

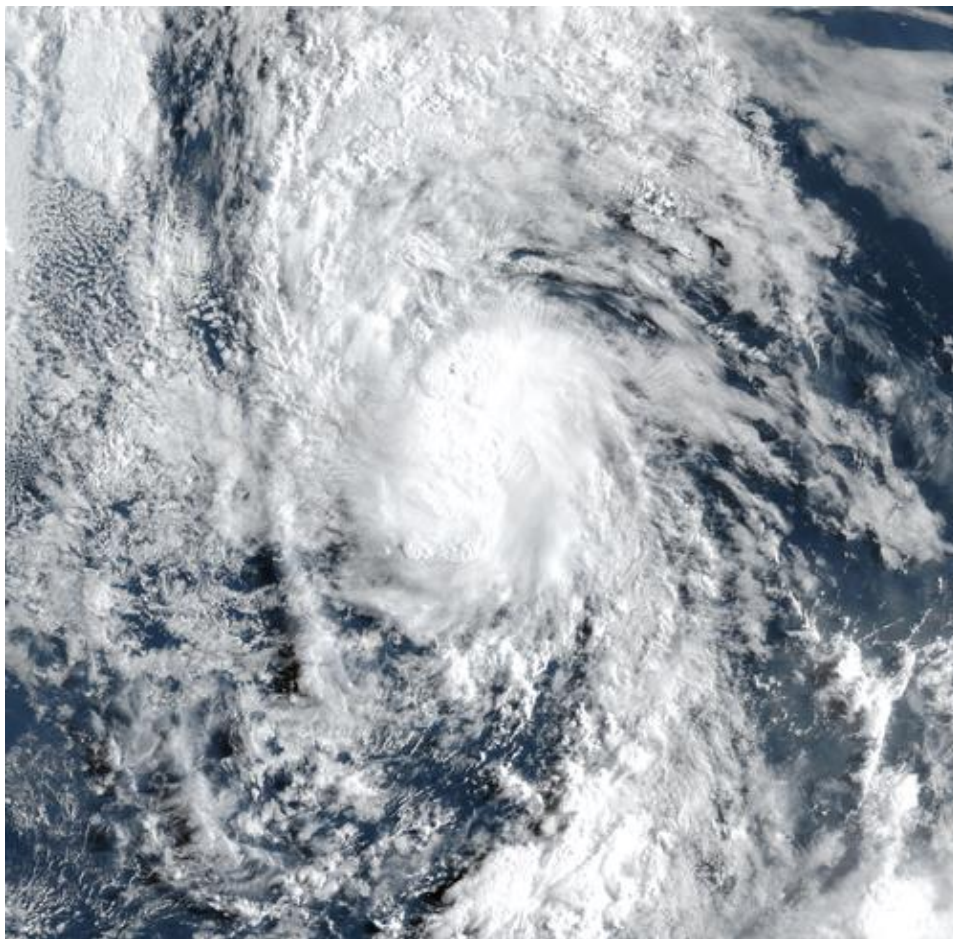


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL STORM FAUSTO (EP112020)

16–17 August 2020

Eric Blake
National Hurricane Center
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GOES-17 SATELLITE VISIBLE IMAGE OF FAUSTO AT 1530 UTC 16 AUGUST 2020 (RAMMB/CIRA)

Fausto was a short-lived tropical storm that stayed away from land.

Tropical Storm Fausto

16–17 AUGUST 2020

SYNOPTIC HISTORY

Fausto originated from a tropical wave that entered the eastern Pacific on 9 August. The system did not have much organization until late on 11 August when deep convection increased several hundred miles south of Mexico. However, easterly shear prevented much development while the wave continued to move slowly west-northwestward. Convection increased again on 13 August, and became more persistent on 14 and 15 August with a broad trough of low pressure present on the last day. This structure changed late on 15 August when a large burst of convection formed on the northern side of the trough, causing the formation of a well-defined low-pressure area and a tropical depression near 0000 UTC 16 August about 550 n mi west-southwest of the southern tip of the Baja California peninsula. The “best track” chart of the tropical cyclone’s path is given in Fig. 1, with the wind and pressure histories shown in Figs. 2 and 3, respectively. The best track positions and intensities are listed in Table 1¹.

