

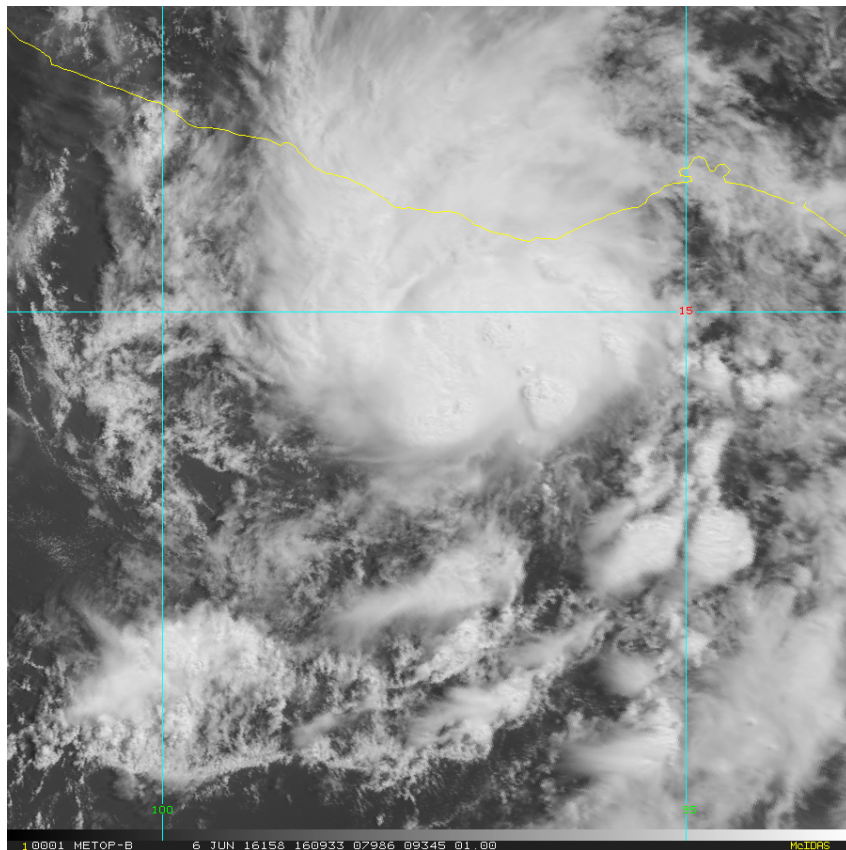


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL DEPRESSION ONE-E (EP012016)

6-7 June 2016

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National Hurricane Center
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METOP-B VISIBLE IMAGE OF ONE-E AT 1609 UTC 6 JUNE 2016. IMAGE COURTESY OF CIRA/RAMMB.

Tropical Depression One-E was a short-lived tropical cyclone that formed southwest of the Gulf of Tehuantepec and brought rain to portions of southeastern Mexico before dissipating offshore.

Tropical Depression One-E

6-7 JUNE 2016

SYNOPTIC HISTORY

Tropical Depression One-E formed along the southwestern edge of a large cyclonic gyre that developed over Central America during the first few days of June. An area of deep convection developed on 5 June about 350 n mi south of Acapulco, Mexico, and moved east-northeastward under the influence of the gyre's circulation. Convection diminished by early on 6 June, but satellite imagery indicates that an area of low pressure developed by 0600 UTC 6 June about 210 n mi southwest of Puerto Escondido, Mexico. Deep convection redeveloped around 1200 UTC that day, marking the formation of a tropical depression about 155 n mi south-southwest of Puerto Escondido. The depression moved steadily east-northeastward through early on 7 June ahead of a mid-level trough that extended from southern Texas across central Mexico and into the eastern Pacific west of the tropical cyclone. 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.

During its short life span the depression was under the influence of moderate southerly vertical wind shear, which limited convective organization and prevented strengthening. The depression turned toward the northeast, and its forward speed slowed later on 7 June as the cyclone moved into the Gulf of Tehuantepec. Deep convection was sheared away later that day, and the depression became a post-tropical remnant low at 0000 8 June while located about 35 n mi southeast of Salina Cruz, Mexico. The remnant low moved slowly northward and dissipated offshore by 1200 UTC on 8 June.

METEOROLOGICAL STATISTICS

Observations in Tropical Depression One-E (Figs. 2 and 3) include subjective satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB) and the Satellite Analysis Branch (SAB). 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 One-E.

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 *bt* directory, while previous years' data are located in the *archive* directory.



The depression's analyzed peak intensity of 30 kt is based on the highest believable winds from a pair of ASCAT passes at 1540 UTC and 1630 UTC 6 June and subjective Dvorak satellite estimates from TAFB and SAB.

During the 48-h period ending at 1200 UTC 8 June, observed rainfall totals included 1.77 inches (45 mm) at Arriaga, Mexico, and 1.42 inches (36 mm) at Puerto Angel, Mexico.

CASUALTY AND DAMAGE STATISTICS

There were no reports of damage or casualties associated with the depression.

FORECAST AND WARNING CRITIQUE

The genesis of the depression was not well forecast. The system was first given a low probability (<40% chance) of development in both the 48-h and 5-day periods only 42 h prior to genesis (Table 2). The probabilities remained in the low category until genesis occurred since the environment was only marginally favorable for genesis due to moderate southwesterly shear and the proximity of the system to the coast of Mexico.

Given the short life span of the depression, there were only three verifying NHC official forecasts at 12 h and one at 24 h. NHC average official forecast track errors were 22.4 n mi and 25.0 n mi at 12 and 24 h, respectively. NHC average official intensity forecast errors were 0.0 kt at both 12 and 24 h. Given the small sample size, a homogeneous comparison of track and intensity model errors is not shown.

Tropical Storm Watches issued in association with the depression are listed in Table 3.



Table 1. Best track for Tropical Depression One-E, 6–7 June 2016.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage*
06 / 0600	13.0	99.2	1007	25	low
06 / 1200	13.5	98.2	1007	25	tropical depression
06 / 1800	13.9	97.1	1006	30	"
07 / 0000	14.3	96.2	1006	30	"
07 / 0600	14.7	95.6	1006	30	"
07 / 1200	15.1	95.0	1006	30	"
07 / 1800	15.5	94.7	1006	30	"
08 / 0000	15.8	94.7	1006	25	low
08 / 0600	16.0	94.7	1006	25	"
08 / 1200					dissipated
06 / 1800	13.9	97.1	1006	30	minimum pressure



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%)	42	42
Medium (40%-60%)	N/A	N/A
High (>60%)	N/A	N/A

Table 3. Watch and warning summary for Tropical Depression One-E, 6–7 June 2016.

Date/Time (UTC)	Action	Location
06/2100	Tropical Storm Watch issued	Puerto Escondido to Boca De Pijijiapan
07/2100	Tropical Storm Watch modified to	Salina Cruz to Boca De Pijijiapan
08/0300	Tropical Storm Watch discontinued	All

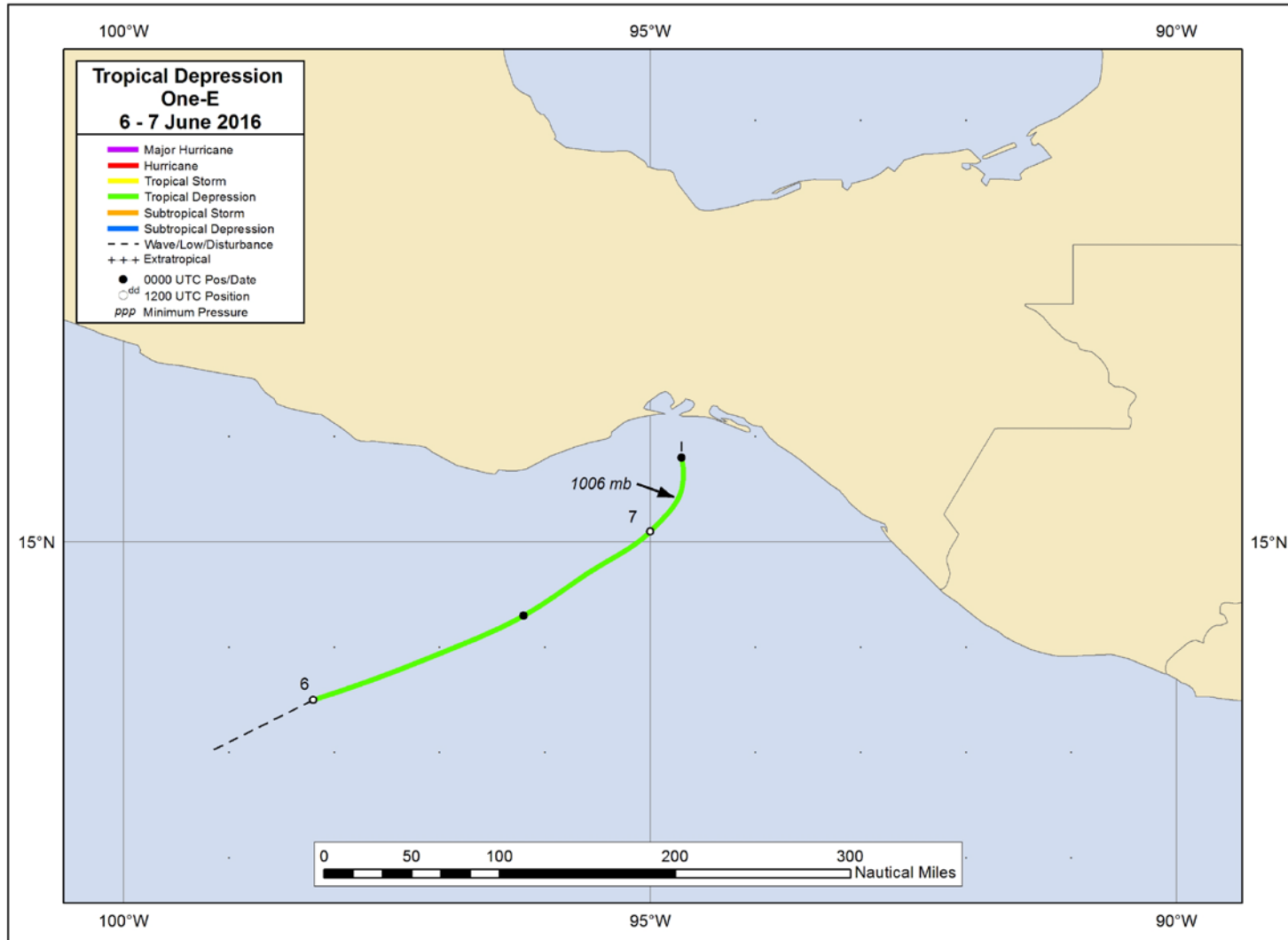


Figure 1. Best track positions for Tropical Depression One-E, 6–7 June 2016.

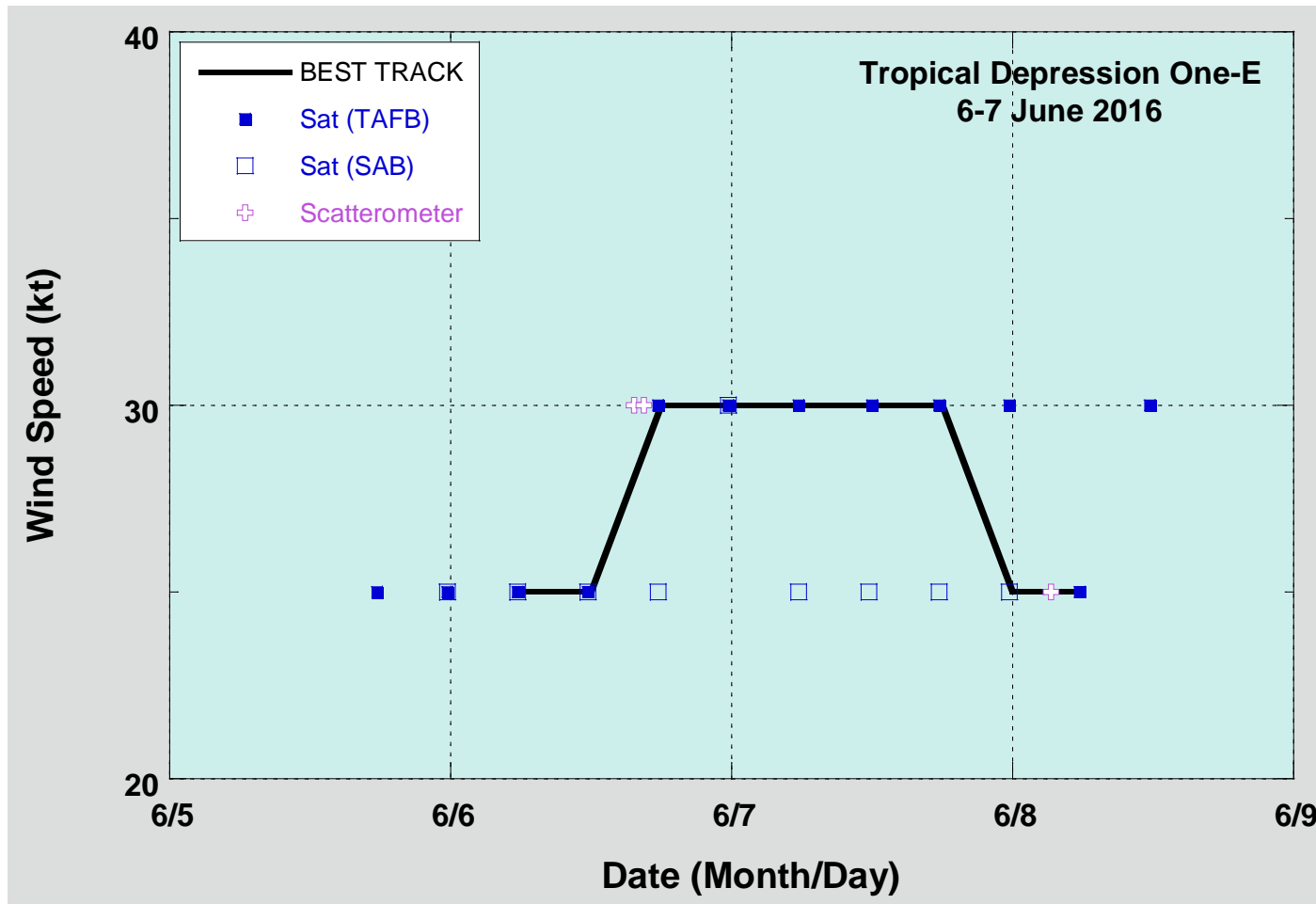


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Depression One-E, 6–7 June 2016. Dashed vertical lines correspond to 0000 UTC.

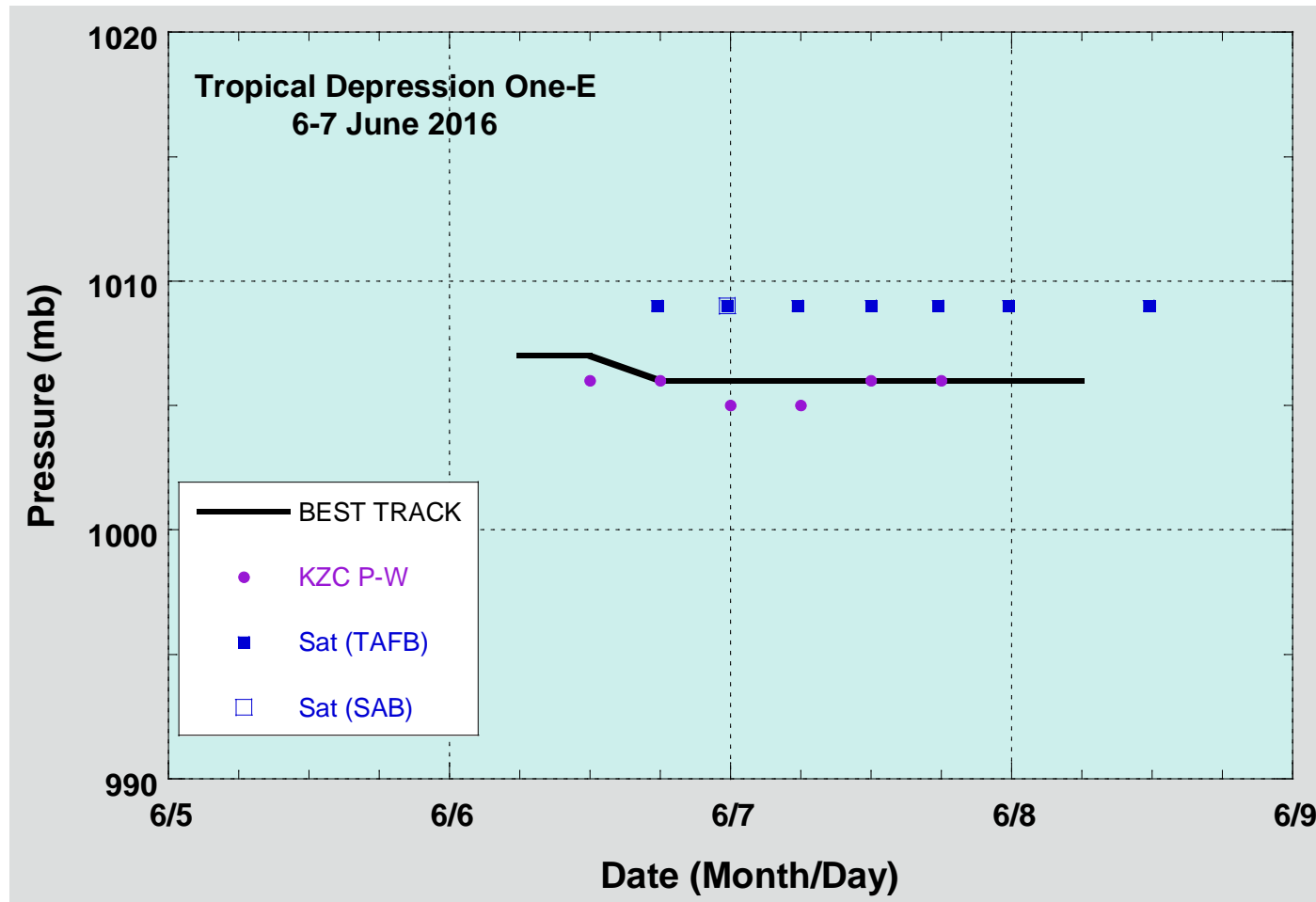


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Depression One-E, 6–7 June 2016. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC.