

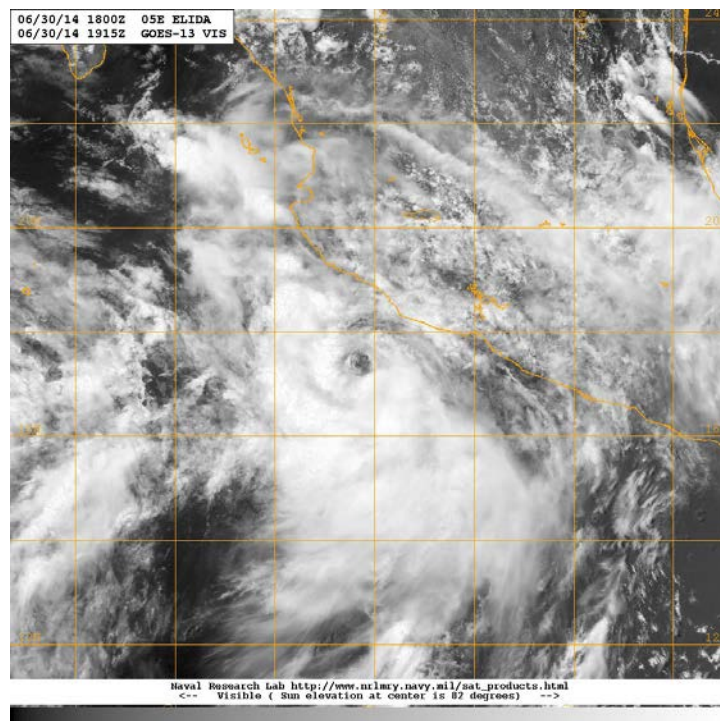


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL STORM ELIDA (EP052014)

30 June – 2 July 2014

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National Hurricane Center
8 August 2014



VISIBLE SATELLITE IMAGE OF TROPICAL STORM ELIDA AT 1915 UTC 30 JUNE, COURTESY OF THE NAVAL RESEARCH LABORATORY.

Elida was a short-lived tropical cyclone that formed near the southwestern coast of Mexico and dissipated while drifting near the coast.

TROPICAL STORM ELIDA

30 JUNE – 2 JULY 2014

SYNOPTIC HISTORY

A well-defined tropical wave, accompanied by an area of showers and thunderstorms, moved off the west coast of Africa on 20 June. Despite the prevailing hostile environment of westerly wind shear and cooler than normal sea surface temperatures, the wave maintained some disorganized convection as it moved westward across the tropical Atlantic. The wave was trailed by a large area of Saharan dust, and a wind surge that reached 50 knots at the 700-mb level as the axis of the wave crossed Trinidad on 25 June. Most of the convection associated with the wave continued westward over South and Central America, and on 27 June, once in the eastern North Pacific, the shower activity increased and gained organization. The disturbance moved west-northwestward toward the Gulf of Tehuantepec and approached the large circulation of Tropical Storm Douglas while the parent wave continued westward. By late on 29 June, the disturbance was already producing tropical-storm-force winds just off the coast of Mexico, but there was no evidence of a closed surface circulation. A small circulation developed on the northwestern edge of the deep convection, and it is estimated that the system became a tropical storm with winds of 45 knots at 0600 UTC 30 June about 150 n mi southeast of Manzanillo. Strong northwesterly wind shear associated with the outflow of Douglas began to remove the convection associated with Elida. The cyclone then weakened to tropical depression status at 0000 UTC 2 July and became a remnant low a few hours later. By then the cyclone was drifting southeastward within very weak steering currents, and the system dissipated at 0000 UTC 3 July just south of Zihuatanejo, Mexico.

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 Storm Elida (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

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.

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 useful in constructing the best track of Elida.

