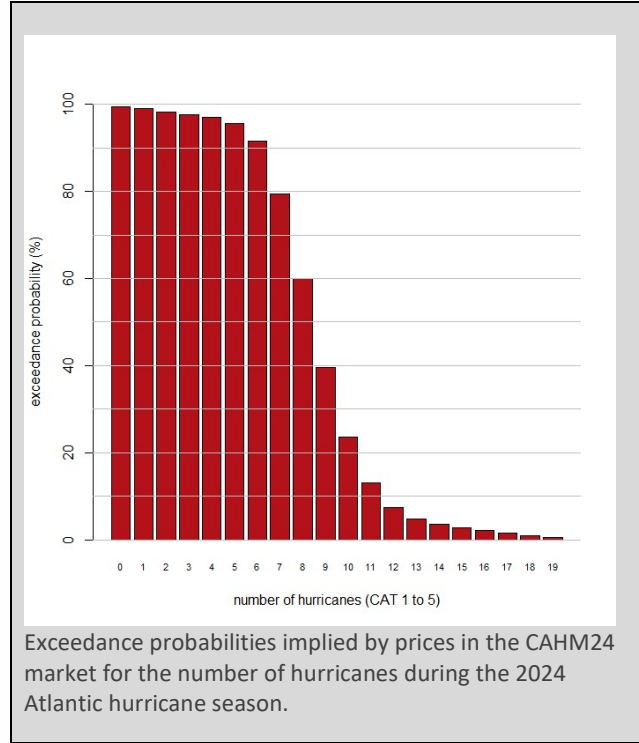
Summary of the forecast implied by recent prices in the CAHM24 prediction market for the number of hurricanes during the 2024 Atlantic hurricane season compared with climatological values for different look-back periods.

DATE: 2024-09-25					
STATISTIC	CAHM 24	CLIMATE			
		10yrs	20yrs	50yrs	100yrs
MEAN	9.2*	7.7	7.7	6.6	6.1
10 <sup>th</sup> PERCENTILE	7	5.8	3.9	3.0	3.0
MEDIAN	9	7.0	7.0	6.5	6.0
90 <sup>th</sup> PERCENTILE	12	10.4	12.2	10.0	9.1
PROB(> 10)	23%	10%	15%	8%	7%
PROB(> 12)	8%	10%	10%	4%	2%

\*The CAHM24 mean places all probability weight in the  $\geq 20$  'tail' on 20. Hence the mean should be interpreted as " $\geq 9.2$ ".

## Why has the season been quiet?

It has been more than half a century since there has been a period without hurricanes during August and September as long as the one that was brought to end by Helene. One possible explanation is a northward shift in the West African monsoon which generates tropical waves that can disrupt the evolution of tropical storms. This reason illustrates why statistical relationships between sea surface temperatures and hurricane activity seen in the historical record might not persist in a changing climate.



Exceedance probabilities implied by prices in the CAHM24 market for the number of hurricanes during the 2024 Atlantic hurricane season.

## What is CAHM24?

CAHM24 is a prediction market in which participants (individuals and teams) from academia and the private sector, with expertise relevant to seasonal hurricane forecasting, can buy and sell contracts whose pay outs depend on the number of hurricanes that occur during the 2024 Atlantic hurricane season (Jun. 1<sup>st</sup> to Nov. 30<sup>th</sup> 2024). Participants do not pay to take part, instead they are given credits with which to trade but, after the market has been settled, they will receive cash rewards based on the credits they accumulate. CRUCIAL is an initiative to demonstrate how prediction markets, with expert participants, can be used to forecast climate-related risks.

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