

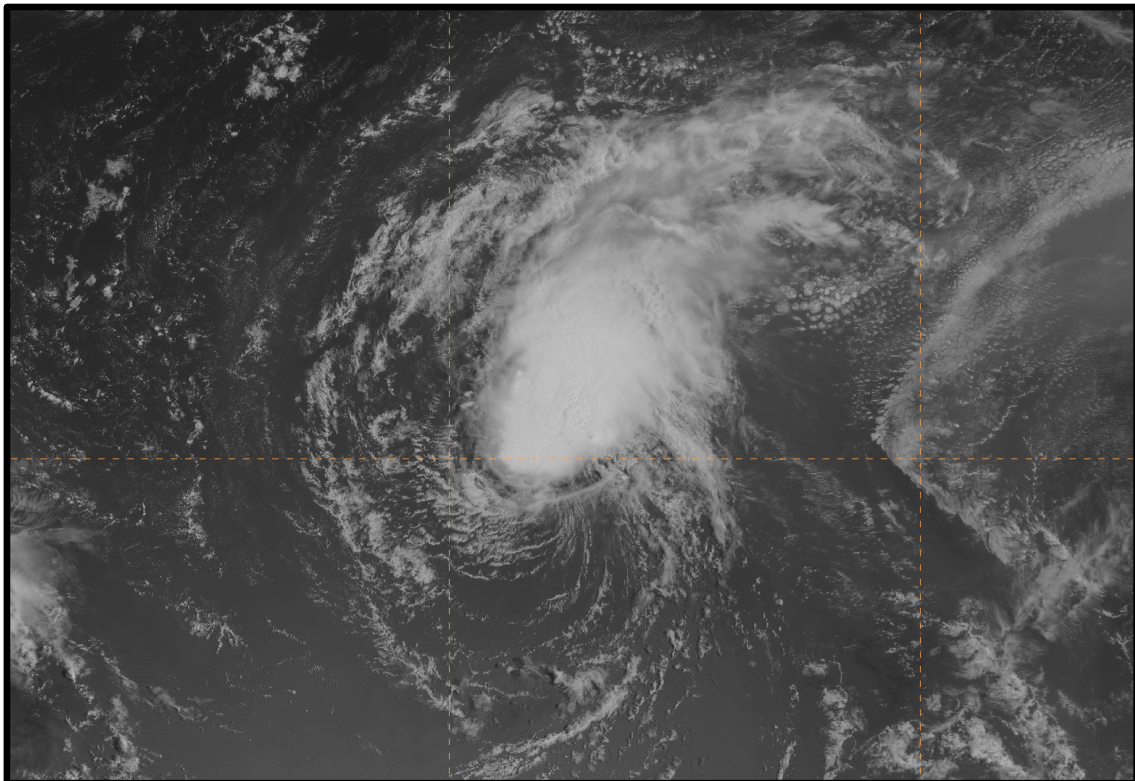


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT¹

TROPICAL STORM EMILY (AL072023)

20-21 August 2023

John P. Cangialosi
National Hurricane Center
8 November 2023



GOES-16 VISIBLE SATELLITE IMAGE OF TROPICAL STORM EMILY AT 1200 UTC 20 AUGUST 2023.

Emily was a very short-lived tropical storm over the east-central tropical Atlantic that did not directly impact land.

¹ This is an abbreviated Tropical Cyclone Report since there were no coastal watches or warnings and no direct fatalities reported in association with Emily.

Tropical Storm Emily

20-21 AUGUST 2023

BEST TRACK

The “best track²” positions and intensities for Emily are listed in Table 1. The best track chart of Emily’s path is given in Fig. 1, with the wind and pressure histories along with available observations³ shown in Figs. 2 and 3, respectively.

There were no land-based or ship reports of tropical-storm-force winds associated with Emily.

Origin

Emily developed from a tropical wave that moved off the west coast of Africa early on 16 August and passed through the Cabo Verde Islands the following day.

Peak Intensity and Minimum Pressure

Emily’s peak intensity of 45 kt at 1200 and 1800 UTC 20 August is based on a combination of T3.0/45 kt Dvorak classifications from TAFB, similar ADT estimates, and an ASCAT-C pass from 1141 UTC that day which showed peak winds a little above 40 kt.

The minimum central pressure of 998 mb is primarily based on the Knaff-Zehr-Courtney pressure wind relationship.

After Emily degenerated to a remnant low on 21 August, the system occasionally produced some bursts of deep convection and ASCAT data showed some increase in winds on 23 August. However, the system did not produce enough persistent organized deep convection to redevelop into a tropical cyclone.

² A digital record of the complete best track, including wind radii, can be found on line at <ftp://ftp.nhc.noaa.gov/atcf>. Data for the current year’s storms are located in the *bt*k directory, while previous years’ data are located in the *archive* directory.

³ Observations include subjective satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB) and the Satellite Analysis Branch (SAB), objective Advanced Dvorak Technique (ADT) and Satellite Consensus (SATCON) estimates from the Cooperative Institute for Meteorological Satellite Studies/University of Wisconsin-Madison. Data and imagery from NOAA polar-orbiting satellites including the Advanced Microwave Sounding Unit (AMSU), the NASA Global Precipitation Mission (GPM), the European Space Agency’s Advanced Scatterometer (ASCAT), and Defense Meteorological Satellite Program (DMSP) satellites, among others, were also useful in constructing the best track of Emily.

CASUALTY AND DAMAGE STATISTICS

There were no reports of damage or casualties associated with Emily.

FORECAST AND WARNING VERIFICATION

Table 2 provides the number of hours in advance of formation with the first NHC Tropical Weather Outlook (TWO) forecast in each likelihood category. Figure 4 shows composites of 7-day TWO genesis areas for each category prior to the formation of Emily. Emily's formation location was fairly well anticipated.

Since Emily was a very short-lived tropical cyclone only one 12-hour NHC forecast was verified. The NHC track and intensity errors at that forecast time were below the 5-yr means. No verification is shown due to the extremely small sample.

There were no coastal watches or warnings issued for Emily.



Table 1. Best track for Tropical Storm Emily, 20–21 August 2023.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
18 / 1200	15.4	32.9	1009	30	low
18 / 1800	15.5	33.9	1008	30	"
19 / 0000	15.6	34.8	1007	30	"
19 / 0600	15.8	35.3	1006	30	"
19 / 1200	16.4	35.7	1006	30	"
19 / 1800	17.2	36.1	1006	30	"
20 / 0000	18.0	36.7	1004	35	tropical storm
20 / 0600	18.8	37.5	1001	40	"
20 / 1200	19.4	38.3	998	45	"
20 / 1800	20.0	39.0	998	45	"
21 / 0000	20.3	39.8	1000	40	"
21 / 0600	20.6	40.6	1003	35	low
21 / 1200	21.0	41.4	1004	35	"
21 / 1800	21.4	42.2	1005	30	"
22 / 0000	21.9	43.1	1006	30	"
22 / 0600	22.5	44.1	1006	30	"
22 / 1200	23.4	45.1	1006	30	"
22 / 1800	24.4	46.1	1006	30	"
23 / 0000	25.3	47.2	1006	35	"
23 / 0600	26.1	48.4	1006	35	"
23 / 1200	26.9	49.2	1006	35	"
23 / 1800	27.8	49.6	1006	35	"



Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
24 / 0000	28.6	49.6	1006	35	"
24 / 0600	29.3	49.2	1006	35	"
24 / 1200	29.8	48.9	1008	35	"
24 / 1800	30.5	48.7	1010	30	"
25 / 0000	31.4	48.6	1010	30	"
25 / 0600	32.4	48.6	1010	30	"
25 / 1200					dissipated
20 / 1200	19.4	38.3	998	45	maximum wind and minimum pressure



Table 2. Number of hours in advance of formation of Emily associated with the first NHC Tropical Weather Outlook forecast in the indicated likelihood category. Note that the timings for the “Low” category do not include forecasts of a 0% chance of genesis.

	Hours Before Genesis	
	48-Hour Outlook	168-Hour Outlook
Low (<40%)	90	150
Medium (40%-60%)	54	78
High (>60%)	24	48

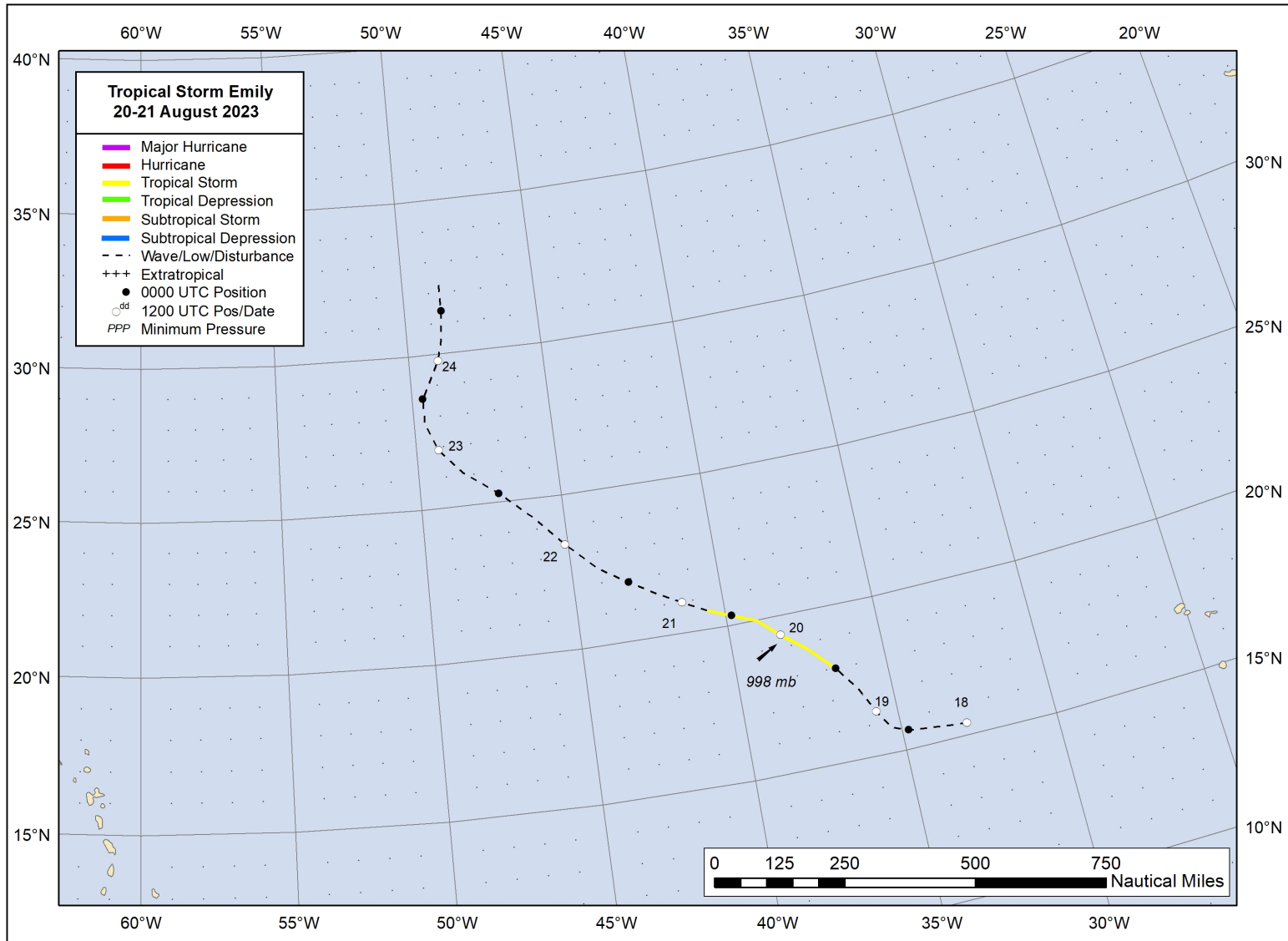


Figure 1. Best track positions for Tropical Storm Emily, 20–21 August 2023.

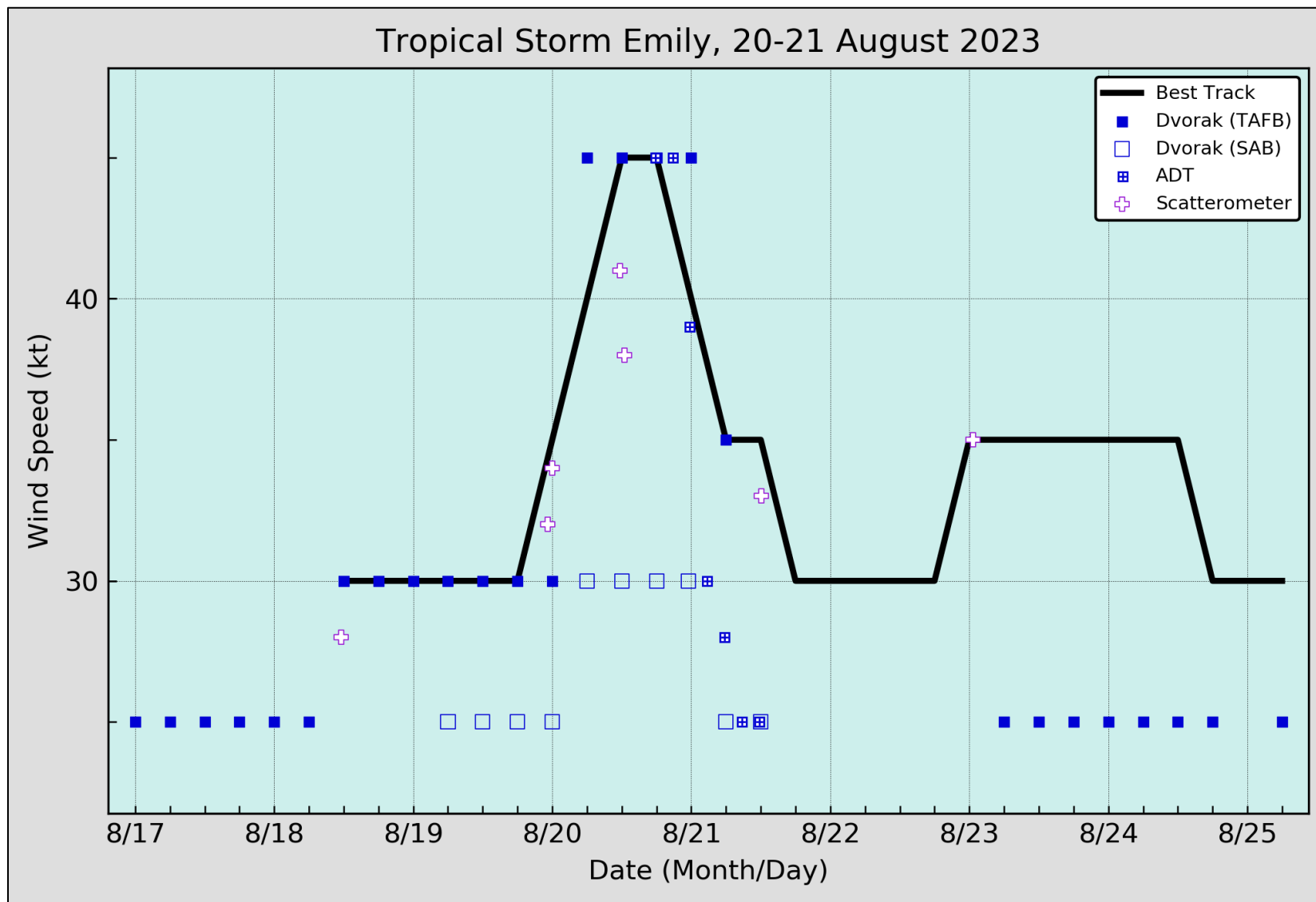


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Emily, 20–21 August 2023. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. Dashed vertical lines correspond to 0000 UTC.

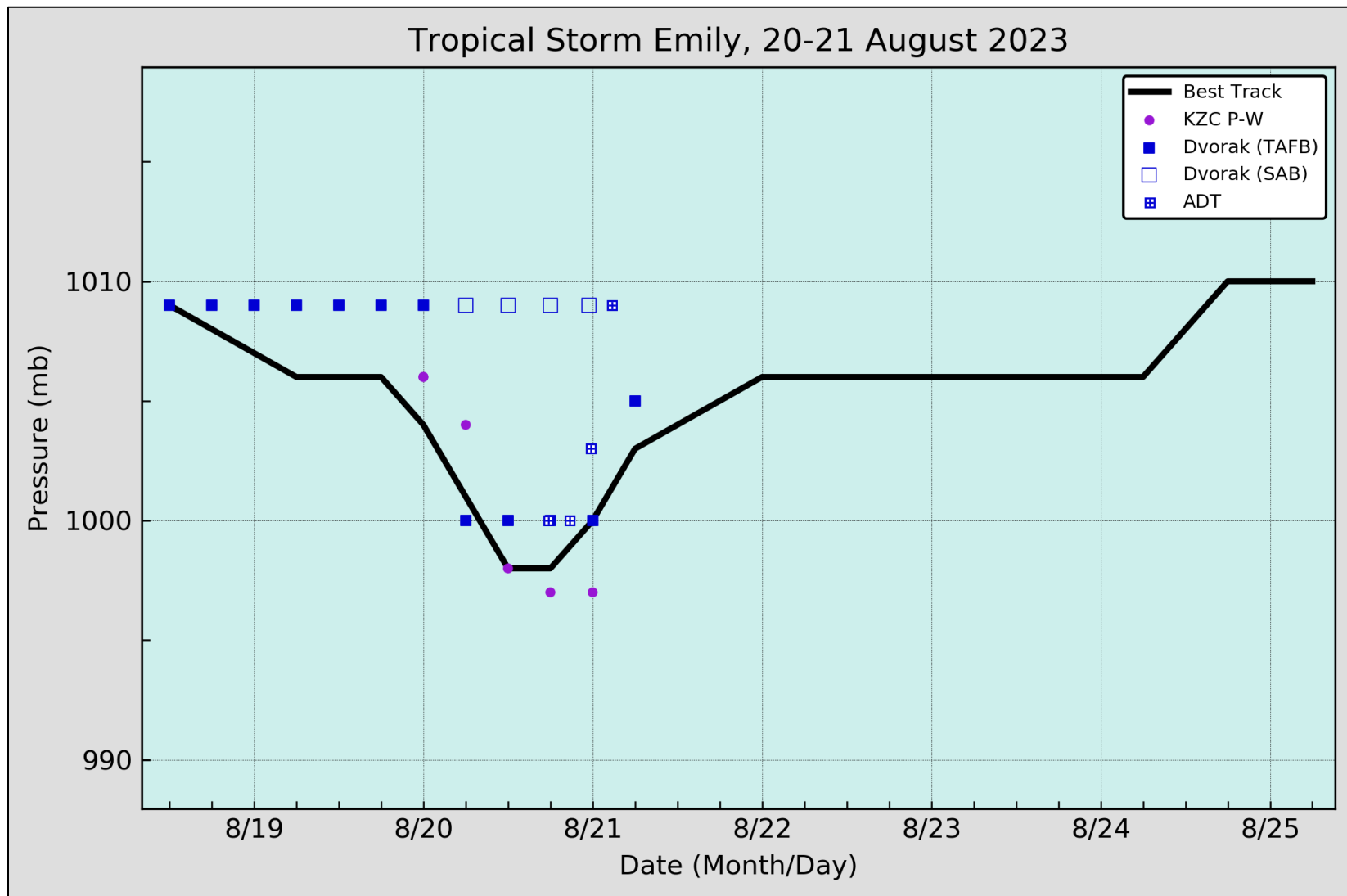


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Emily, 20–21 August 2023. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC.

Emily 7-day Tropical Weather Outlook Areas

From: 1800 UTC 13 Aug 2023 to 0000 UTC 20 Aug 2023

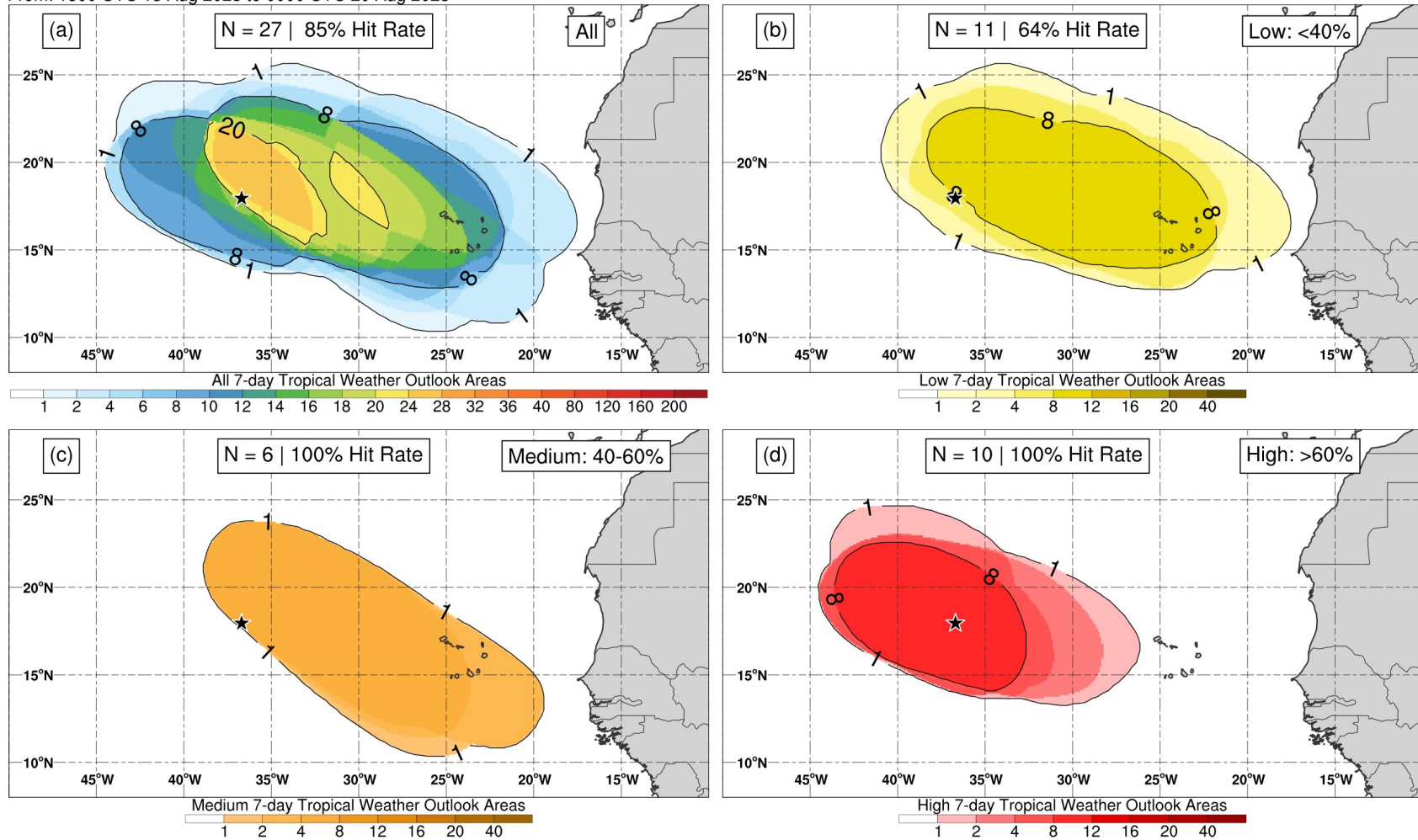


Figure 4. Composites of 7-day tropical cyclone genesis areas depicted in NHC’s Tropical Weather Outlooks prior to the formation of Tropical Storm Emily for (a) all probabilistic genesis categories, (b) the low (<40%) category, (c) medium (40–60%) category, and (d) high (>60%) category. Emily’s location of genesis is indicated by the black star.