The disturbance was producing tropical-storm-force winds before genesis as indicated by ASCAT at 0335 UTC 30 June. The same ASCAT data also indicated that there was a pronounced wind shift but no closed circulation at that time. Post-analysis suggests that a well-defined center formed at 0600 UTC 30 June, marking the formation of Tropical Storm Elida. The ship *Zim Savannah (A8ER9)*, reported 50-kt winds just to the north of the center of Elida at 0900 UTC 30 June, and then 42 knots at 1200 UTC, after the ship crossed to the east of the center. Based on historical observations from that ship, it was estimated that these winds were biased a little high. Elida's estimated peak intensity was based on a blend of winds from the ship and ASCAT passes at 0335 and 0429 UTC on 30 June.

CASUALTY AND DAMAGE STATISTICS

There are unconfirmed reports of severe damage to numerous hotels, and beach erosion due to high waves in the resort town of Barra de Navidad along the southwest coast of Mexico near Manzanillo. There were no reports of casualties associated with Elida.

FORECAST AND WARNING CRITIQUE

Table 2 indicates how far in advance of genesis the NHC official genesis forecasts first reached the indicated likelihood categories. The genesis of Elida was poorly forecast, especially in the short range. In post-analysis, the system formed before it was given a high chance of genesis within 48 h.

A verification of NHC official track forecasts for Elida is given in Table 3a. Official and climatological forecast track errors were greater than the mean official errors for the previous 5-yr period. A homogeneous comparison of the official track errors with selected guidance models is given in Table 3b. There were only a few forecasts to verify, but the ECMWF had lower errors than the official forecast or any other model at all lead times.

A verification of NHC official intensity forecasts for Elida is given in Table 4a. Official forecast intensity errors were lower than the mean official errors at 12 and 24 h for the previous 5-yr period. A homogeneous comparison of the official intensity errors with selected guidance models is given in Table 4b. As with the track forecast, there were only a few intensity forecasts to verify, and both the ECMWF and the multi-model consensus IVCN had lower errors than the official forecast.

Watches and warnings associated with Tropical Storm Elida are given in Table 5.



Table 1. Best track for Tropical Storm Elida, 30 June - 2 July, 2014.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
30 / 0600	17.0	103.0	1004	40	tropical storm
30 / 1200	17.1	103.4	1002	45	"
30 / 1800	17.3	104.1	1003	45	"
01 / 0000	17.5	104.4	1003	45	"
01 / 0600	17.5	104.3	1003	45	"
01 / 1200	17.4	104.2	1004	40	"
01 / 1800	17.3	104.0	1005	35	"
02 / 0000	17.1	103.6	1007	30	tropical depression
02 / 0600	17.0	103.1	1008	25	low
02 / 1200	16.9	102.6	1009	25	"
02 / 1800	16.9	102.4	1010	20	"
03 / 0000					dissipated
30 / 1200	17.1	103.4	1002	45	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 (<30%)	54	54
Medium (30%-50%)	12	42
High (>50%)	0	6



Table 3a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) track forecast errors (n mi) for Tropical Storm Elida. Mean errors for the previous 5-yr period are shown for comparison.

	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	25.7	62.9	100.1				
OCD5	58.1	172.6	306.2				
Forecasts	5	3	1				
OFCL (2009-13)	25.7	41.4	55.0				
OCD5 (2009-13)	37.2	74.8	118.0				



Table 3b. Homogeneous comparison of selected track forecast guidance models (in n mi) for Tropical Storm Elida. Errors smaller than the NHC official forecast are shown in boldface type.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	25.7	62.9	100.1				
OCD5	58.1	172.6	306.2				
HWFI	32.4	52.3	64.7				
GHMI	26.7	84.1	186.4				
EMXI	13.2	31.9	70.4				
TVCE	23.5	58.6	103.7				
LBAR	40.3	119.8	213.7				
BAMD	30.2	34.6	40.1				
BAMM	65.2	149.7	211.1				
BAMS	86.7	191.9	254.7				
Forecasts	5	3	1				



Table 4a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) intensity forecast errors (kt) for Tropical Storm Elida. 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	72	96	120
OFCL	5.0	10.0	15.0				
OCD5	5.0	12.3	20.0				
Forecasts	5	3	1				
(EP) OFCL (2009-13)	6.1	10.4	13.4				
(EP) OCD5 (2009-13)	7.7	12.7	16.4				