The cyclone produced a concentrated area of convection early on 16 August, causing the depression to become a tropical storm at 1200 UTC that day. However, deep convection waned a few hours later, and scatterometer data showed that Fausto weakened back to a tropical depression only about 6 h after it became a storm. The system initially moved northward toward a break in the subtropical ridge, then turned west-northwestward and westward over the next couple of days due to both the ridge re-strengthening and Fausto becoming steered by a stronger low-level ridge. The cyclone moved over cool waters of 24°C or lower on 17 August, and all deep convection dissipated, marking the transition into a remnant low by 1200 UTC that day about 850 n mi west of the southern tip of the Baja California peninsula. The low moved westward and continued to weaken for about a day before opening up into a trough.

METEOROLOGICAL STATISTICS

Observations in Fausto (Figs. 2 and 3) include subjective satellite-based Dvorak and intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB), and objective Advanced Dvorak Technique (ADT) estimates 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

¹ 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 *btk* directory, while previous years’ data are located in the *archive* directory.

Meteorological Satellite Program (DMSP) satellites, among others, were also useful in constructing the best track of Fausto.

Fausto's peak intensity of 35 kt was based on objective and subjective Dvorak estimates. It should be noted that scatterometer data indicated the Dvorak values for this storm could have had a high bias, and that Fausto might not have reached tropical-storm strength. However, the most organized satellite presentation of Fausto was not coincident with scatterometer data. As a result, while there is some uncertainty, Fausto's peak intensity as a tropical storm is maintained for a 6-h period.

There were no ship reports of winds of tropical storm force associated with Fausto.

CASUALTY AND DAMAGE STATISTICS

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

FORECAST AND WARNING CRITIQUE

The genesis of Fausto was poorly anticipated. The system that became Fausto was initially mentioned in the Tropical Weather Outlook (TWO) 36 h prior to genesis, introducing medium (40–60%) 2- and 5-day chances. The probabilities were raised to the high category (>60%) 6 h later. Model guidance initially showed more development in a different system closer to Mexico, then shifted southwestward to favor Fausto's precursor system a couple of days before genesis.

A verification of NHC official track and intensity forecasts for Fausto is given in Tables 3 and 4, respectively. Official track and intensity forecast errors were near or below the mean official errors for the previous 5-yr period for all available time periods in a small sample (only 2 cases at 24 h). No meaningful comparisons can be made with other models since the sample size is so small. NHC forecasts were generally accurate in showing little strengthening, but did not show Fausto weakening quickly enough.

No coastal watches or warnings were issued in association with Fausto.

Table 1. Best track for Tropical Storm Fausto, 16–17 August 2020.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
16 / 0000	18.0	118.2	1005	30	tropical depression
16 / 0600	19.2	118.4	1005	30	"
16 / 1200	20.4	119.3	1004	35	tropical storm
16 / 1800	21.7	120.5	1005	30	tropical depression
17 / 0000	22.4	122.0	1005	30	"
17 / 0600	22.9	123.6	1006	25	"
17 / 1200	23.3	125.3	1007	20	low
17 / 1800	23.3	126.3	1007	20	"
18 / 0000	23.3	127.2	1008	20	"
18 / 0600					dissipated
16 / 1200	20.4	119.3	1004	35	minimum pressure and maximum winds

Table 2. Number of hours in advance of formation 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	120-Hour Outlook
Low (<40%)	36	36
Medium (40%-60%)	36	36
High (>60%)	30	30

Table 3. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) track forecast errors (n mi) for Fausto. Mean errors for the previous 5-yr period are shown for comparison. Official errors that are smaller than the 5-yr means are shown in boldface type.

	Forecast Period (h)							
	12	24	36	48	60	72	96	120
OFCL	23.6	27.1						
OCD5	91.8	180.9						
Forecasts	4	2						
OFCL (2015-19)	21.8	34.0						
OCD5 (2015-19)	34.3	69.9						

Table 4. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) intensity forecast errors (kt) for Fausto. Mean errors for the previous 5-yr period are shown for comparison. Official errors that are smaller than the 5-yr means are shown in boldface type.

