CCU scientists predict more tropical storms, hurricanes for 2018

BY MICHAELA BROYLES

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Heavy rain from Subtropical Storm Alberto brought flash flooding to northern South Carolina and southern North Carolina on Memorial Day. The National Weather Service is forecasting a chance of showers every day though next Monday. BY NOAA

The 2018 Atlantic Hurricane season is just days away, and scientists at Coastal Carolina University predict it may be a bit busier than last year.

Researchers with the Hurricane Genesis & Outlook (HUGO) Project at CCU anticipate a "slightly above average" season this year and predict there will be a range of 11 to 18 named tropical storms, with 15 most likely, according to Paul Gayes, a member of the HUGO team.

Last year, the team initially predicted 8 to 14 named storms, but later increased that range in August.

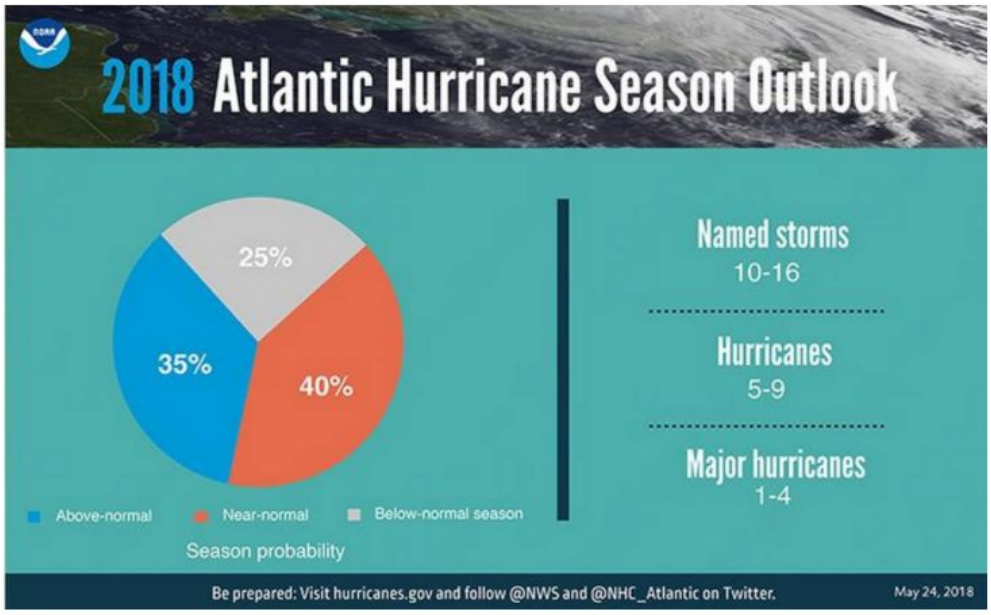
Hurricane season runs June 1 to Nov. 30 and the HUGO team predicts five to nine named storms — seven being most likely — will become hurricanes this season.

The Hurricane Genesis & Outlook team at CCU are predicting 11-18 named tropical storms with 5-9 of those becoming hurricanes, and 2-5 becoming major hurricanes. Team members explain why they think their model is very accurate. BY JASON LEE

Of those, they believe two to five, with three most likely, will become major hurricanes.

The HUGO outlook model, which has been "highly" accurate at predicting storms in the past, varies slightly in ranges compared to the National Oceanic Atmospheric Administration's predictions released last week.

Forecasters with NOAA's Climate Prediction Center predict 10 to 16 named storms, with five to nine of those becoming hurricanes.



The 2018 Atlantic Hurricane season outlook - Courtesy NOAA

When it comes to major hurricanes — categories 3, 4 or 5 — NOAA forecasters predict the season will have one to four of them.

As far as landfall probability, the HUGO team anticipates a range of zero to two for both the East Coast and Gulf Coast.

The most probable scenario, Gayes said, calls for at least two hurricane landfalls — one on the East Coast and one on the Gulf Coast.

"The realities are, in the tropical season, any given storm can find its way. These are probabilistic numbers," he added.

The second most likely scenario is that no hurricanes will make landfall on either coast and the third most likely scenario is that two will make landfall on the East Coast and two on the Gulf Coast.

"With that uncertainty that's out there in general, always be prepared. Be vigilant," Gayes said. "These are very dangerous storms and we really need to be mindful of them. The worst case scenario is you're prepared and nothing happens. The very worst case scenario is you're not prepared and something does."

