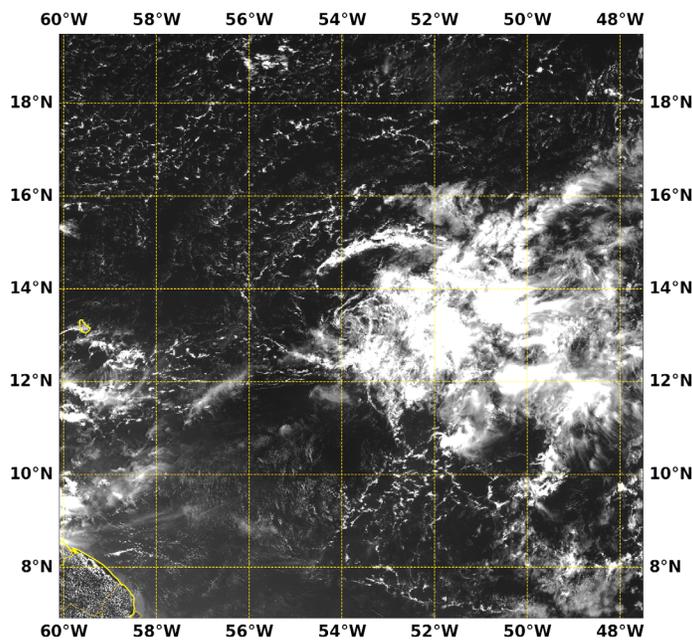# NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL DEPRESSION ELEVEN

(AL112018)

21–22 September 2018

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National Hurricane Center
9 November 2018

GOES 16 VISIBLE IMAGE AT 1500 UTC 22 SEPTEMBER 2018 SHOWING THE CIRCULATION OF THE DEPRESSION BECOMING SEPARATED FROM THE CONVECTION DUE TO WESTERLY WIND SHEAR. IMAGE COURTESY OF THE NAVAL RESEARCH LABORATORY.

Tropical Depression Eleven was a short-lived cyclone over the tropical Atlantic.

Tropical Depression Eleven

21–22 SEPTEMBER 2018

SYNOPTIC HISTORY

A tropical wave moved off the west coast of Africa on 14 September with some signs of mid-level rotation. This rotation weakened while the wave was traversing the eastern tropical Atlantic, but as the system crossed 40°W on 9 September, the convection gradually increased and gained some organization. On 20 September, a weak low formed from the wave in the central Atlantic, and moved westward to west-northwestward while the parent wave continued to propagate toward the west. A burst of deep convection occurred in association with the low on the 21 September, and it is estimated that a tropical depression formed at 1800 UTC that day well east of the Lesser Antilles. The "best track" chart of the tropical depression 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 1[1].

The depression moved generally westward and became embedded within strong westerly shear, which not only inhibited additional development but also removed all of the convection from the small low-level circulation center. The circulation opened up and the depression dissipated by 0000 UTC 23 September about 300 n mi east of the Lesser Antilles.

METEOROLOGICAL STATISTICS

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

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[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.

CASUALTY AND DAMAGE STATISTICS

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

FORECAST AND WARNING CRITIQUE

The genesis of Tropical Depression Eleven was poorly forecast. The wave from which the depression developed was introduced in the Tropical Weather Outlook 66 h prior to genesis but with a low chance (<40%) of formation (Table 2). The probabilities of genesis did not reach the medium category at any time period given the prevailing dry environment and high wind shear.

There were two verifying NHC forecasts for the depression at 12 h, and the average errors of those forecasts were 29.2 n mi for track and 5.0 kt for intensity. A verification of model track and intensity forecasts is not provided due to the short life of the depression.

Table 1.   Best track for Tropical Depression Eleven, 21–22 September 2018.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
21 / 1800	12.9	52.5	1008	30	tropical depression
22 / 0000	13.0	53.2	1007	30	"
22 / 0600	13.0	53.4	1007	30	"
22 / 1200	13.2	53.7	1008	25	"
22 / 1800	13.4	53.9	1008	25	"
23 / 0000					dissipated
22 / 0000	13.0	53.2	1007	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.