	Forecast Period (h)							
	12	24	36	48	60	72	96	120
OFCL	5.0	5.0						
OCD5	5.8	7.5						
Forecasts	4	2						
OFCL (2015-19)	6.0	9.9						
OCD5 (2015-19)	7.8	13.0						

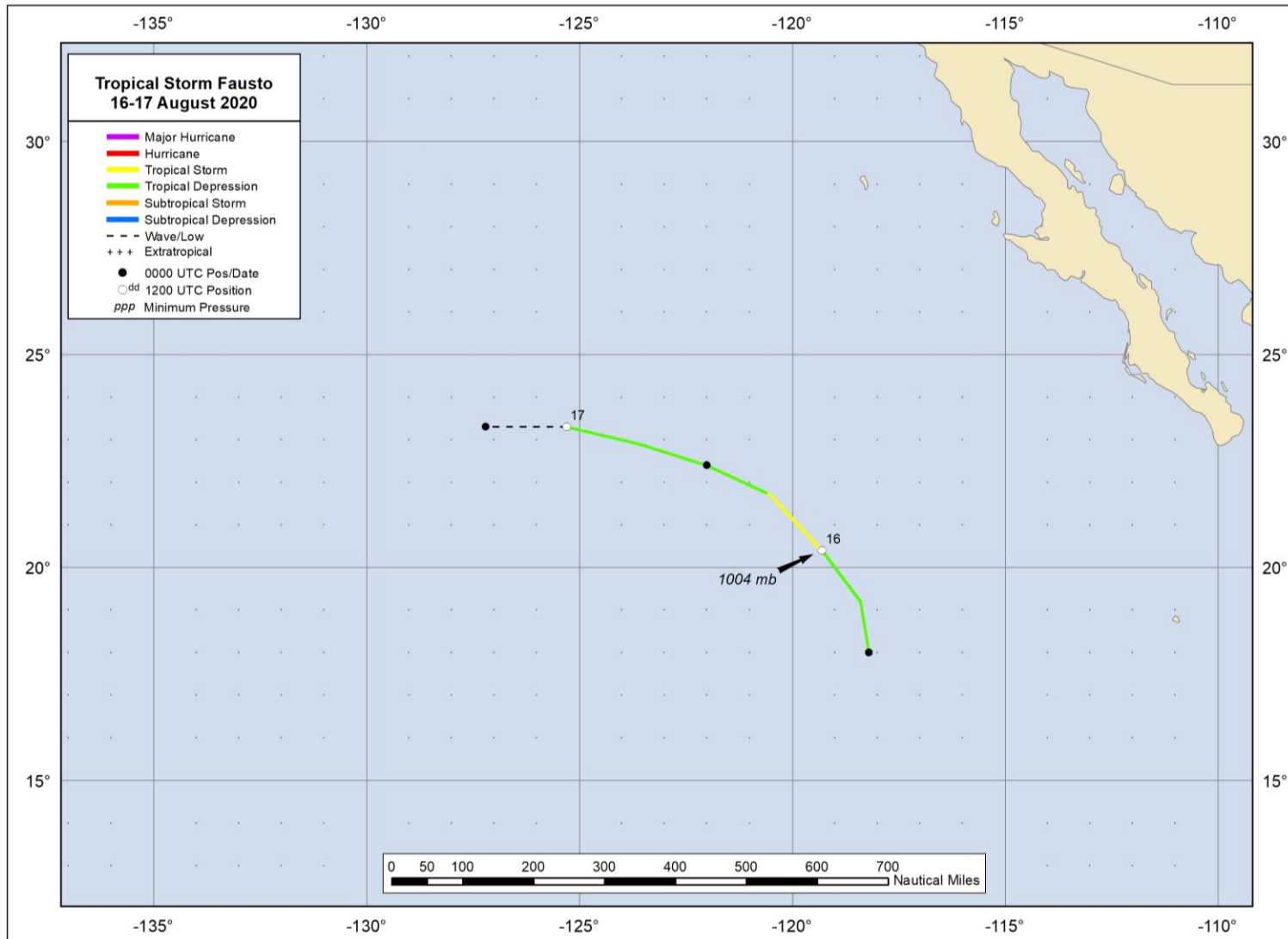


Figure 1. Best track positions for Tropical Storm Fausto, 16–17 August 2020.

