Department of Emergency Services and Public Protection
Division of Emergency Management and Homeland Security

James C. Rovella
Commissioner

Regina Y. Rush-Kittle
Deputy Commissioner

FORECASTING IMPROVEMENTS AND THE 2021 HURRICANE SEASON

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Division of Emergency Management and Homeland Security

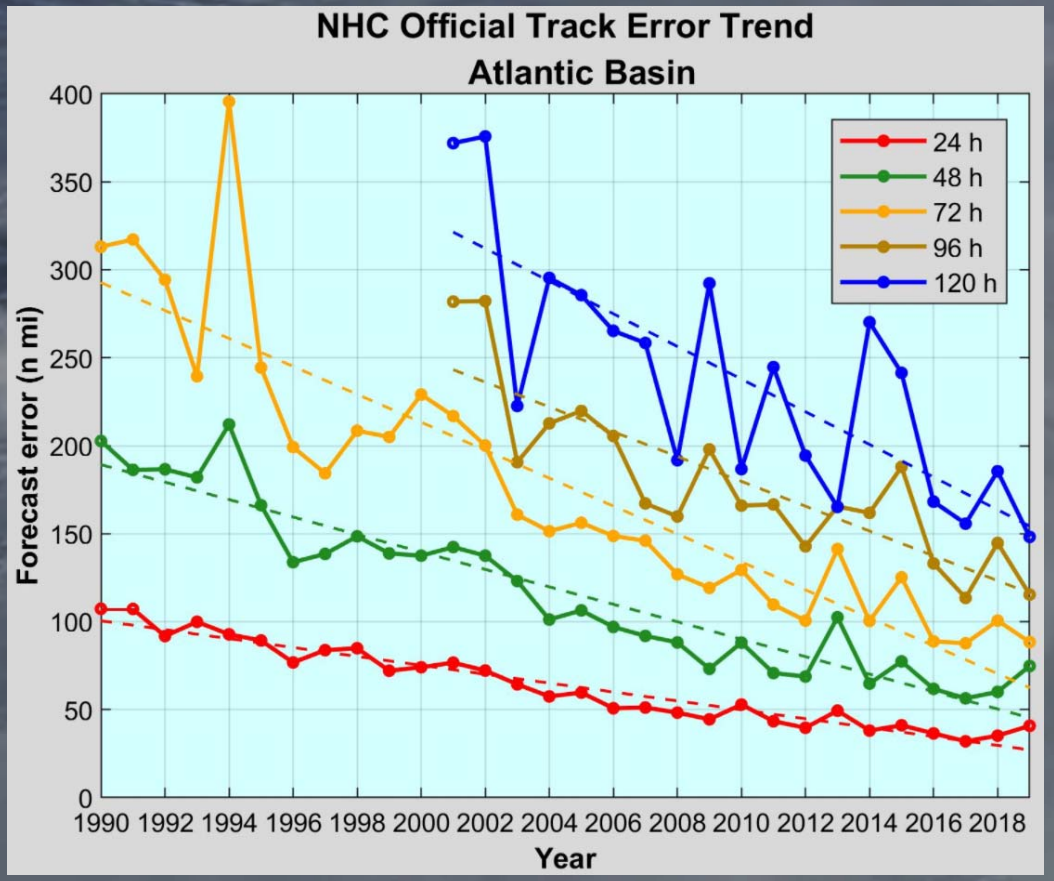
June 14, 2021

NOAA / Colorado State

TRACK FORECASTING IMPROVEMENTS

During the past 30 years the National Hurricane Center (NHC) has made significant improvements in track forecasting for hurricanes. The average track error for a 3-day forecast (see yellow dashed line) back in 1990 was approximately 300 miles. In 2020 the average track error had shrunk to only 60 miles.

In fact, the 3-day forecast today is more accurate than the 1-day forecast was back in 1990.