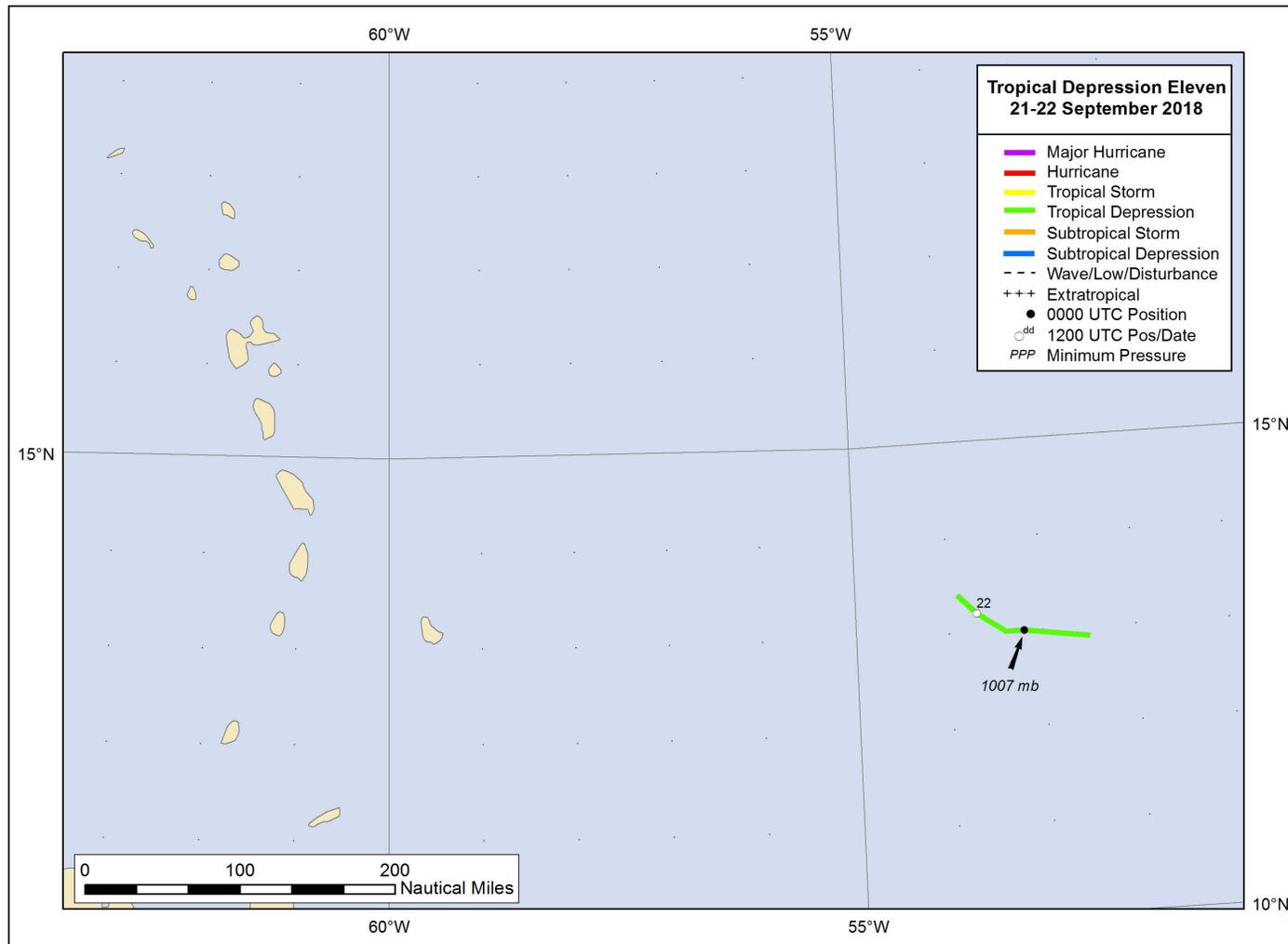|	Hours Before Genesis	
	48-Hour Outlook	120-Hour Outlook
Low (<40%)	66	66
Medium (40%-60%)	-	-
High (>60%)	-	-