WHAT MAKES CCU'S HUGO MODEL 'HIGHLY' ACCURATE?

The HUGO outlook model is based on calculations of 22 climatological factors involving oceanic, atmospheric and shoreline activity, according to Gayes.

"The methodology that comes behind it is one where there is 22 climate variables, each has some influence on these tropical systems, both in their formation and their tracking," he explained. "Those were then statistically related to all of the past behavior of hurricanes in historic records through NOAA."

By considering the detailed data from past Atlantic hurricanes dating back to 1950, it has produced "highly" accurate track predictions, Gayes said.

Coastal Carolina's Paul T. Gayes, Ph.D., talks about his teams Hurricane predications for the 2018 storm season. Tuesday, May 29, 2018. JASON LEE *JLEE@THESUNNEWS.COM*

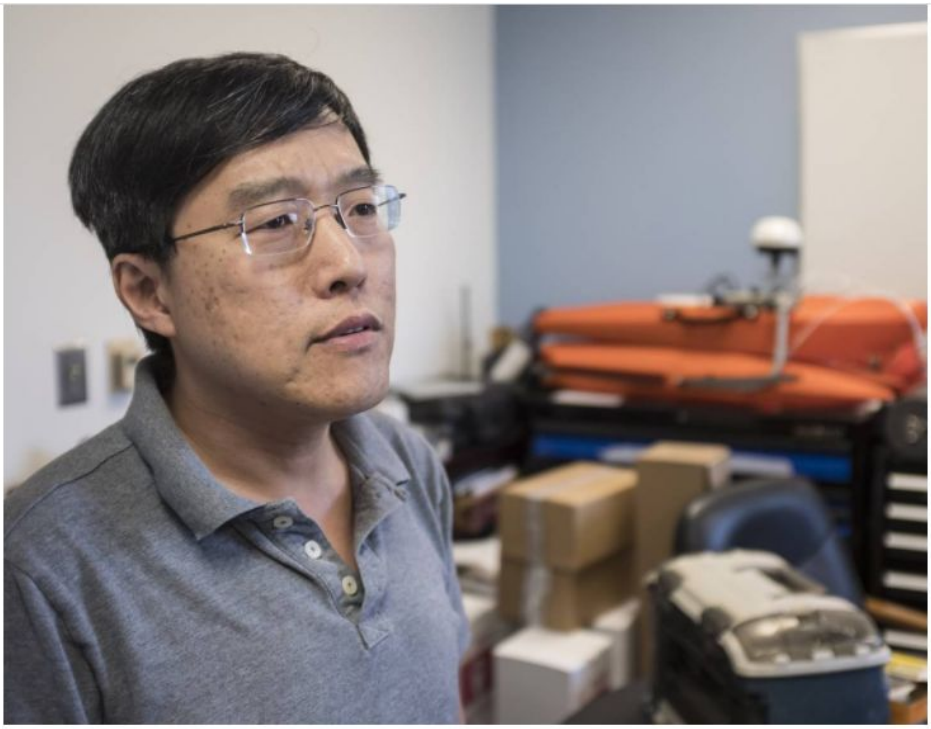
"The projection over time, as we've gone back and validated this against the historical record, has been very promising," he added.

The HUGO model differs from most other hurricane prediction instruments in that it offers landfall probability information and will even predict the track and intensity of any incoming hurricane five days away from landfall.

The HUGO team has been producing outlooks for about three years.

Information from CCU's website says the 2016 and 2015 outlooks were correct in almost every category, including the number of named storms, number of major hurricanes and landfalls on both the East Coast and Gulf Coast.

"The 2015 outlook correctly forecast a most likely scenario that no hurricanes would make landfall on either the East or Gulf coasts and also accurately forecast the number of hurricanes at 4," the website states. "The 2016 forecasts for all numbers were spot on, including 1 landfall on the Gulf Coast (Hermine) and 1 on the East Coast (Matthew)."



Coastal Carolina's Shaowu Bao a assistant professor in Coastal's Marine Systems Science program explains the hurricane forecast model that he helped develop.Tuesday, May 29, 2018. JASON LEE *JLEE@THESUNNEWS.COM*

Bao said the HUGO team's work is significant because their projections can help the public prepare for the worst.

"It is very important because accurate predictions of the track of the storms and hurricanes can make people easier prepare for the disasters," he said.

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