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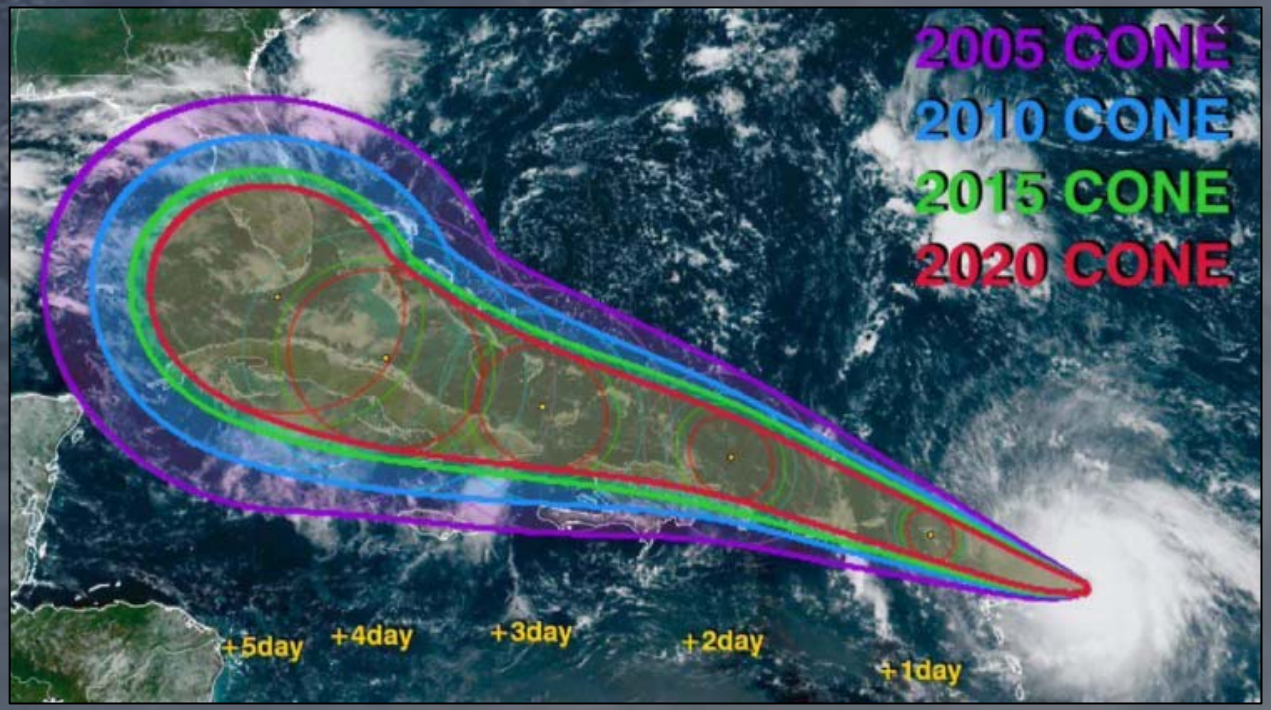
SMALLER ERROR CONE

Improvements in track forecasting for hurricanes have meant that the NHC has been able to shrink the error cone significantly. The depiction below shows the steadily shrinking size of the error cone since 2005.

The error cone represents the area to which 66% of forecasts fall within. In other words, 2/3rd's of hurricane forecasts will stay within the error cone. The error cone is almost half the size it was in 2005.