Figure 1.   Best track positions for Tropical Depression Eleven, 21–22 September 2018.
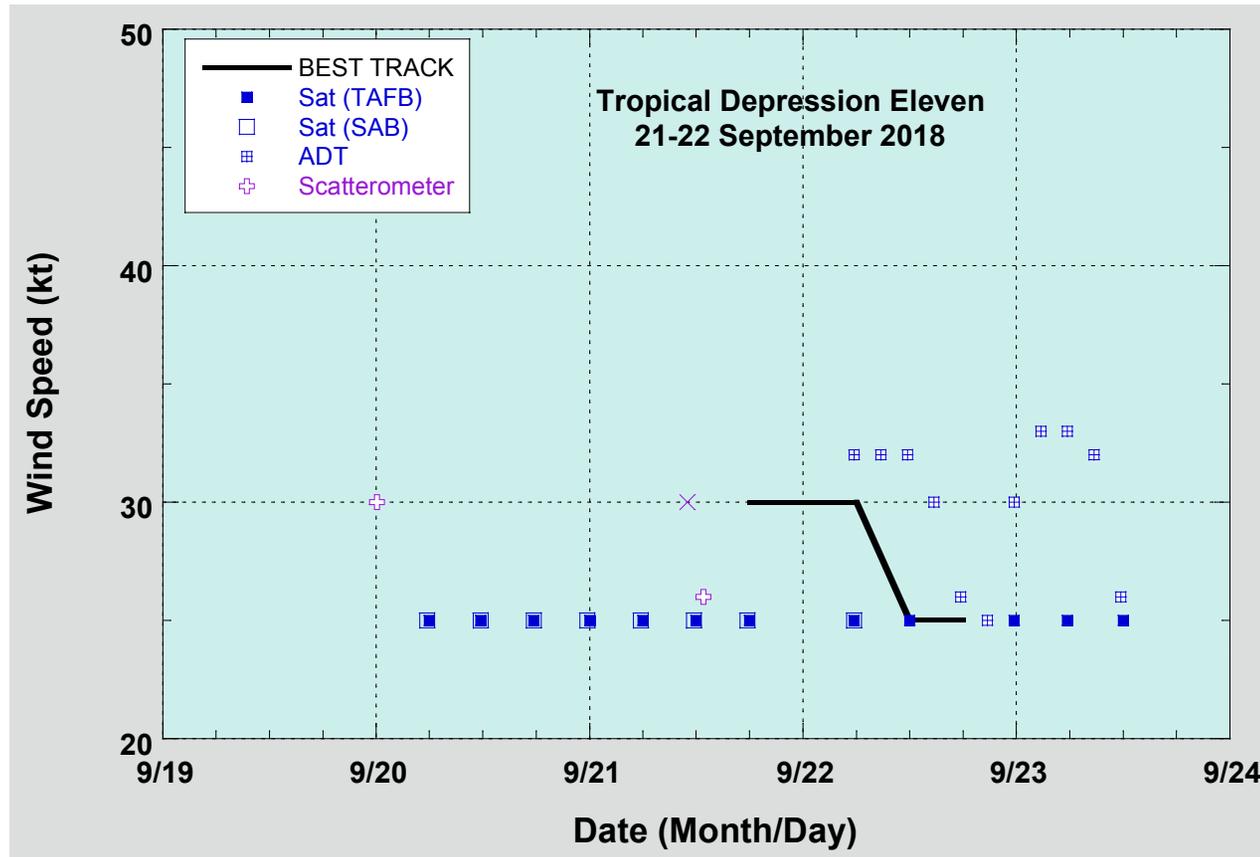
Figure 2.   Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Depression Eleven, 21–22 September 2018. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. SATCON intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies. Dashed vertical lines correspond to 0000 UTC.