Table 4b. Homogeneous comparison of selected intensity forecast guidance models (in kt) for Tropical Storm Elida. Errors smaller than the NHC official forecast are shown in boldface type.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	5.0	10.0	15.0				
OCD5	5.0	12.3	20.0				
HWFI	6.2	10.3	1.0				
EMXI	4.6	5.7	10.0				
GHMI	8.2	5.7	10.0				
ICON	4.8	5.7	12.0				
DSHP	4.4	12.7	19.0				
IVCN	4.8	5.7	12.0				
Forecasts	5	3	1				



Table 5. Watch and warning summary for Tropical Storm Elida, 30 June - 2 July, 2014.

Date/Time (UTC)	Action	Location
30 / 1500	Tropical Storm Warning issued	Lazaro Cardenas to Cabo Corrientes
1 / 1500	Tropical Storm Warning modified to	Lazaro Cardenas to Manzanillo
1 / 2100	Tropical Storm Warning discontinued	All

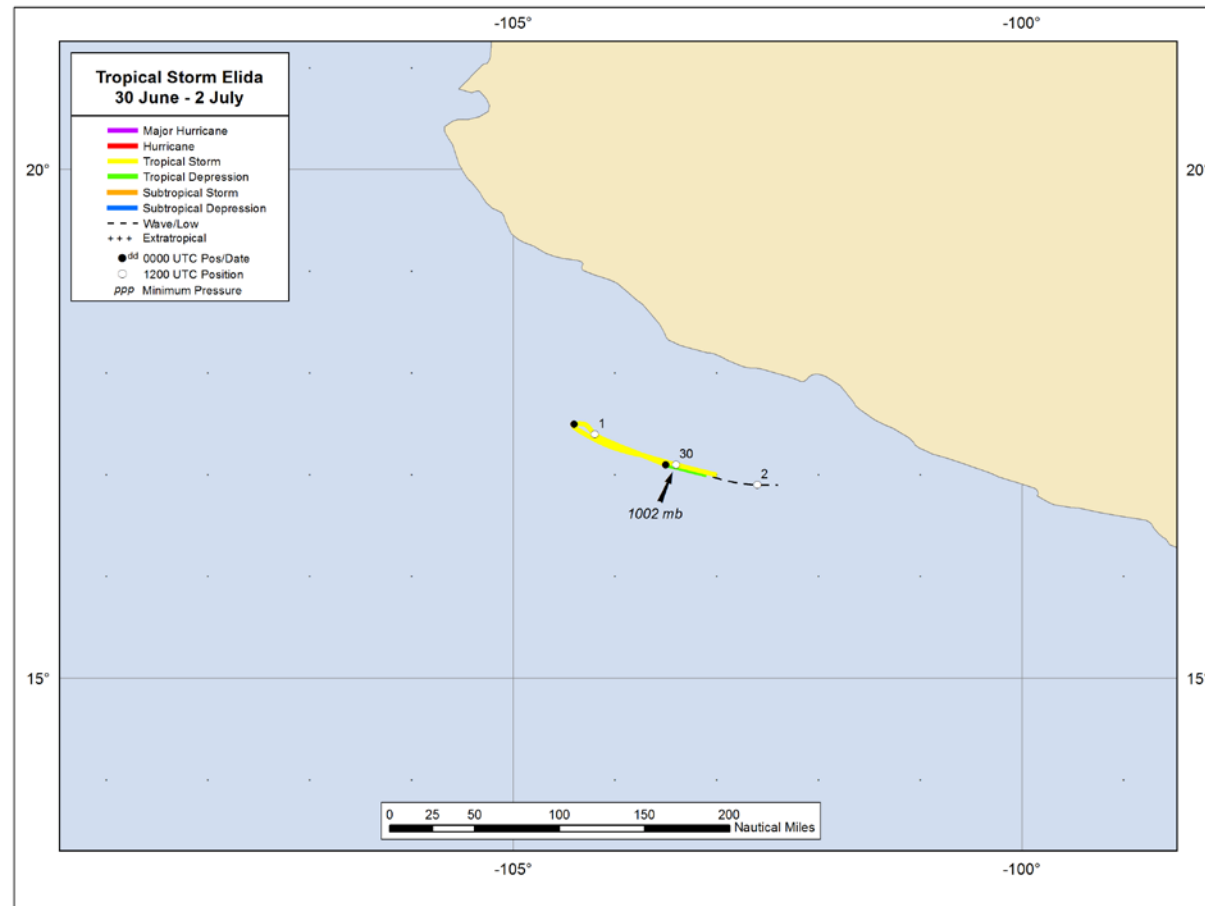


Figure 1. Best track positions for Tropical Storm Elida, 30 June - 2 July, 2014.

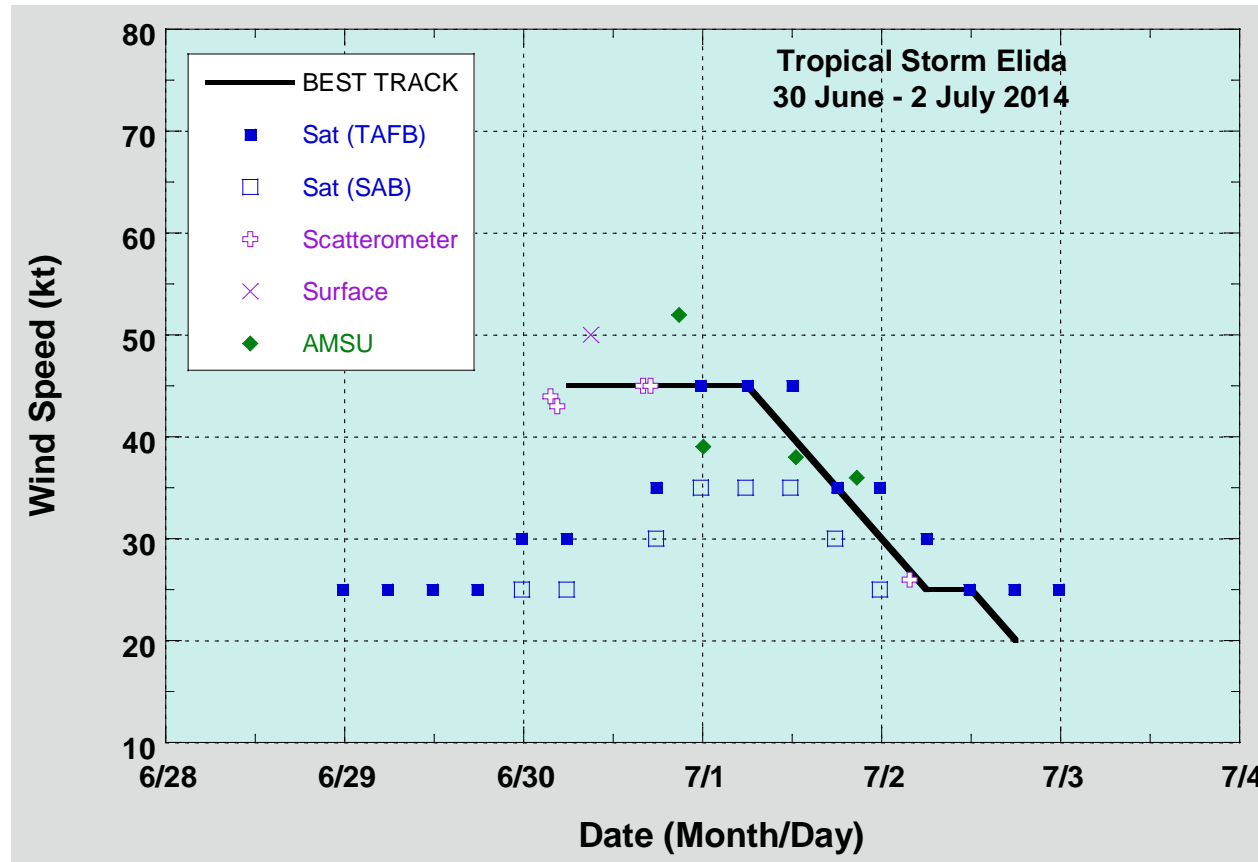


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Elida, 30 June - 2 July, 2014. AMSU intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies technique. Dashed vertical lines correspond to 0000 UTC.

