

WTNT44 KNHC 100854  
TCDAT4

Hurricane Michael Discussion Number 15  
NWS National Hurricane Center Miami FL AL142018  
400 AM CDT Wed Oct 10 2018

Reports from an Air Force Reserve Hurricane Hunter aircraft indicate that Michael has continued to strengthen during the past several hours. The maximum flight-level winds at 700 mb have been 136 kt, and the maximum surface wind estimates from the Stepped Frequency Microwave Radiometer are in the 120-125 kt range. In addition, the central pressure has fallen to near 943 mb. Based on on the aircraft data, the initial intensity is increased to 120 kt. This is a little below the satellite intensity estimates from TAFB, SAB, and the CIMSS satellite consensus. The cirrus outflow associated with Michael has improved over the past several hours, with the outflow flowing into an upper-level low to the southeast and along the east side of a large mid-latitude trough to the west.

The initial motion is 360/11. Michael is embedded in the flow between a large mid- to upper-level ridge over the western Atlantic and the northeastern United States and the aforementioned trough across the central United States. These features should cause the hurricane to turn north-northeastward during the next 12 h or so, followed by a turn toward the northeast and a significant increase in forward speed. Near the end of the forecast period, Michael or its remnants should turn more eastward. The forecast track calls for the eye to make landfall in the Florida Panhandle at about the 12 h point, followed by a northeastward motion across the southeastern United States between 12-48 h. The forecast guidance remains tightly clustered, and the new forecast track is very close to the previous track and the various consensus models through 72 h.

Additional strengthening is expected before landfall as Michael remains over warm water and in an environment of light to moderate vertical shear. After landfall, Michael is expected to steadily weaken as it crosses the southeastern United States. Extratropical transition is expected to begin while Michael is over land, and this should be complete just after the 48 h point. The cyclone should re-intensify due to baroclinic forcing as it moves rapidly northeastward over the north Atlantic. The new intensity forecast has been nudged upward at the landfall time based on current trends. Otherwise, it is an update of the previous forecast.

Tropical storm conditions are expected to reach the hurricane warning area during the next few hours, so all preparations should be rushed to completion.

Key Messages:

1. Life-threatening storm surge is likely along portions of the coasts of the Florida Panhandle, Big Bend, and Nature Coast, where a storm surge warning is in effect. The worst storm surge is expected between Tyndall Air Force Base and Keaton Beach, where 9 to 13 feet of inundation is possible.
2. Michael is likely to produce potentially catastrophic wind damage where the core of the hurricane moves onshore in the Florida Panhandle, and everyone in the hurricane warning area should

prepare for life-threatening hurricane winds. Dangerous hurricane-force winds will also extend well inland across portions of the Florida Panhandle, southern Georgia, and southeast Alabama as Michael moves inland.

3. Heavy rainfall from Michael could produce life-threatening flash flooding from the Florida Panhandle and Big Bend region into portions of Georgia, the Carolinas, and southeast Virginia.

4. Tropical storm conditions will likely affect portions of the southeast U.S. coast from northeast Florida through North Carolina, and tropical storm watches and warnings are in effect for these areas.

#### FORECAST POSITIONS AND MAX WINDS

INIT	10/0900Z	28.3N	86.5W	120 KT	140 MPH	
12H	10/1800Z	29.9N	85.7W	125 KT	145 MPH	
24H	11/0600Z	32.1N	83.8W	65 KT	75 MPH...	INLAND
36H	11/1800Z	34.4N	80.5W	40 KT	45 MPH...	INLAND
48H	12/0600Z	36.8N	75.6W	40 KT	45 MPH...	OVER WATER
72H	13/0600Z	43.5N	59.5W	50 KT	60 MPH...	POST-TROP/EXTRATROP
96H	14/0600Z	49.5N	36.0W	55 KT	65 MPH...	POST-TROP/EXTRATROP
120H	15/0600Z	52.0N	17.5W	45 KT	50 MPH...	POST-TROP/EXTRATROP

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