University of Arizona (UA) Forecasts a Slightly Above Average Year Hurricane Season

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The University of Arizona (UA) forecasting team updated their April predictions and still forecast an average to slightly above average year. Though a little later than normal this year due to data delays, our updates are as follows:

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| --- | --- | --- | --- | --- |
|  | 2022 June Prediction | 70% Probability Range | 2022 April Prediction | Median Since 1980 |
| Hurricanes | 7 | 5 to 9 | 7 | 7 |
| Major Hurricanes | 3 | 2 to 4 | 3 | 2 |
| Named Storms | 15 | 12 to 18 | 14 | 13 |
| ACE | 131 | 92 to 170 | 129 | 107 |

Our June total predicted tropical activity is only slightly different than our April prediction.

March/April/May tropical sea surface temperatures are the most significant factor in our June model. Temperatures are a little above average and very comparable to last year. Temperatures are well below what they were in 2020 which was a record-breaking year.

The Multivariate ENSO Index (MEI) remains deep into La Niña territory and [odds are around 50/50](about:blank) for it to continue into late summer. One thing that is different about our model over other models is we don’t directly use ENSO projections in our forecast, rather we balance what ENSO is doing with sea surface temperatures in the Atlantic via the Atlantic Multidecadal Oscillation (AMO) (see references below for more information). The AMO – which measures the whole North Atlantic, not just the tropics – was high enough that it turned off the ENSO variable in our model.

We look at the Atlantic zonal pseudo-wind stress (PSU) in the North Atlantic but focus on different regions for the hurricane model than other models. The data are close to, though slightly lower than, average in the hurricane model, which would tend to discourage hurricane activity, and a little above average for the other models which would encourage activity.

Since we first started issuing hurricane outlooks in 2014, the average errors have stayed very close to what we reported in both Davis et al. (2015) and Davis and Zeng (2019). For hurricanes, our average prediction error is 1.9 hurricanes. Since 2017, when we started issuing forecasts for ACE and major hurricanes, our average error has been 30.0 units and 0.4 major hurricanes. For named storms, for which we started issuing predictions in 2019, our average error has been 5.7 named storms. This number is so high because we only have three years of errors and 2020 was a record-breaking year.

Reference: Kyle Davis, Xubin Zeng, and Elizabeth A. Ritchie, 2015: A New Statistical Model for Predicting Seasonal North Atlantic Hurricane Activity. Wea. Forecasting, 30, 730–741, doi: 10.1175/WAF-D-14-00156.1

Davis, K. and X. Zeng, 2019: [Seasonal Prediction of North Atlantic Accumulated Cyclone Energy and Major Hurricane Activity.](about:blank) Wea. Forecasting, 34, 221–232,[https://doi.org/10.1175/WAF-D-18-0125.1](about:blank)

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