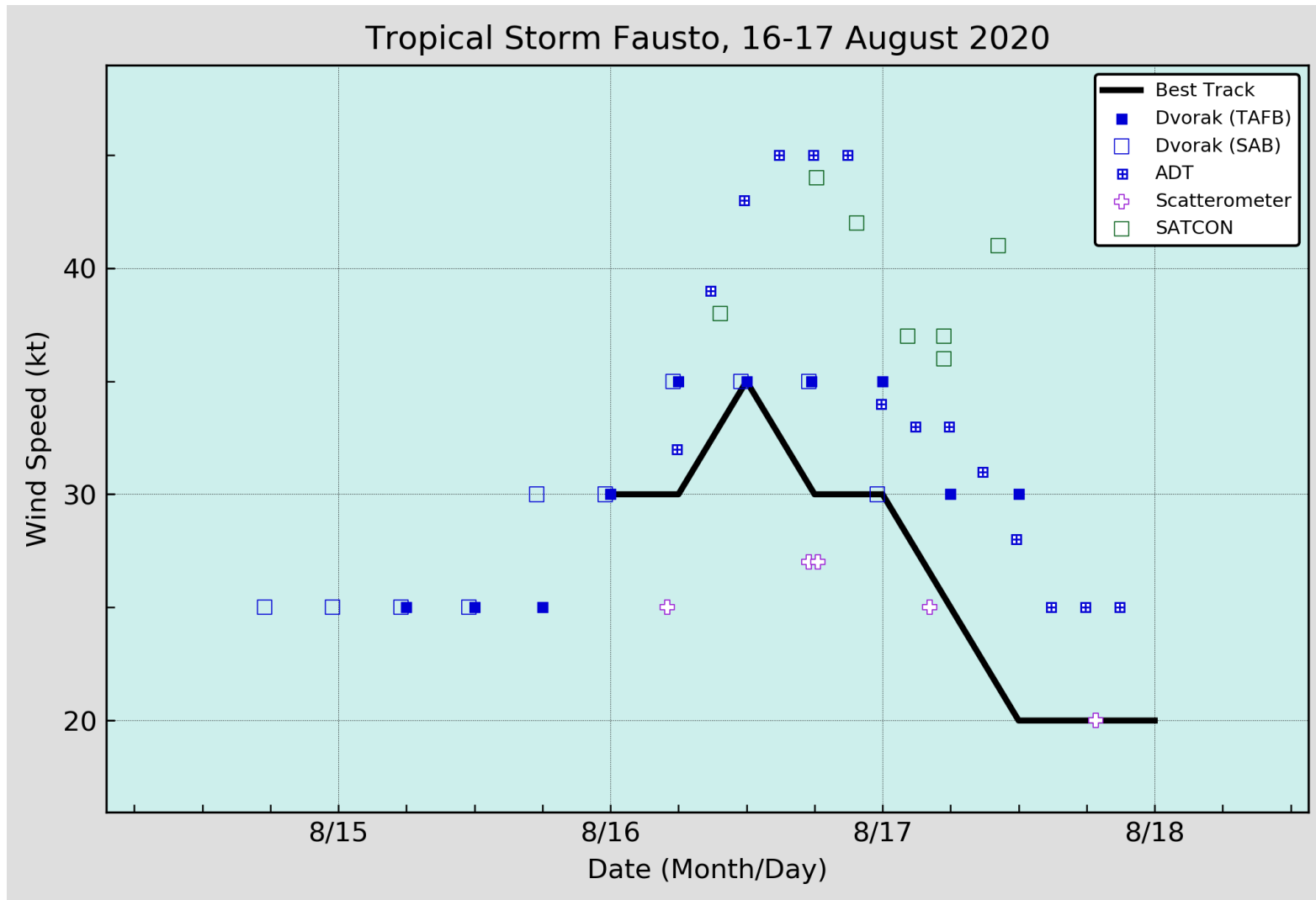


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Fausto, 16–17 August 2020. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. SATCON intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies. Dashed vertical lines correspond to 0000 UTC.