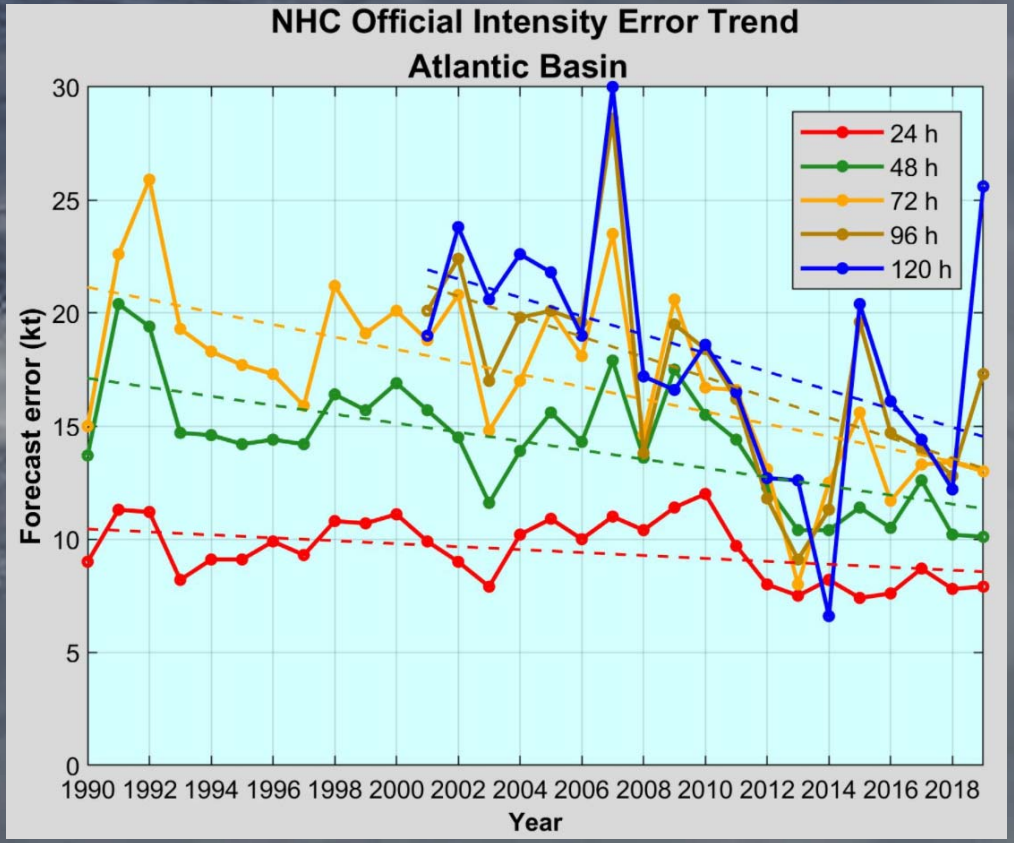


June 14, 2021

INTENSITY FORECASTING IMPROVEMENTS

Intensity forecasting has not seen as much improvement. The average intensity error for a 3-day forecast back in 1990 was approximately 21 knots (see yellow dashed line). In 2020 the average intensity error had shrunk to around 13 knots.

The main reason that the intensity forecasts have not improved as quickly is because forecasting intensity relies on some variables such as water temperature, air moisture, and atmospheric instability that are more difficult to measure out over the open ocean.



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2021 HURRICANE FORECAST

HURRICANE RETURN PERIODS IN CONNECTICUT

(Not Including Hybrid Storms Such as Sandy)

CATEGORY	WINDS	RETURN PERIOD	LAST OCCURRED	OVERDUE
CAT. I	74-95 MPH	18 Years	1985	18 years Overdue
CAT. II	96-110 MPH	40 Years	1985	In 4 Years
CAT. III	111-130 MPH	70 Years	1954	In 3 Years
CAT. IV	131-155 MPH	155 Years	< 1851	15 Years Overdue
CAT. V	> 155 MPH	400 Years	< 1851	In 240 Years

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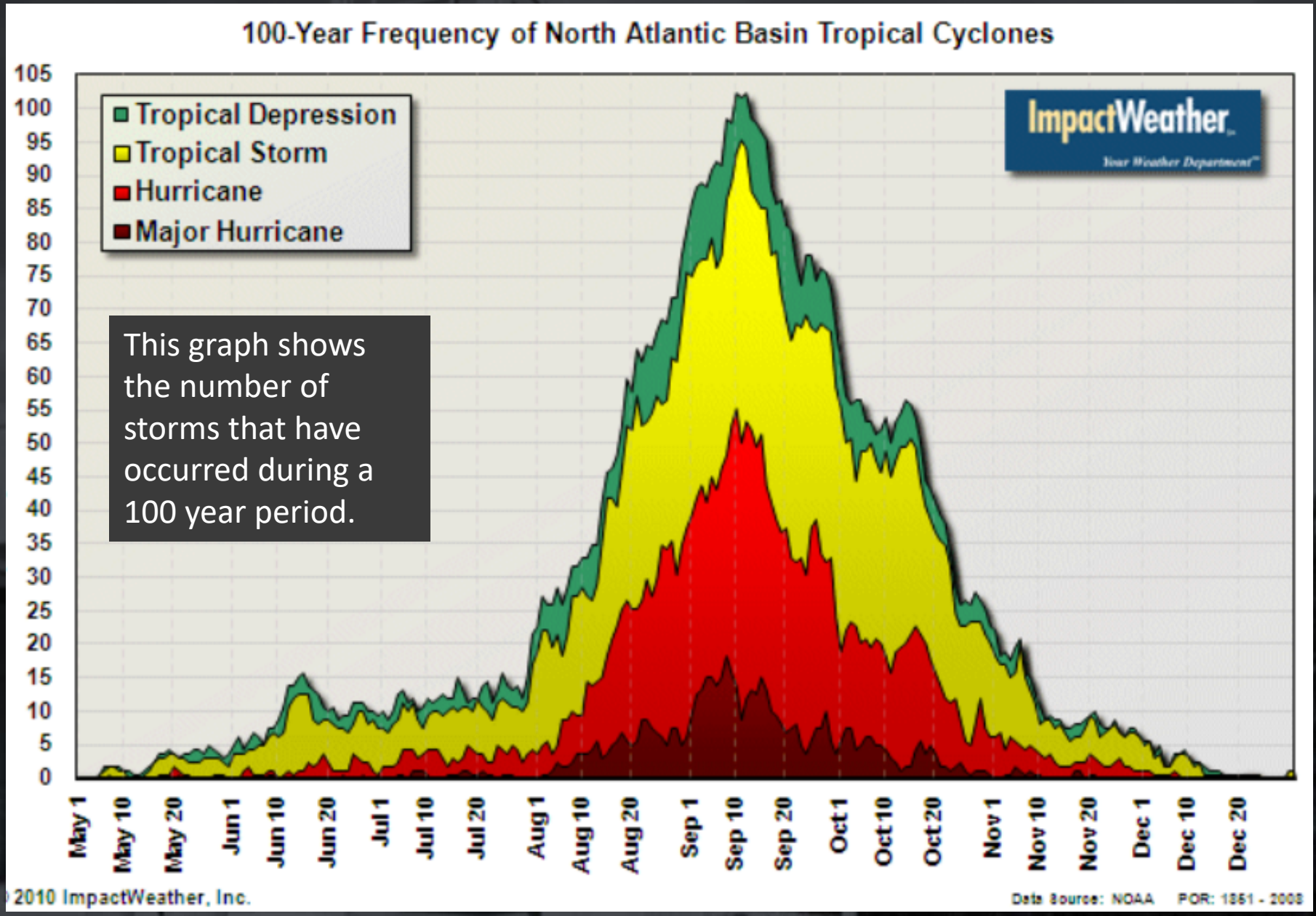
2021 HURRICANE FORECAST

NAMES FOR THE 2021 HURRICANE SEASON

Anna	Henri	Odette
Bill	Ida	Peter
Claudette	Julian	Rose
Danny	Kate	Sam
Elsa	Larry	Teresa
Fred	Mindy	Victor
Grace	Nicholas	Wanda


100-Year Frequency of North Atlantic Basin Tropical Cyclones
Tropical Depression
Tropical Storm
Hurricane
Major Hurricane
ImpactWeather
Your Weather Department
This graph shows the number of storms that have occurred during a 100 year period.
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
May 1
May 10
May 20
Jun 1
Jun 10
Jun 20
Jul 1
Jul 10
Jul 20
Aug 1
Aug 10
Aug 20
Sep 1
Sep 10
Sep 20
Oct 1
Oct 10
Oct 20
Nov 1
Nov 10
Nov 20
Dec 1
Dec 10
Dec 20
2010 ImpactWeather, Inc.
Data Source: NOAA POR: 1851 - 2008

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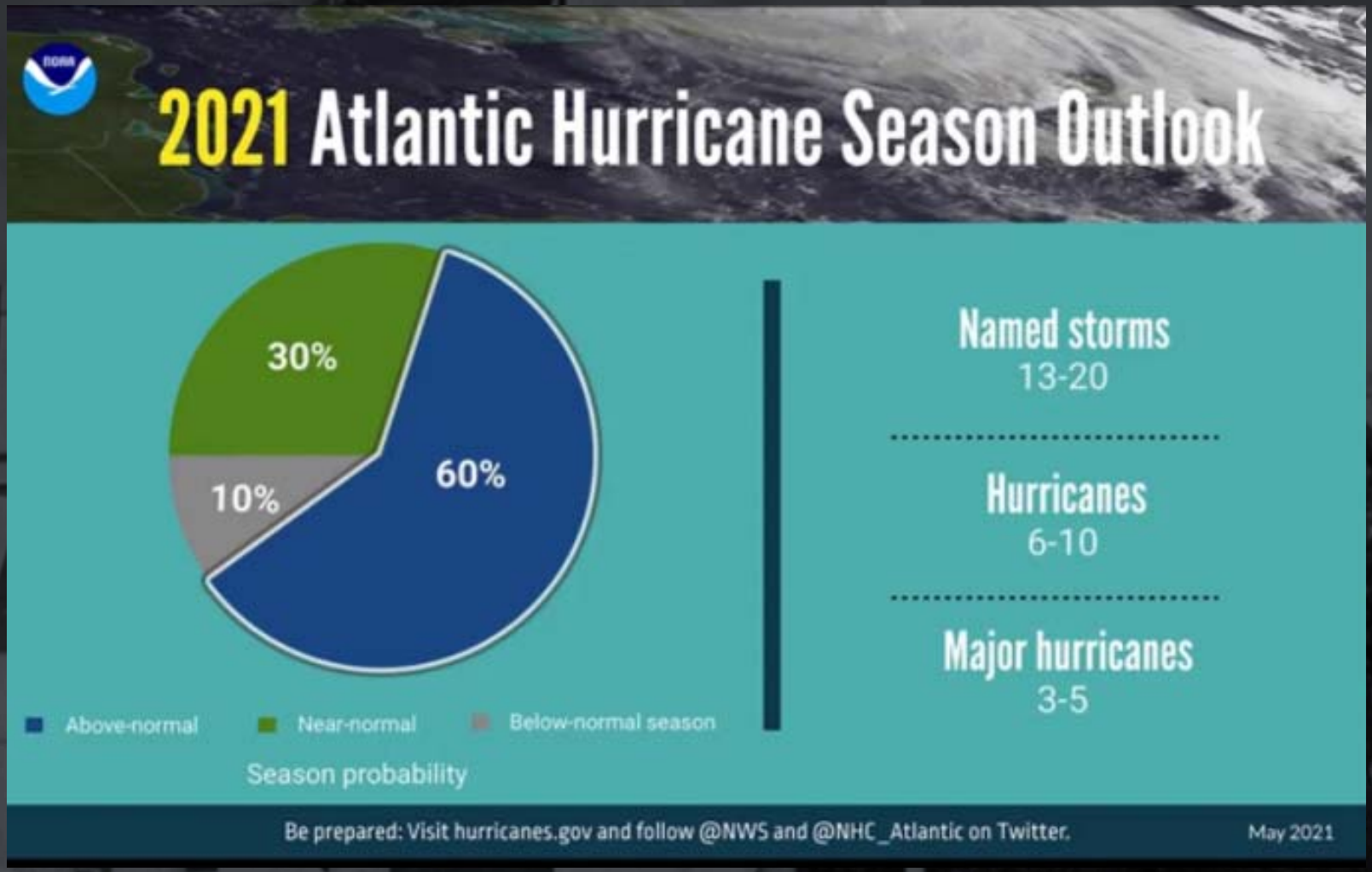

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2021 HURRICANE FORECAST

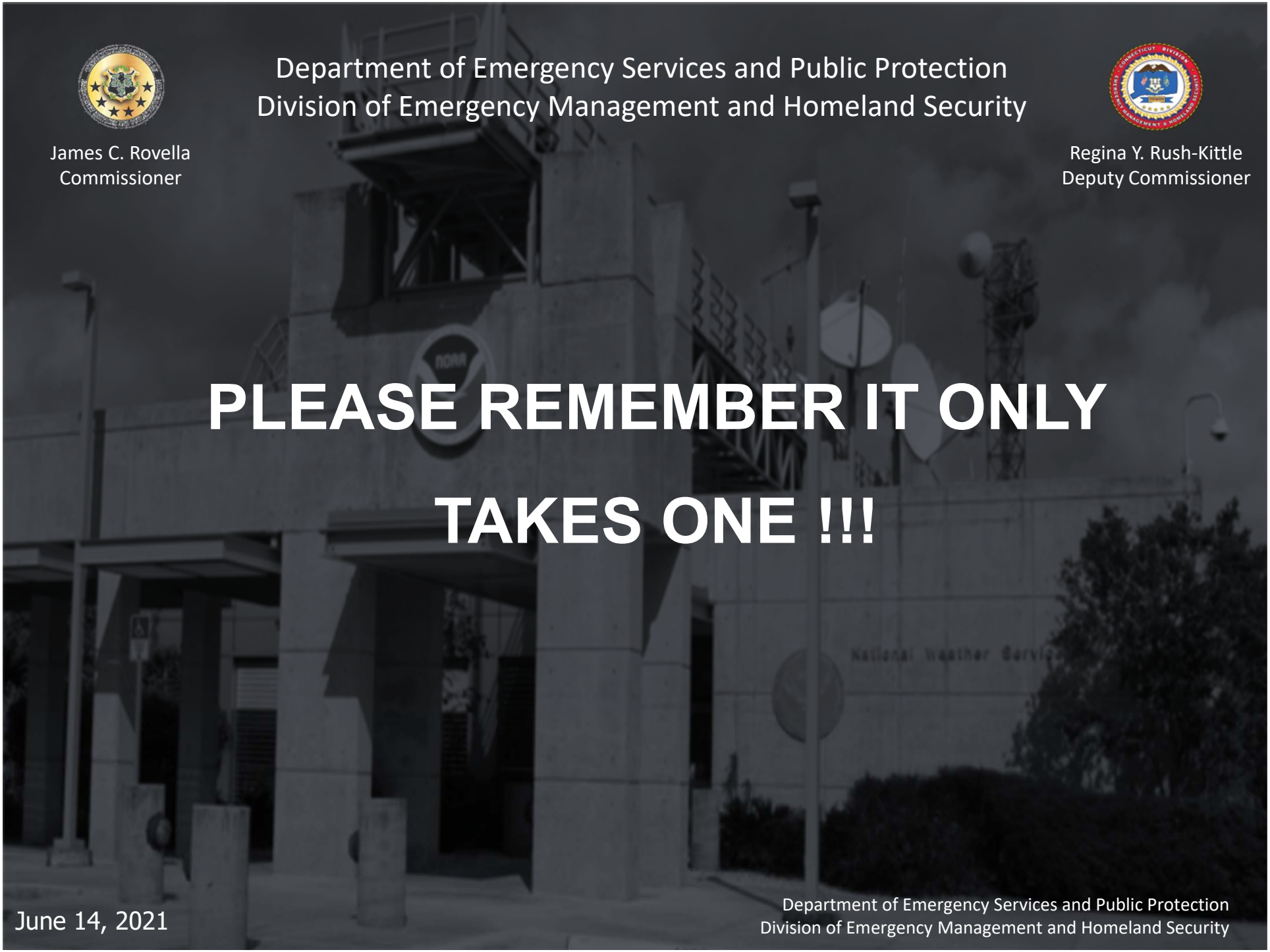
COLORADO STATE UNIVERSITY

JUNE 1ST - NOVEMBER 30TH

Updated on June 8, 2021

CATEGORY	# OF STORMS	NORMAL	% of Normal	
NAMED STORMS	18	12.1	149%	
HURRICANES	8	6.4	125%	
INTENSE HURRICANES*	4	2.7	148%	
TROPICAL CYCLONE ACTIVITY	149%	116%		
MAJOR HURRICANE STRIKE PROBABILITIES				
EAST COAST	45%	31%		Florida to Maine
GULF COAST	44%	30%		Texas to Florida

* Category III and Above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PLEASE REMEMBER IT ONLY
TAKES ONE !!!
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