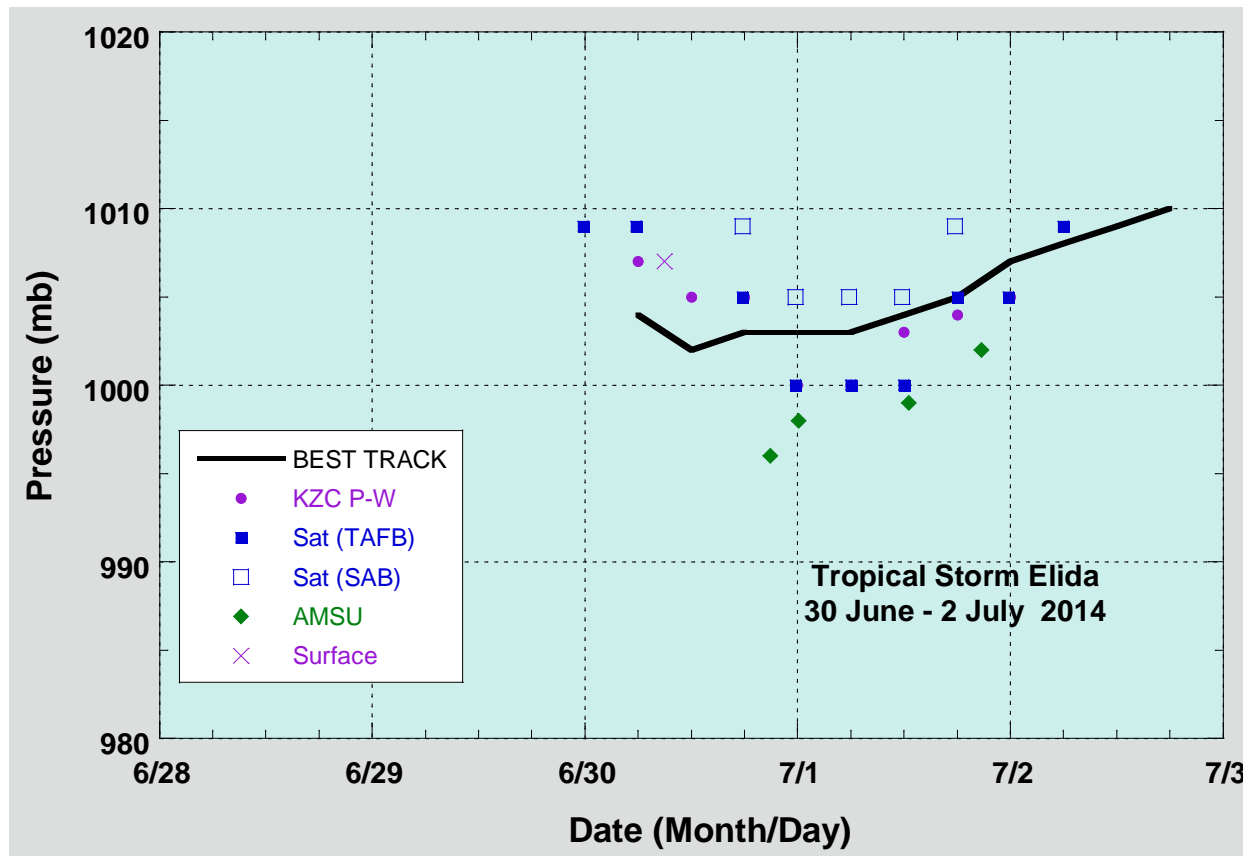


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical storm Elida, 30 June - 2 July 2014. AMSU intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies technique. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC.