



University of Missouri – Atlantic Ocean Basin Tropical Forecast 2019*

	Predicted	Actual	Difference
<i>Number of Named Storms:</i>	<i>13</i>	<i>18</i>	<i>(-28%)</i>
<i>Tropical Storms:</i>	<i>6</i>	<i>12</i>	<i>(-50%)</i>
<i>Category 1-2:</i>	<i>5</i>	<i>3</i>	<i>(+67%)</i>
<i>Category 3-5:</i>	<i>2</i>	<i>3</i>	<i>(-33%)</i>
<i>Regional (where they will form):</i>			
<i>West Atlantic (to 45° W):</i>	<i>6</i>	<i>9</i>	<i>(-33%)</i>
<i>East Atlantic (to 45° W):</i>	<i>1</i>	<i>4</i>	<i>(-75%)</i>
<i>Gulf of Mexico:</i>	<i>4</i>	<i>5</i>	<i>(-20%)</i>
<i>Caribbean:</i>	<i>2</i>	<i>0</i>	<i>(overforecast)</i>

*Post Mortem: Counts all the named storms. Hybrid or subtropical storms are not part of the forecast, nonetheless we count them which makes the numbers look a little worse. There were two of these in 2019, Andrea and Rebekah both in the West Atlantic. Take out those two storms, and the forecast looks quite a bit better. Even so, the number of total hurricanes was well forecast: six occurred seven were forecast. There were more tropical storms than forecast and this led to a under forecast in all regions, except the Caribbean. The East Atlantic was the worst regional forecast. However, the general regional pattern was correct, more storms in the West Atlantic and Gulf.

In 2018 – 2019, we went into a weak El Nino. This year, the models project the Eastern Tropical Pacific to remain in warm-neutral to weak El Niño sea surface temperatures (SSTs). The El Niño of 2018-19 has been persistent. Previous research has demonstrated a correlation toward fewer Atlantic region storms during El Nino conditions. This is due to the development of midAtlantic subtropical shear, and this year the Atlantic may have some potential for this shear to develop. Also, based on the previous 90-day evolution of the Madden Julian (MJO) / Intraseasonal Oscillation (ISO), the MJO has weakened substantially and models are projecting this to stay weak for the next 14 days. It could emerge in the Eastern Atlantic or Indian Ocean. It seems to have a

strong 45-day cycle as well. This would project the MJO to be less influential at peak tropical cyclone time. We also used the climatological contingencies / analogs from previous studies by this group. These studies show that there are generally more storms during the negative phase of the PDO and there is some ENSO variability during this PDO phase. . The one caveat is that multiple analogs, and seasonal models, are foreshadowing warming in the subtropical Atlantic. This is reflected by our forecast of the Gulf of Mexico and Western Atlantic tropical systems being 76% of the total named storms. Additionally, the previous two decades have been quite active compared to the entire climatological record. This year's forecast is basically the same as last year's or persistence. Forecast submitted by Jordan Rabinowitz, Brendan Heaven, Joe Renken, and Anthony R. Lupo