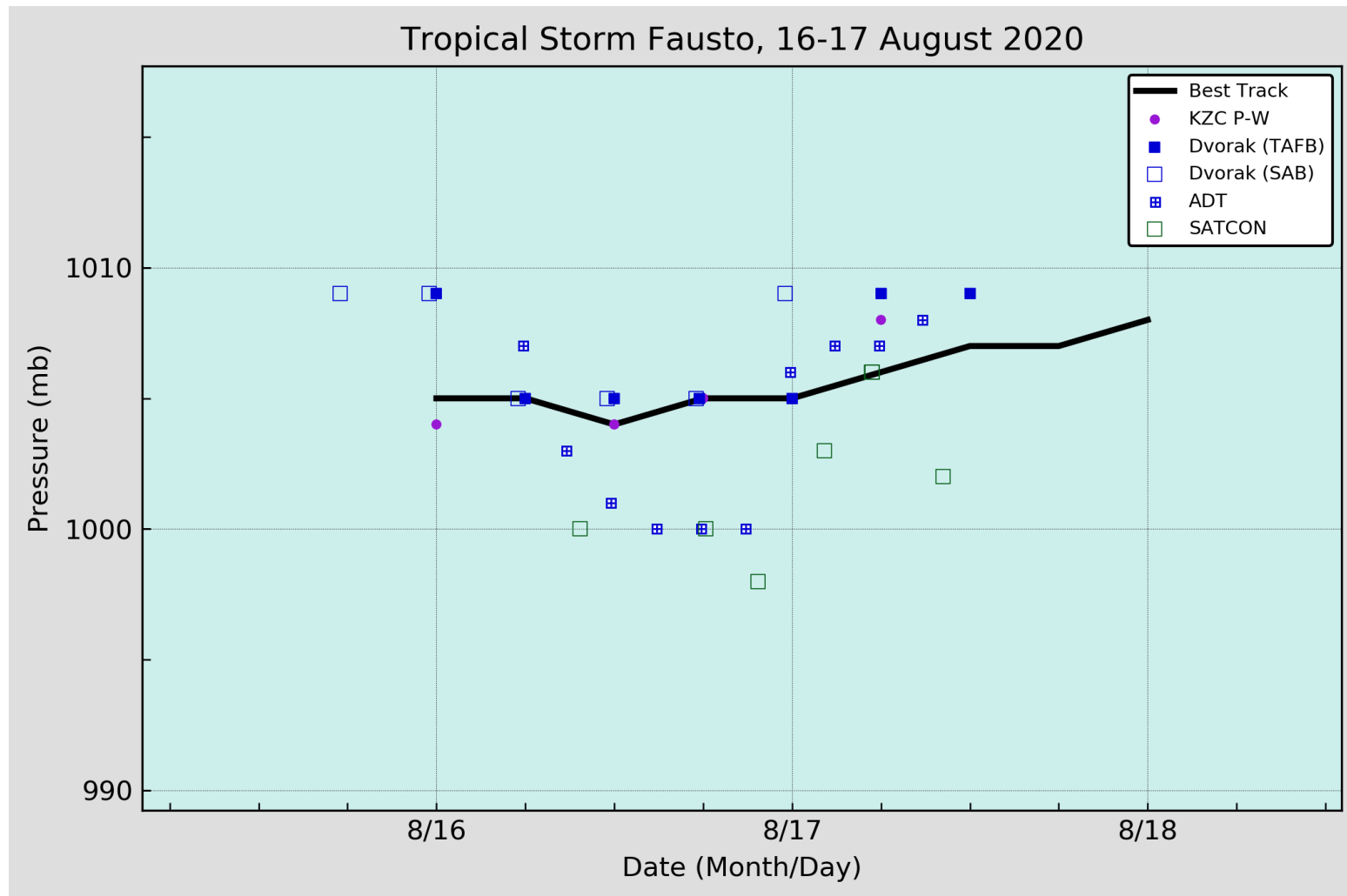


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Fausto, 16–17 August 2020. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. SATCON intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC.