

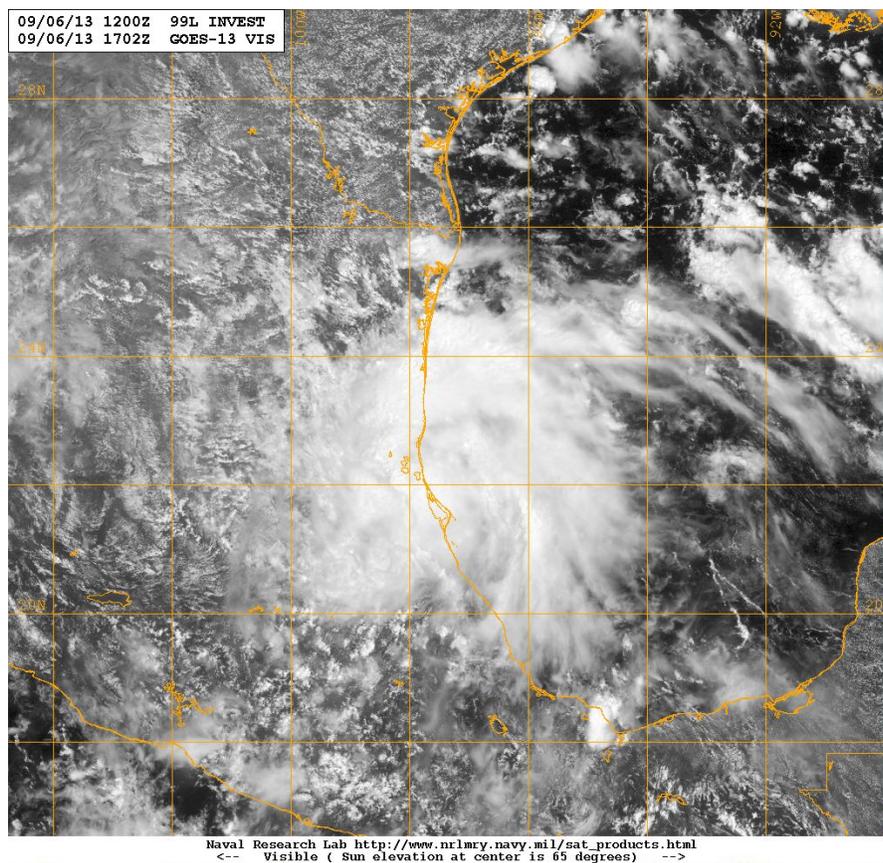


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL DEPRESSION EIGHT (AL082013)

6 – 7 September 2013

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National Hurricane Center
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GOES-13 VISIBLE SATELLITE IMAGE OF TROPICAL DEPRESSION EIGHT. IMAGE COURTESY OF THE NAVAL RESEARCH LAB.

Tropical Depression Eight was a short-lived tropical cyclone that made landfall near Tampico, Mexico.

TROPICAL DEPRESSION EIGHT

6 – 7 SEPTEMBER 2013

SYNOPTIC HISTORY

Tropical Depression Eight appears to have originated from a tropical wave that crossed the west coast of Africa on 23 August. The wave reached the Lesser Antilles on 29 August and became ill defined while moving over the eastern and central Caribbean Sea. By 1 September, however, deep convection associated with the system increased over the western Caribbean Sea, and this activity increased a little more over the northwestern Caribbean Sea on 2 September. The wave moved over the Yucatan Peninsula on 3 September and into the Bay of Campeche the following day. By 5 September, a broad area of low pressure had formed a couple of hundred miles east of the state of Veracruz, Mexico, but reports from an Air Force Reserve Unit reconnaissance aircraft late that day indicated that the system lacked a well-defined center of circulation. Early on 6 September, deep convection increased in coverage and organization, and it estimated that a tropical depression formed around 1200 UTC that day, while centered about 25 n mi east-northeast of Tampico, Mexico. Over the next several hours, the cyclone moved west-southwestward under the influence of a large mid-level anticyclone centered over the west-central United States. Tropical Depression Eight made landfall along the coast of northeastern Mexico near Tampico at about 1800 UTC 6 September. The depression moved west-southwestward to southwestward over inland Mexico while degenerating into a remnant low by 0600 UTC 7 September. Shortly thereafter, the system dissipated over the mountainous terrain a couple of hundred miles north-northwest of Mexico City.

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.

METEOROLOGICAL STATISTICS

Observations in Tropical Depression Eight (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 Tropical Rainfall Measuring Mission (TRMM), the European Space Agency’s Advanced Scatterometer (ASCAT), and Defense Meteorological Satellite Program (DMSP) satellites, among others, were also

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.

useful in constructing the best track of Tropical Depression Eight. The estimated central pressure of the depression at landfall is based on a surface observation from a Mexican Navy site near Tampico.

Rainfall and Flooding

Tampico reported 2.60 inches of rain due to the depression. Media reports indicate rainfall totals of up to 5 inches in the state of Veracruz. Flooding and damage were reported in the vicinity of the cities of Veracruz and Mexico City, but these occurred too far to the south of the cyclone's track to be directly related to the depression.

CASUALTY AND DAMAGE STATISTICS

There were no reports of damage or casualties associated with Tropical Depression Eight.

FORECAST AND WARNING CRITIQUE

The genesis of Tropical Depression Eight was not well anticipated in the short term. The tropical wave from which the depression formed was first mentioned in the Tropical Weather Outlook (TWO) 114 h prior to development. Genesis forecasts first reached the indicated likelihood categories in the TWO with lead times as shown in the table below (for the "low" category, the lead times for the first non-zero probabilities are given).

| | Hours Before Genesis | |
|------------------|-----------------------------|-------------------------|
| | 48-Hour Outlook | 120-Hour Outlook |
| Low (<30%) | 90 | 114 |
| Medium (30%-50%) | 24 | 90 |
| High (>50%) | | |

The 120-h genesis probability was set back into the "low" category 66 h prior to development. The 48- and 120-h genesis probabilities were raised to "medium" 24 h prior to development. At the time of genesis in the best track, however, the 48- and 120-h genesis probabilities were reduced to "low", since it was anticipated that the system would move inland before tropical cyclone development could occur.

No watches or warnings were required in association with Tropical Depression Eight, since the system was moving ashore at the time of the first advisory issuance.



Table 1. Best track for Tropical Depression Eight, 6-7 September 2013.

| Date/Time (UTC) | Latitude (°N) | Longitude (°W) | Pressure (mb) | Wind Speed (kt) | Stage |
|-----------------|---------------|----------------|---------------|-----------------|--|
| 06 / 1200 | 22.4 | 97.4 | 1009 | 30 | tropical depression |
| 06 / 1800 | 22.3 | 97.9 | 1008 | 30 | " |
| 07 / 0000 | 21.9 | 98.5 | 1009 | 25 | " |
| 07 / 0600 | 21.5 | 99.0 | 1009 | 25 | low |
| 07 / 1200 | | | | | dissipated |
| 06 / 1800 | 22.3 | 97.9 | 1008 | 30 | minimum pressure and maximum sustained winds |
| 06 / 1800 | 22.3 | 97.9 | 1008 | 30 | landfall near Tampico, Mexico |

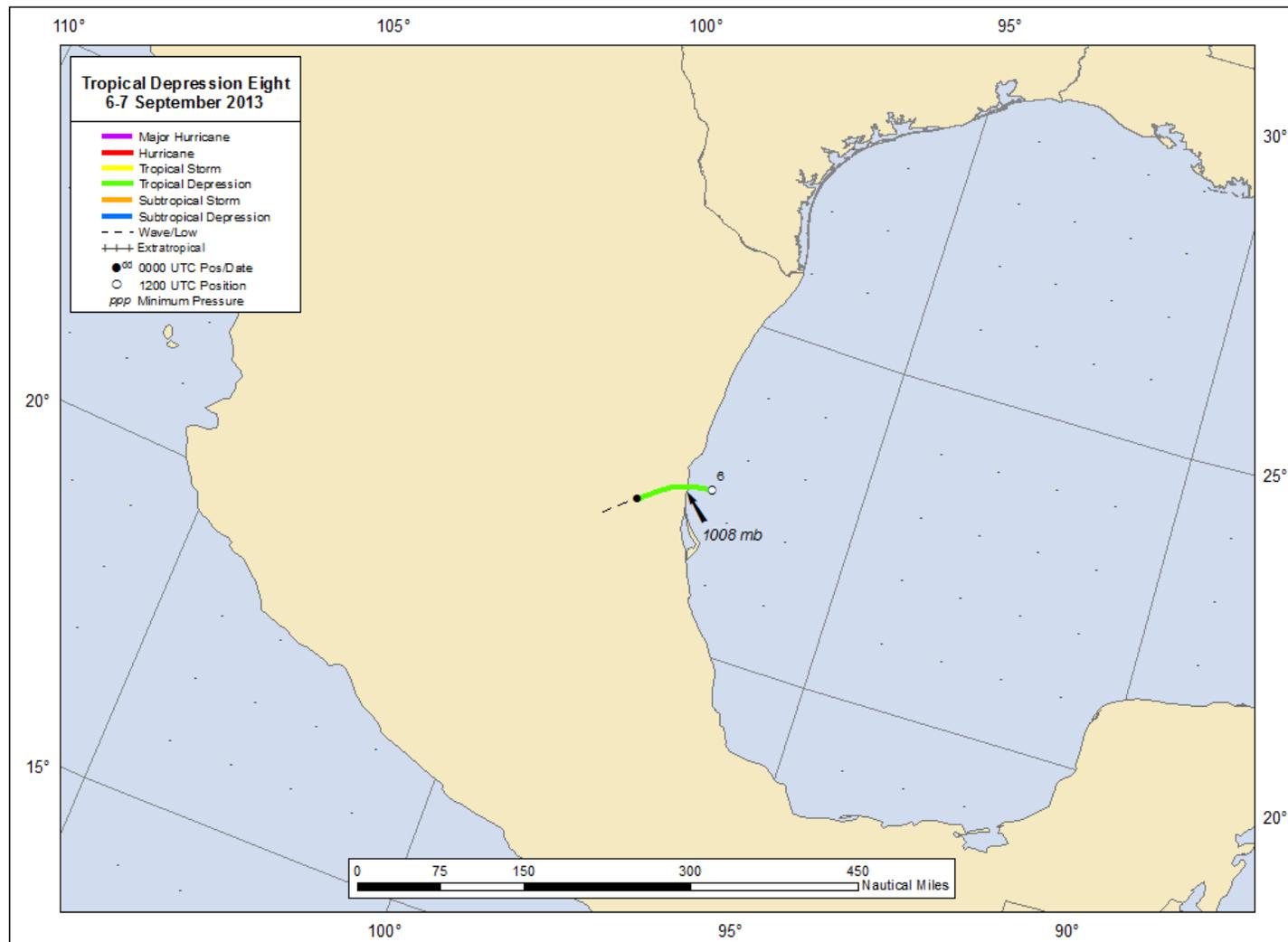


Figure 1. Best track positions for Tropical Depression Eight, 6-7 September 2013.

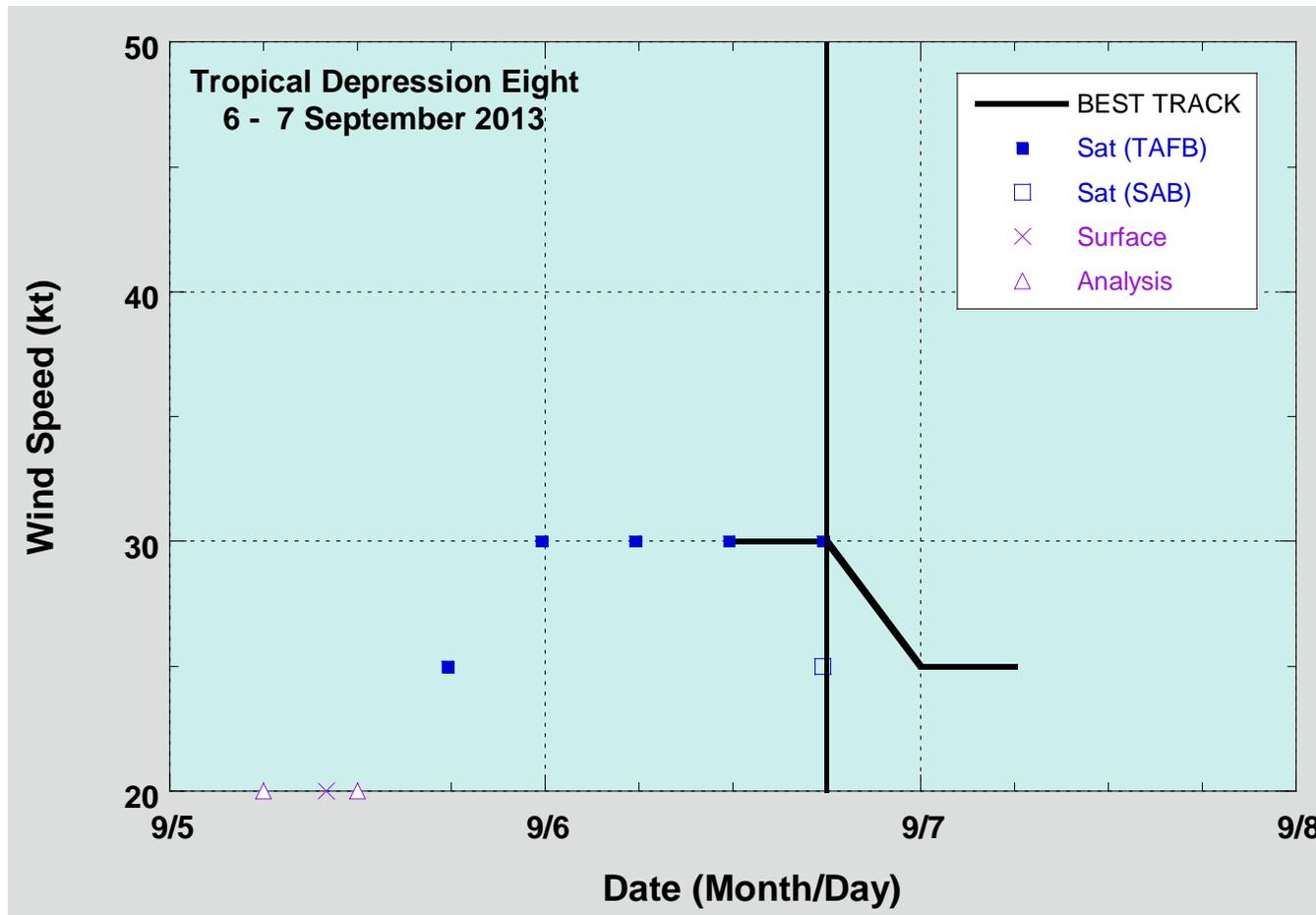


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Depression Eight, 6-7 September 2013. Dashed vertical lines correspond to 0000 UTC, and the solid vertical line corresponds to landfall.

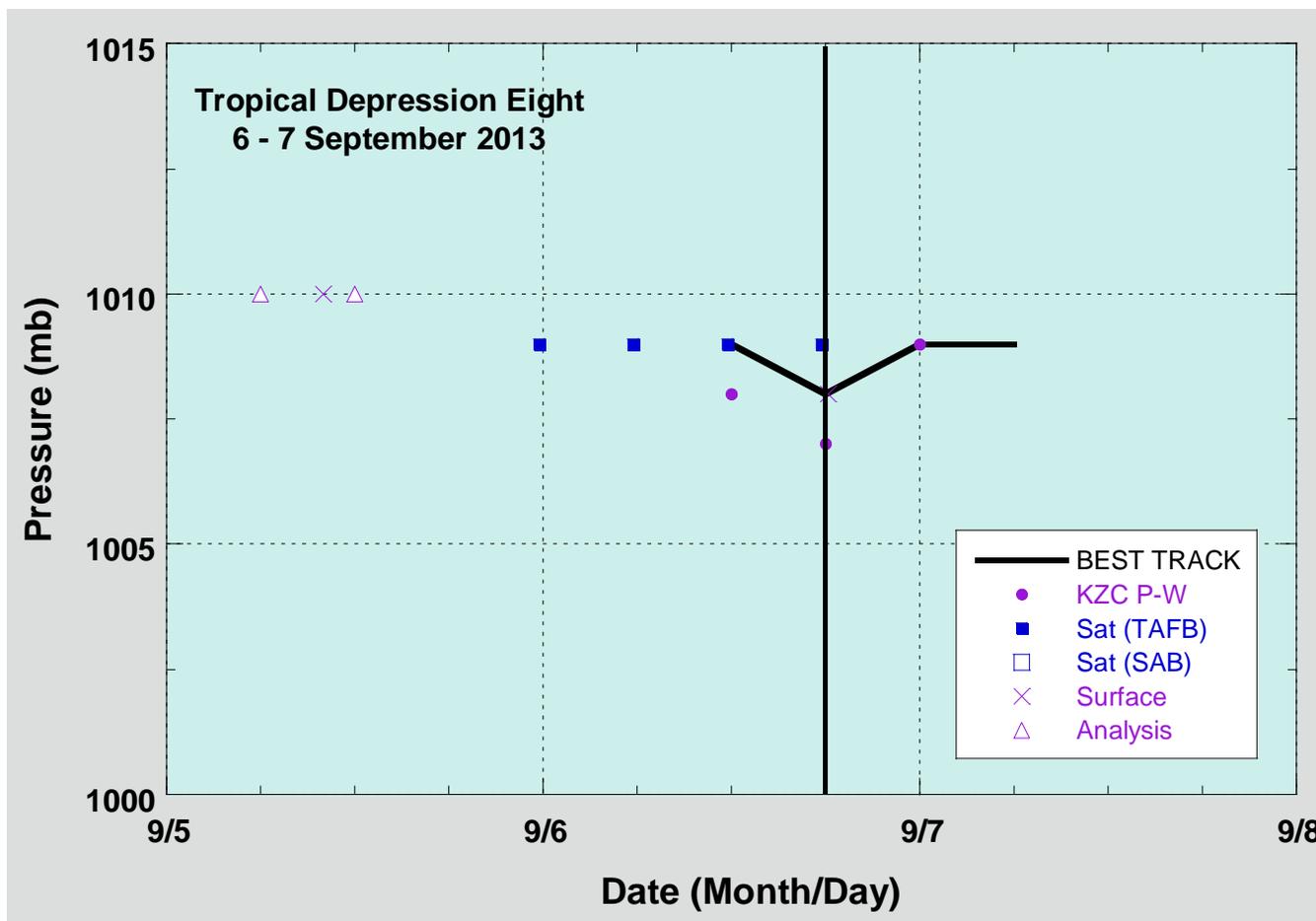


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Depression Eight, 6-7 September 2013. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC, and the solid vertical line corresponds to landfall.