

## Current Watches and Warnings

A *Hurricane Warning* is in effect for eastern Nova Scotia from Hubbards to Avonport

A *Storm Surge Warning* is in effect from Salter Path, NC to the North Carolina/Virginia border; Pamlico and Albemarle Sounds (NC)

A *Hurricane Watch* is in effect for southwestern Nova Scotia from Avonport to Hubbards; Prince Edward Island; Magdalen Islands; southwestern Newfoundland from Parson's Pond to Indian Harbour

A *Tropical Storm Warning* is in effect from the North Carolina/Virginia border to Fenwick Island, DE; Chesapeake Bay from Drum Point southward; Woods Hole to Sagamore Beach, MA; Nantucket and Martha's Vineyard, MA; East of Bar Harbor to Eastport, ME; Prince Edward Island; southwestern Nova Scotia from Avonport to Hubbards

A *Tropical Storm Watch* is in effect from Fundy National Park to Shediac; Parson's Pond to Triton; Indian Harbour to Stone's Cove (Canada)

## Current Details from the National Hurricane Center (NHC)

**COORDINATES:** 36.9° north, 72.7° west

**LOCATION:** 715 miles (1,145 kilometers) southwest of Halifax, Nova Scotia

**MOVEMENT:** northeast at 24 mph (39 kph)

**WINDS:** 90 mph (150 kph) with gusts to 115 mph (185 kph)

**RADIUS OF TROPICAL STORM-FORCE WINDS:** 230 miles (370 kilometers)

**RADIUS OF HURRICANE-FORCE WINDS:** 80 miles (130 kilometers)

**MINIMUM CENTRAL PRESSURE:** 958 millibars

**SAFFIR-SIMPSON SCALE RANKING\*:** Category 1

**1<sup>st</sup> LANDFALL LOCATION:** Elbow Cay, Great Abaco Island, Bahamas

**1<sup>st</sup> LANDFALL TIMEFRAME:** approximately 12:40 PM local time (16:40 UTC) September 1

**1<sup>st</sup> LANDFALL INTENSITY:** 185 mph (295 kph) – Category 5\*

\*Tied the 1935 Labor Day Hurricane as the strongest hurricane on record to make landfall in the Atlantic Ocean

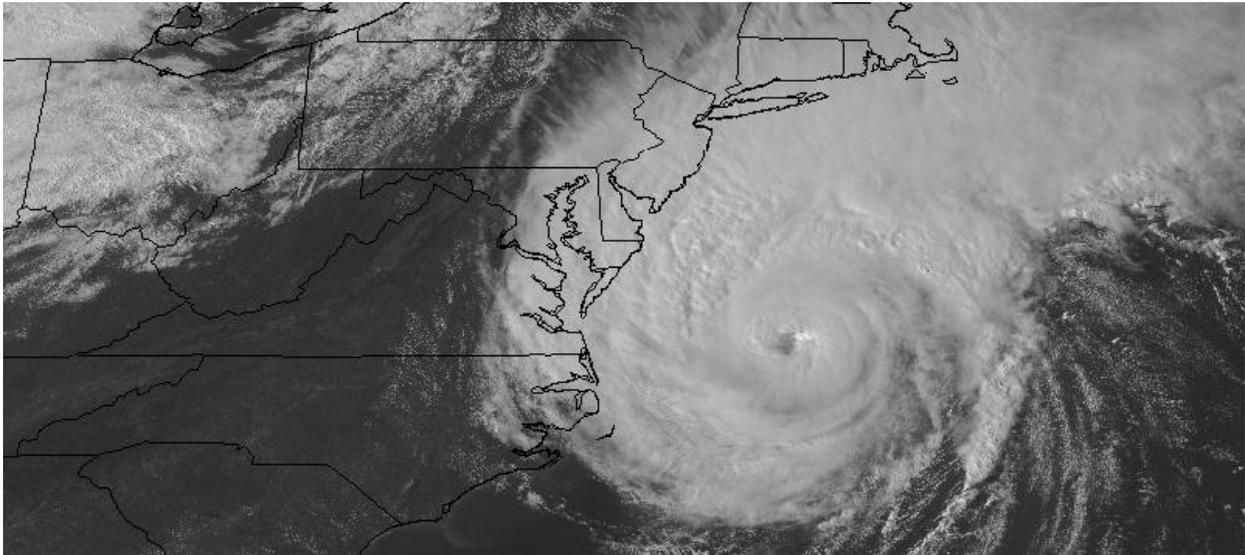
**2<sup>nd</sup> LANDFALL LOCATION:** Cape Hatteras, North Carolina

**2<sup>nd</sup> LANDFALL TIMEFRAME:** approximately 8:35 AM local time (12:35 UTC) September 6

**2<sup>nd</sup> LANDFALL INTENSITY:** 90 mph (150 kph) – Category 1

**24-HOUR LANDFALL POTENTIAL:** HIGH – Nova Scotia, Canada

## Latest Satellite Picture



Source: NASA/NOAA

## Discussion

Hurricane Dorian, located approximately 715 miles (1,145 kilometers) southwest of Halifax, Nova Scotia, and is currently tracking northeast at 24 mph (39 kph). Dorian has become better organized since it moved into the Atlantic Ocean this morning, and satellite imagery shows that it now has a well-defined eye embedded in a central dense overcast with a large outer banding features near the core. The last aircraft data earlier this afternoon indicated this had not yet resulted in intensification. However, various satellite intensity estimates are trending upward, and the advisory intensity of 90 mph (150 kph) could be conservative.

The initial motion is now at a much quicker pace towards the northeast, and this fast track should maintain during the next 48 hours as it with a mid/upper level frontal boundary currently currently over the eastern U.S. Great Lakes. The computer model track guidance has changed little and remains tightly clustered, and the NHC has only made minor adjustments to the previous track. The NHC forecast track now calls for Dorian to pass well southeast of southern New England tonight and Saturday, and then move over Nova Scotia on Saturday or Saturday night. A continued northeastward motion is then expected to bring the cyclone across Newfoundland into the far north Atlantic Ocean.

There has been a significant change to the intensity forecast philosophy. The GFS (U.S.) and ECMWF (European) models, which had been forecasting Dorian to transition to a powerful extratropical low, now forecasts intensification of the system due to baroclinic processes associated with the aforementioned trough. Given that Dorian is currently a well-organized hurricane and will be south of the Gulf Stream for about the next 18 to 24 hours, it is likely that at least some of this strengthening will occur before Dorian becomes extratropical. The new intensity forecast now calls for Dorian to strengthen as a hurricane before undergoing a full extratropical transition as it passes near or over Nova Scotia and Newfoundland.

Dorian is likely to be a hurricane at landfall in Nova Scotia, but it will cause significant impacts even if it has completed extratropical transition by that time.

### Key Messages from the National Hurricane Center

1. Life-threatening storm surge and dangerous winds will continue along portions of the North Carolina coast for the next several hours.
2. Regardless of whether Dorian is a hurricane or a post-tropical cyclone, Dorian is expected to have a significant impact in portions of eastern Canada. Dangerous storm surge impacts are likely in portions of the Gulf of St. Lawrence, southwestern Newfoundland and eastern Nova Scotia this weekend. Hurricane-force winds are also likely in Nova Scotia, Prince Edward Island and possibly Newfoundland Saturday and Sunday. Refer to information from the Canadian Hurricane Centre for more information on these hazards.

### Additional Information

WIND: Tropical storm conditions will persist for a few more hours in the warning area over the Mid-Atlantic states. Tropical storm conditions are expected in the warning area over portions of extreme southeastern Massachusetts tonight or early Saturday, and in the warning area in Maine Saturday afternoon.

Regardless of whether Dorian is a hurricane or a post-tropical cyclone, hurricane conditions are expected in the Hurricane Warning area Saturday or Saturday night, and they are possible in the Hurricane Watch area Saturday or Saturday night. Tropical storm conditions are expected in the Tropical Storm Warning area in Canada by Saturday, and they are possible in the Tropical Storm Watch area Saturday and Saturday night.

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water could reach the following heights above ground somewhere in the indicated areas if the peak surge occurs at the time of high tide:

Salter Path to the North Carolina/Virginia border, including Pamlico and Albemarle Sounds: 2 to 4 feet

Water levels could begin to rise well in advance of the arrival of strong winds. The surge will be accompanied by large and destructive waves. Surge-related flooding depends on how close the center of Dorian comes to the coast, and can vary greatly over short distances.

Storm Surge is likely in the Gulf of St. Lawrence, the Southwest Coast of Newfoundland, and Eastern Nova Scotia.

RAINFALL: Dorian is expected to produce the following rainfall totals through Saturday:

Extreme Southeastern New England and far eastern Maine: 1 to 4 inches

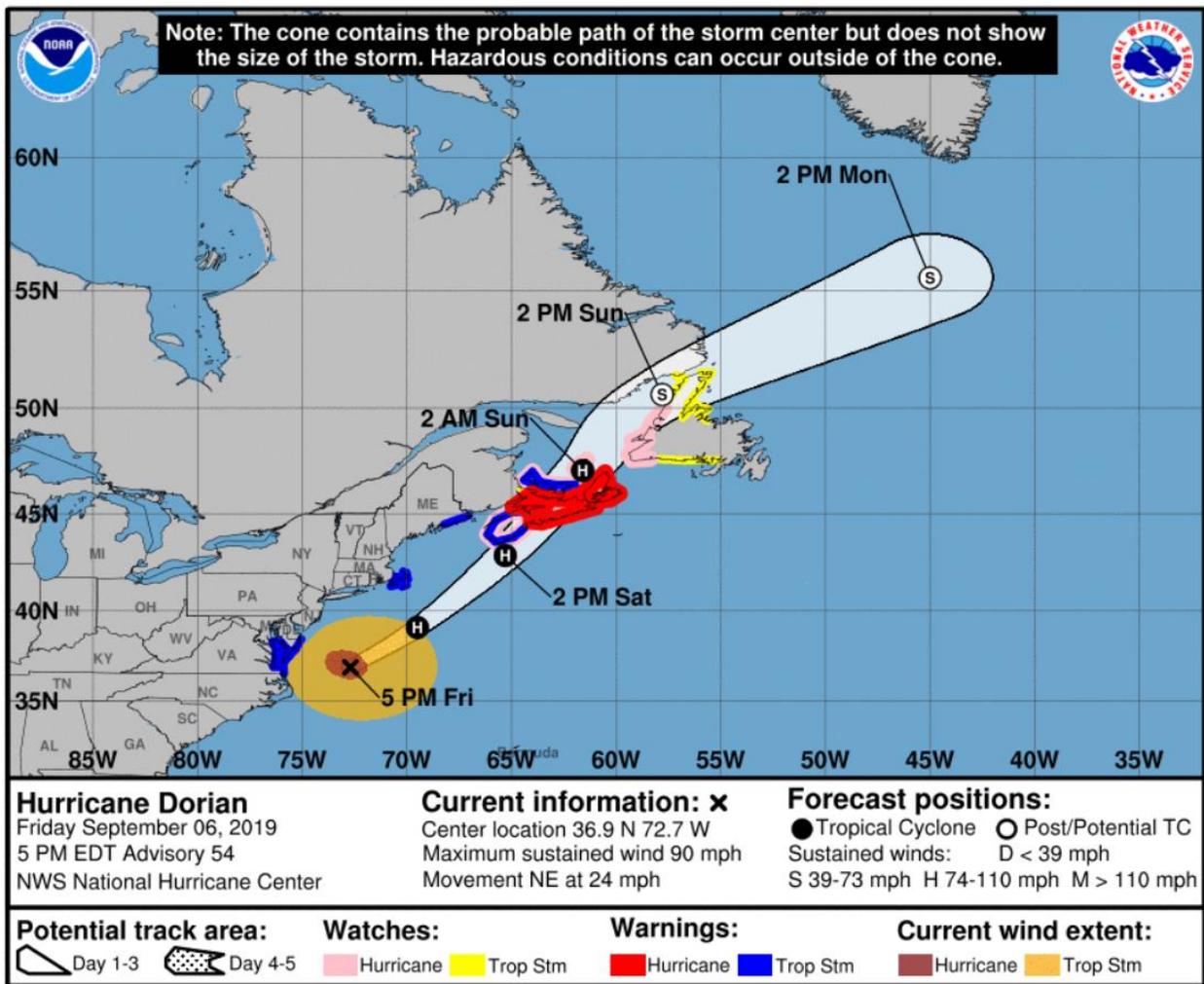
Nova Scotia: 3 to 5 inches, isolated 7 inches

New Brunswick and Prince Edward Island: 2 to 4 inches

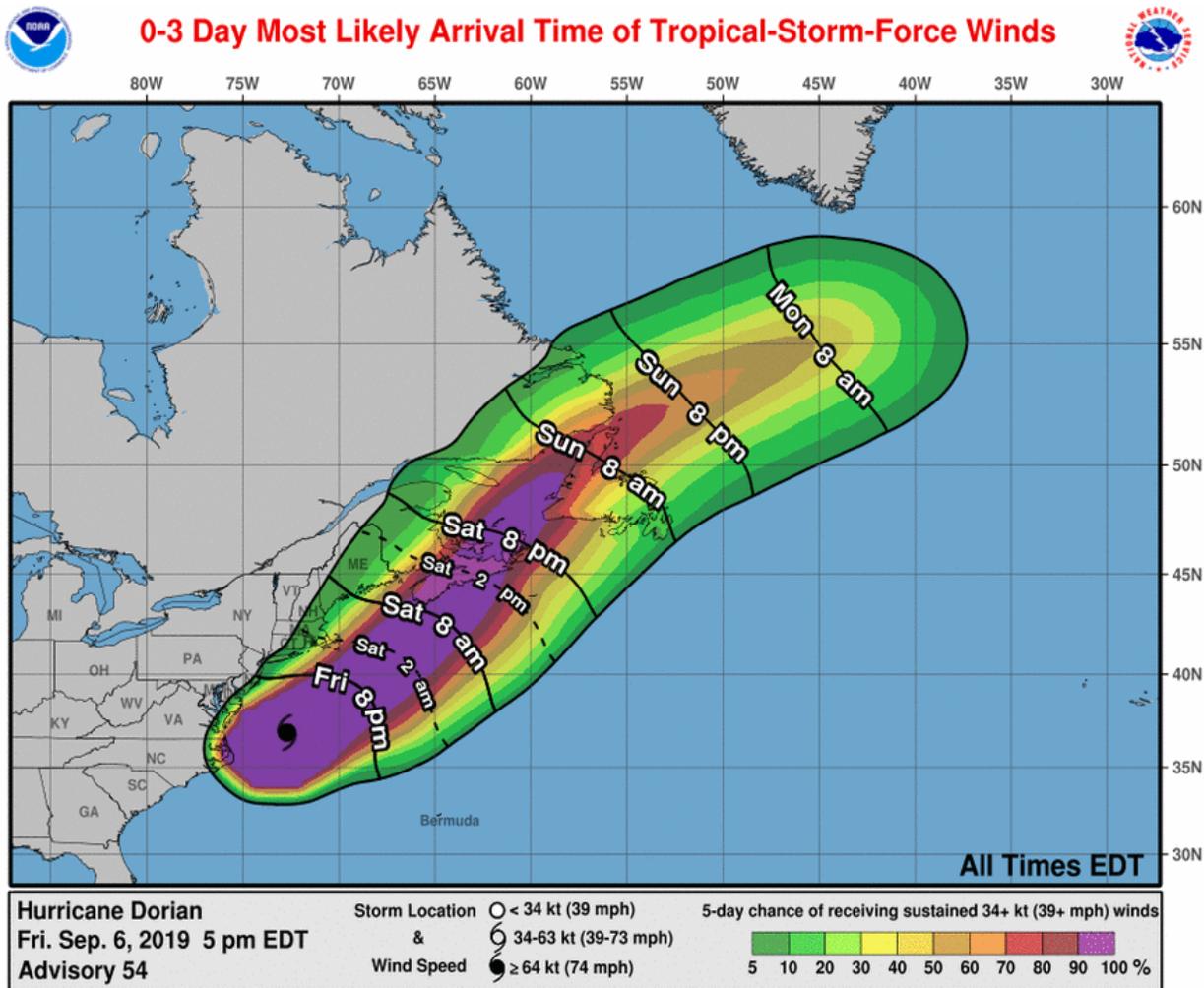
Newfoundland: 1 to 2 inches

SURF: Large swells will affect much of the southeastern United States coast from northern Florida through North Carolina during the next couple of days. These swells are likely to cause life-threatening surf and rip current conditions.

# National Hurricane Center Forecast

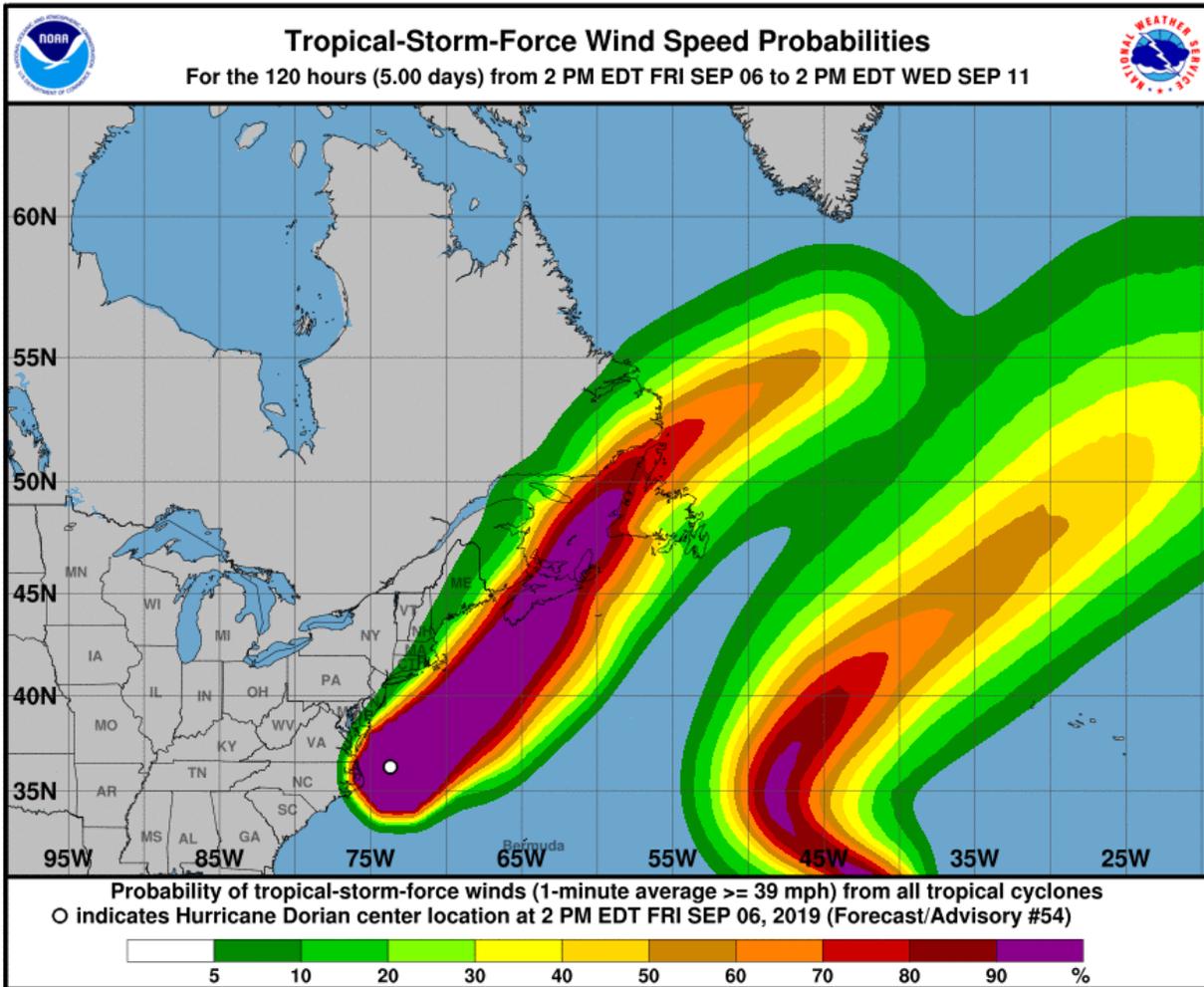


# Most Likely Arrival Time of Tropical Storm-Force Winds

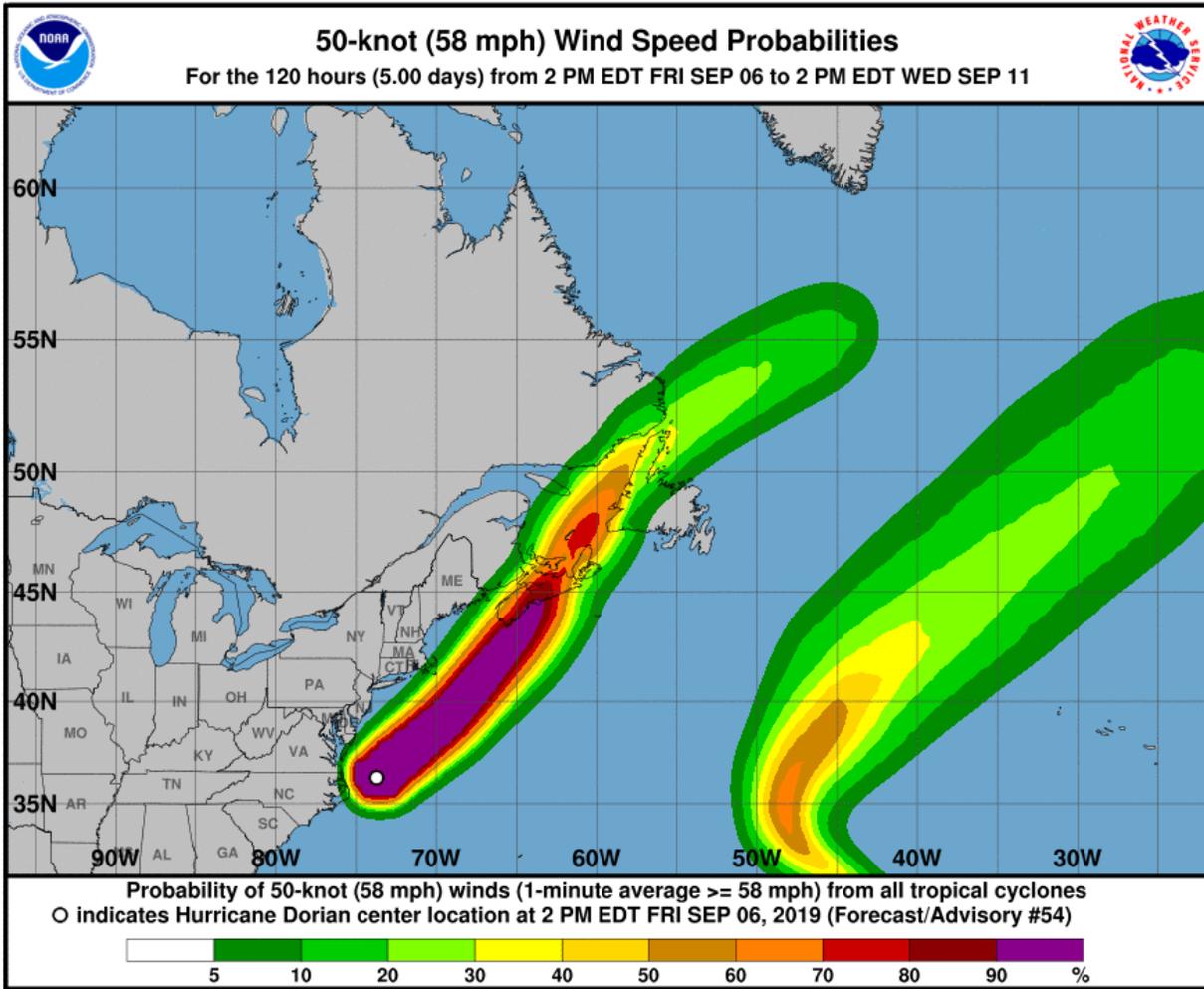


# National Hurricane Center: Wind Speed Probabilities

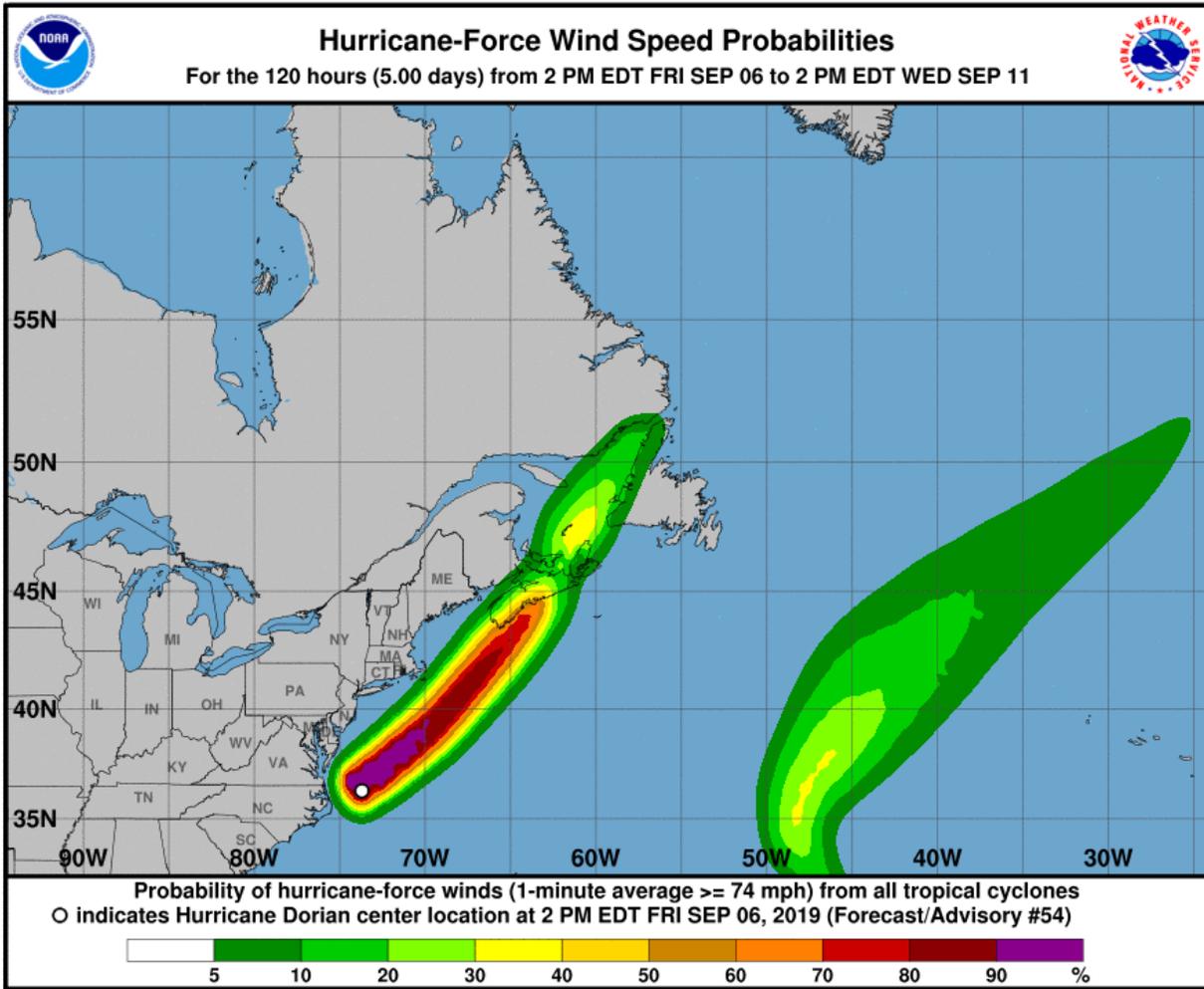
## Tropical Storm-Force Wind Probabilities ( $\geq 40$ mph (65 kph))



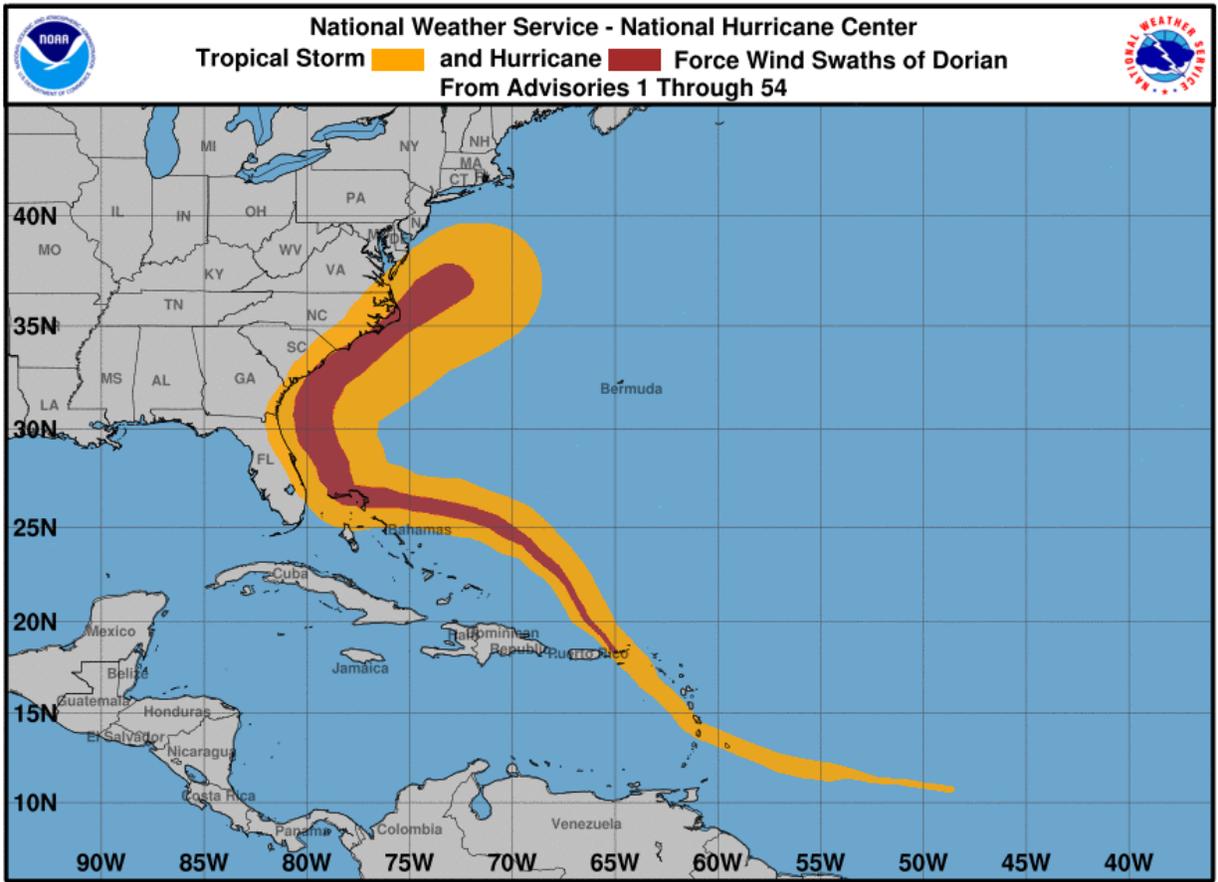
# Wind Probabilities ( $\geq 60$ mph (95 kph))



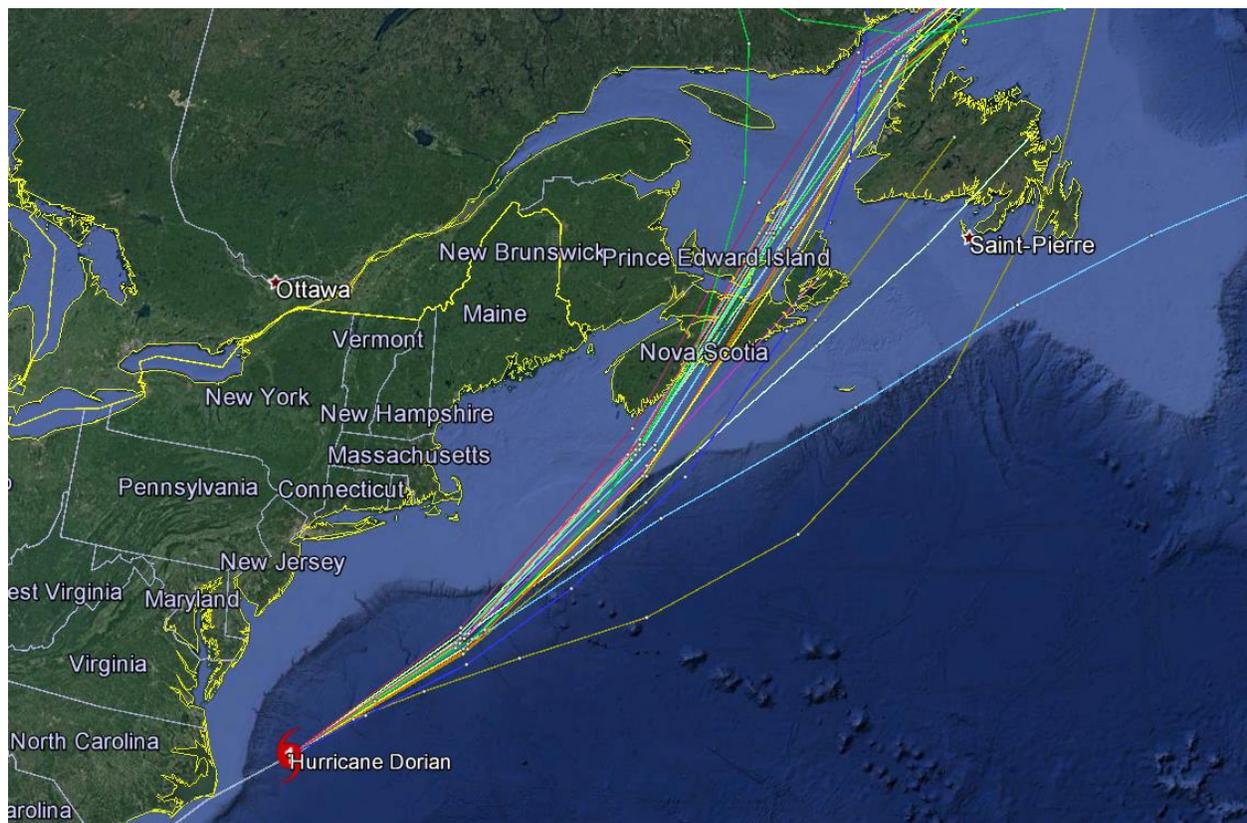
# Hurricane-Force Wind Probabilities ( $\geq 75$ mph (120 kph))



# Wind Swath History



## Current 'Spaghetti' Model Output Data



Source: NHC

## Additional Information and Update Schedule

Wind intensity forecasts and forecast track information can be found via the National Hurricane Center at [www.nhc.noaa.gov](http://www.nhc.noaa.gov)

**NEXT CAT ALERT:** Since Dorian has emerged into the open waters of the Atlantic Ocean and will soon begin an extratropical transition, this will be the final Cat Alert. Note that despite transitioning to an extratropical system, it will remain a powerful hurricane-force cyclone that will risk bringing high winds and heavy rains to parts of Atlantic Canada. Full and updated details on Dorian will be found in next week's Weekly Cat Report.

# \*Tropical Cyclone Intensity Classifications for Global Basins

WIND SPEED			BASINS AND MONITORING BUREAU						
KTS <sup>1</sup>	MPH <sup>1</sup>	KPH <sup>1</sup>	NE Pacific, Atlantic	NW Pacific	NW Pacific	SW Pacific	Australia	SW Indian	North Indian
			National Hurricane Center (NHC)	Joint Typhoon Warning Center (JTWC)	Japan Meteorological Agency (JMA)	Fiji Meteorological Service (FMS)	Bureau Of Meteorology (BOM)	Meteo-France (MF)	India Meteorological Department (IMD)
30	35	55	Tropical Depression	Tropical Depression	Tropical Depression	Tropical Depression	Tropical Low	Tropical Depression	Deep Depression
35	40	65	Tropical Storm	Tropical Storm	Tropical Storm	Cat. 1 Tropical Cyclone	Cat. 1 Tropical Cyclone	Moderate Tropical Storm	Cyclonic Storm
40	45	75							
45	50	85							
50	60	95							
55	65	100							
60	70	110	Cat. 1 Hurricane	Typhoon	Typhoon	Cat. 3 Severe Tropical Cyclone	Cat. 3 Severe Tropical Cyclone	Tropical Cyclone	Very Severe Cyclonic Storm
65	75	120							
70	80	130							
75	85	140							
80	90	150							
85	100	160	Cat. 2 Hurricane		Typhoon	Cat. 4 Severe Tropical Cyclone	Cat. 4 Severe Tropical Cyclone	Intense Tropical Cyclone	
90	105	170							
95	110	175	Cat. 3 Major Hurricane		Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	
100	115	185							
105	120	195							
110	125	205	Cat. 4 Major Hurricane	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm	
115	130	210							
120	140	220							
125	145	230							
130	150	240	Cat. 5 Major Hurricane	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm	
135	155	250							
140	160	260							
>140	>160	>260	Cat. 5 Major Hurricane	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm	

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