

# Potential Tropical Cyclone Ten

AL102017  
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## SUMMARY

On 27 August 2017, the National Hurricane Center in coordination with local National Weather Service Forecast offices, invoked the option to issue advisories and tropical storm watches for a disturbance that was deemed to have a high chance (>60%) of tropical cyclone formation within the ensuing 48 h and potentially bring tropical-storm-force winds to a portion of the coast of the Carolinas. At the time a tropical storm watch was issued, the system was judged to have a 70% chance of becoming a tropical cyclone within 48 hours. Although the disturbance was producing deep convection and winds to around 30 kt, it lacked a well-defined center of circulation. A mid- to upper-level trough approaching the east coast of the United States caused the system to begin moving north-northeastward to northeastward on 28 August. Satellite wind data and observations from an Air Force Reserve reconnaissance aircraft on 28 August indicated that the system still lacked a well-defined center but the maximum winds had increased to near 35 kt. These winds, however, were located over water to the east of the center as it passed near the coast of Georgia and southern South Carolina. By late that day, westerly shear increased and the chance of the system becoming a tropical cyclone began to decrease. The disturbance accelerated northeastward and passed near the coast of North Carolina early on 29 August. Around 1800 UTC that day, the system moved off the coast of the Outer Banks and advisories were discontinued since the threat of tropical storm conditions over land had ended. The system was already interacting with a baroclinic zone when it acquired a close circulation and became an extratropical cyclone at 1800 UTC 29 August. A track of the disturbance, which follows the area of lowest pressure and the low-level vorticity maximum is given in Table 1. Coastal watches and warnings associated with the disturbance are provided in Table 2.

Table 1. Best track for Potential Tropical Cyclone Ten, 27 – 29 August 2017.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
27 / 1800	30.7	80.7	1009	30	disturbance
28 / 0000	30.8	80.6	1007	30	"
28 / 0600	31.0	80.5	1006	35	"
28 / 1200	31.3	80.4	1006	35	"
28 / 1800	31.8	80.2	1006	35	"
29 / 0000	32.3	79.9	1006	35	"
29 / 0600	33.0	79.0	1006	35	"
29 / 1200	34.0	77.8	1006	35	"
29 / 1800	35.4	75.5	1004	40	extratropical

Table 2. Watch and warning summary for Potential Tropical Cyclone Ten, 27 – 29 August 2017.

<b>Date/Time (UTC)</b>	<b>Action</b>	<b>Location</b>
27 / 2100	Tropical Storm Watch issued	South Santee River to Duck including the Pamlico and Albemarle Sounds
28 / 1500	Tropical Storm Warning issued	Surf City to Duck including the Pamlico and Albemarle Sounds
28 / 1500	Tropical Storm Watch modified to	South Santee River to Surf City
29 / 0900	Tropical Storm Watch modified to	Little River Inlet to Surf City
29 / 1200	Tropical Storm Watch discontinued	All
29 / 1500	Tropical Storm Warning modified to	Cape Lookout to Duck
29 / 2100	Tropical Storm Warning discontinued	All