



® Weather Research Center

5090 Richmond #467 Houston, Texas 77056 Phone: 713-529-3076 E-mail: wrc@wxresearch.org

2015 ATLANTIC HURRICANE OUTLOOK VERIFIES EARLY WITH LANDFALL OF TROPICAL STORM ANA ON MAY 10th, 2015

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For more information call: 713-818-9346

Email: wrc@wxresearch.org

HOUSTON, TEXAS USA – Weather Research Center President Jill F. Hasling, CCM using WRC's Cyclone Strike Index [CSI] predicted that the east coast of the United States from Georgia to Maine had the highest risk of experiencing landfall of a tropical storm or hurricane in 2015. This verified early with the landfall Tropical Storm Ana on May 10th along the Carolina Coast which had the highest risk of experiencing a tropical storm or hurricane landfall. Ana formed on an old frontal boundary and was the earliest tropical cyclone to make landfall on record. The only other US landfall during 2015 was Tropical Storm Bill on the Texas coast June 16th along Matagorda Island.

Ms. Hasling also predicted a below average hurricane season for 2015 based on WRC's Cyclone Strike Index [CSI]. This season's outlook predicted 7 to 10 named tropical cyclones [tropical storm or hurricane], with 4 intensifying into hurricanes in the Atlantic. In fact, there were 12 named storms this year with 4 intensifying into hurricanes, Danny, Fred, Joaquin and Kate.

There was a 30% chance of at least one of these hurricanes intensifying into a major hurricane [Category 3, 4 or 5 on the Saffir/Simpson Scale]. Danny and Joaquin intensified into category 3 and 4 hurricanes on the Saffir/Simpson Scale.

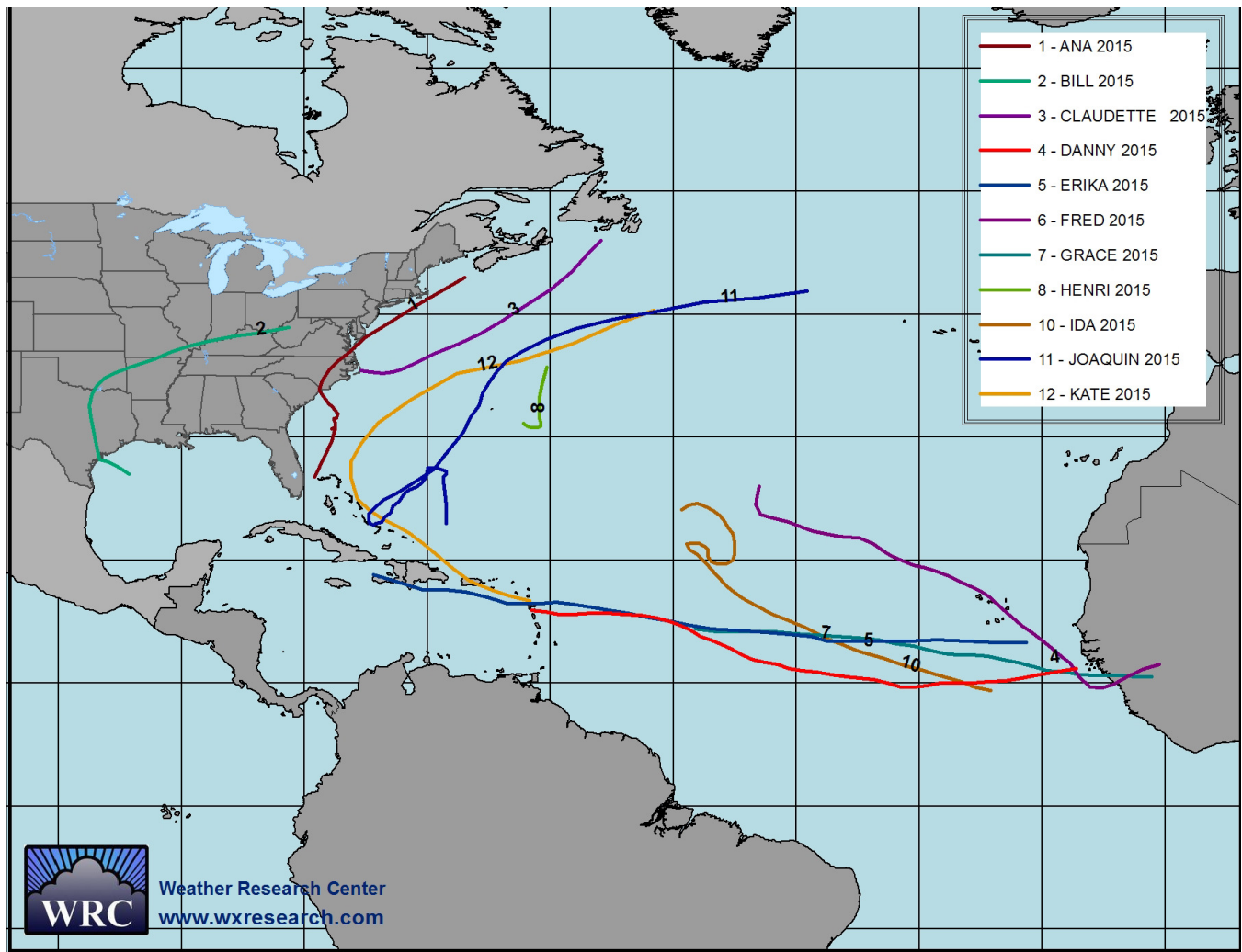
The average number of tropical cyclones in the Atlantic each year is 12, with 6 intensifying into hurricanes, and 3 of these hurricanes becoming major hurricanes. The CSI also showed that this could be a long hurricane season with a 18% chance of having a named tropical cyclone in May and 40% chance of experiencing a named tropical cyclone in November. This verified with Tropical Storm Ana forming May 8th and Hurricane Kate forming on November 9th.

Table 1 compares the risk of tropical Cyclone landfalls on sections of the North America coastline and Gulf of Mexico oil leases based on the CSI in 2015. The risk, based on climatology [1871-1985], for each section of the coast and the Gulf of Mexico Oil Leases is also given for comparison. Climatology gives the risk of a tropical cyclone making landfall on the section of US coast indicated in any year.

Table 1: 2015 CSI HURRICANE OUTLOOK

<u>COAST</u>	<u>CSI</u>	<u>CLIMATOLOGY</u>	<u>2015</u>
Gulf of Mexico - Offshore	90%	85%	Bill
Texas	40%	51%	Bill
Louisiana to Alabama	40%	59%	
West Florida	50%	71%	
East Florida	30%	41%	
Georgia to N. Carolina	70%	56%	Ana
East Coast of US	70%	36%	
Mexico	30%	40%	
<u>OTHER PREDICTORS</u>		<u>CSI</u>	
Number of Named Storms	7-10		11
Number of Hurricanes	5		4
Number of Hurricane Days	21		16
Number of Tropical Storms Days	50		39
US Landfalls	3		2
Category 3, 4, 5 Hurricanes	30%		Danny, Joaquin

The section of the US coast with the highest risk of experiencing a named tropical cyclone was the section of coast from Georgia to Maine. This forecast verified in May with the landfall of Tropical Storm Ana. The figure below are the tracks of the 2015 Atlantic tropical cyclones. No hurricane made landfall along the United States coast line making it a quiet season for the US.



Below is the outlook for the 2016 Atlantic Hurricane Season which will start June 1st and run through November 30, 2016. 2016 is in Phase 9 of the CSI. The years that make up Phase 9 of the CSI are 1878, 1886, 1897, 1909, 1921, 1931, 1941, 1952, 1962, 1972, 1984, 1994, and 2004. Phase 9 calls for a 90% probability of a named tropical cyclone impacting the Gulf of Mexico Offshore Leases. There is a 70% chance that a named storm will make landfall along the west coast of Florida and a 60% chance a tropical storm or hurricane will make landfall along the Texas Coast. The secondary predictors of the index call for 7 to 10 named tropical cyclones forming in the Atlantic with 4 of these cyclones intensifying into hurricanes. Three of the tropical cyclones are expected to make landfall. There is also a 60% chance that one of the hurricanes will intensify into a category 3 or higher hurricane somewhere in the Atlantic. Also looks like the season could start off early in June with a 45% chance of a named cyclone in June and continue through December which has a 9% chance of named cyclone forming in the Atlantic.

Table 2: 2016 CSI HURRICANE OUTLOOK

<u>COAST</u>	<u>CSI</u>	<u>CLIMATOLOGY</u>
Gulf of Mexico - Offshore	90%	85%
Texas	60%	51%
Louisiana to Alabama	40%	59%
West Florida	70%	71%
East Florida	30%	41%
Georgia to N. Carolina	40%	56%
East Coast of US	20%	36%
Mexico	50%	40%
 <u>OTHER PREDICTORS</u>	 <u>CSI</u>	
Number of Named Storms	7-10	
Number of Hurricanes	4	
Number of Hurricane Days	16	
Number of Tropical Storms Days	55	
US Landfalls	3	
Category 3, 4, 5 Hurricanes	60%	

These outlooks have been made since 1985 and in only 4 years [1987, 2006, 2010, and 2014] there was not a landfall in the section designated with the highest risk. Of these 4 only 1 year did not have a landfall in the second highest risk coast and that was 2014. So for 31 years with 4 years not verifying for the highest risk and only 1 year missing for the second highest risk coast line making our verification score 87% for highest risk section and a score of 97% when you take into account the coastlines with the second highest risk for the Cyclone Strike Index Outlooks.

For further information or questions regarding the hurricane outlook, please do not hesitate to contact Jill Hasling, CCM at wrc@wxresearch.org or 713-529-3076

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