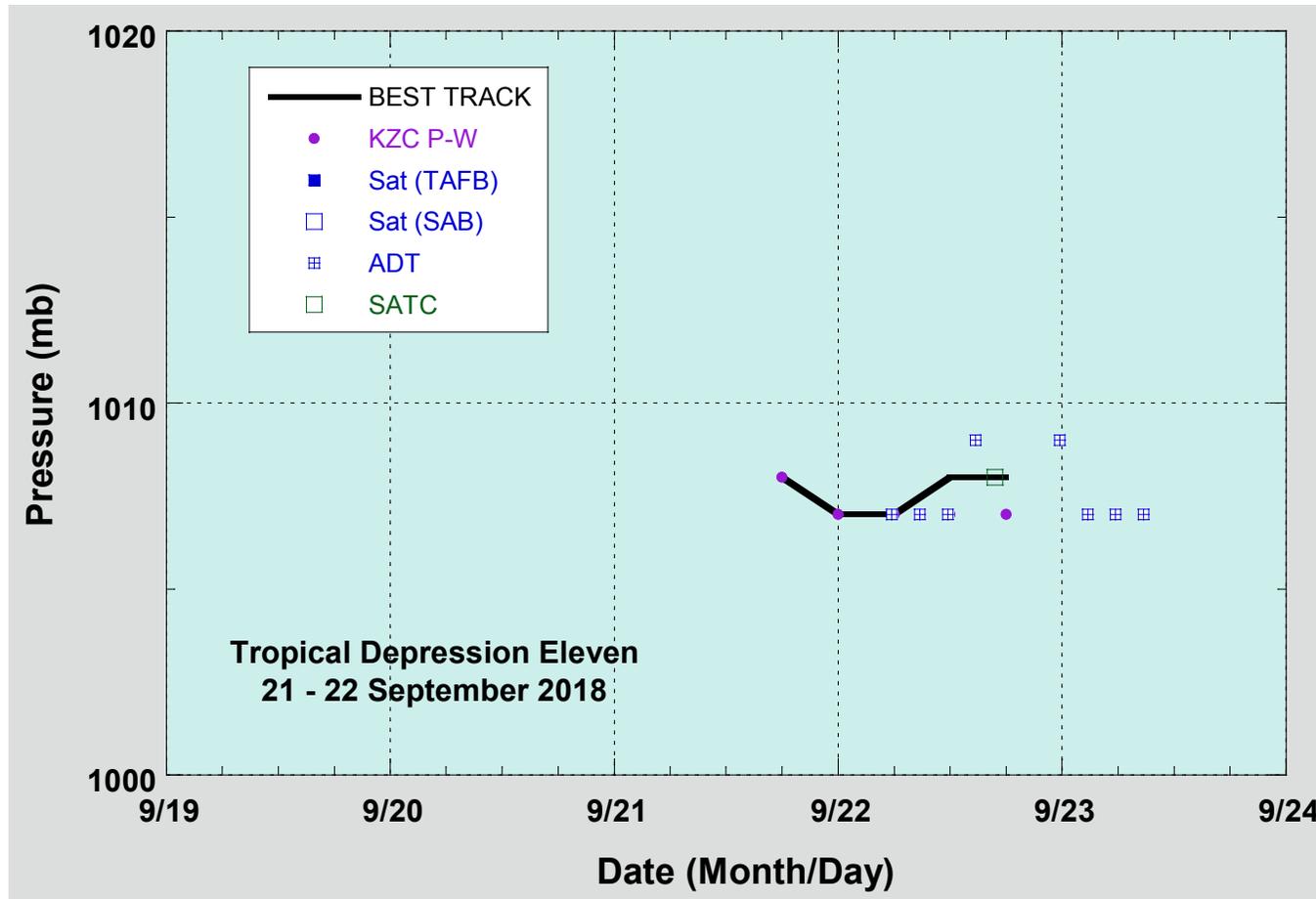
Figure 3.   Selected pressure observations and best track minimum central pressure curve for Tropical Depression Eleven, 21–22 September 2018. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. SATCON intensity estimates are from the Cooperative Institute 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.