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**ATTACHMENT 34 to the METEOROLOGY GROUP FACTUAL REPORT
DCA16MM001**

National Hurricane Center's Tropical Cyclone Report for Tropical Storm Erika.

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NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL STORM ERIKA (AL052015)

24 – 28 August 2015

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MODIS SATELLITE IMAGE OF TROPICAL STORM ERIKA NEAR THE LESSER ANTILLES AT 1420 UTC 27 AUGUST 2015.
IMAGE COURTESY OF NASA.

Erika was a tropical storm whose torrential rains inflicted significant casualties and damage on the Caribbean island of Dominica.

Tropical Storm Erika

24 – 28 AUGUST 2015

SYNOPTIC HISTORY

Erika had its origins in a tropical wave that crossed the west coast of Africa on 21 August. The wave moved westward over the eastern tropical Atlantic for a couple of days while producing scattered and disorganized showers, but by 23 August, deep convection began to show signs of organization, with some banding features becoming evident. Scatterometer data, however, showed that the system was a sharp surface trough with no definite center of circulation. By midday on 24 August, the trough began to produce winds to gale force but it still lacked a well-defined center. When the system passed over NOAA data buoy 41041 around 2200 UTC that day, observations from that platform indicated that the circulation had become well defined, with maximum winds near 40 kt; based on these data it is estimated that a tropical storm formed around 1800 UTC 24 August, while centered about 900 n mi east of the Lesser Antilles. 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.

Erika moved westward at a brisk pace, while being steered by the flow south of the subtropical ridge. Initially the environment was conducive for some strengthening, but by 25 August northerly shear began to affect the cyclone and this, along with some dry mid-level air, inhibited intensification. By late that day, the low-level center became partially exposed and Erika weakened slightly. Early on 26 August, the storm’s deep convection increased, but later that day the center once again became partially exposed to the northwest of the main area of deep convection. The tropical cyclone continued on a generally westward heading, and passed near the northern tip of Guadeloupe early on 27 August while strengthening to an intensity of 45 kt. West-northwesterly shear prevented additional intensification while Erika moved over the northeastern Caribbean Sea early on 28 August, where it passed south of the U.S. Virgin Islands and Puerto Rico. Later that day, Hurricane Hunter aircraft observations indicated that Erika no longer had a well-defined center of circulation, and it is estimated that the tropical cyclone dissipated shortly after 1200 UTC 28 August just south of the eastern tip of Hispaniola. The remnants of Erika, an area of low pressure, moved across Haiti on 29 August, between the Bahamas and Cuba on 30 August, and turned northward and moved slowly over the eastern Gulf of Mexico on 31 August and 1 September. The disturbance moved over northern Florida on 2 September and then drifted into southeastern Georgia, losing its identity on 3 September.

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 STATISTICS

Observations in Erika (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 from the Cooperative Institute for Meteorological Satellite Studies/University of Wisconsin-Madison. Observations also include flight-level, stepped frequency microwave radiometer (SFMR), and dropwindsonde observations from seven flights of the 53rd Weather Reconnaissance Squadron of the U. S. Air Force Reserve Command and six flights of the NOAA Aircraft Operations Center. 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 Erika.

Ship reports of winds of tropical storm force associated with Erika are given in Table 2, and selected surface observations from land stations and data buoys are given in Table 3.

Erika's estimated maximum intensity of 45 kt is based on aircraft data as well as surface observations. There were a number of surface observations of sustained winds of tropical storm force from the islands of the northeastern Caribbean. Sustained winds of 47 kt and 49 kt were measured from a couple of Weatherflow sensors on St. Croix, however those instruments were at elevations of 130 ft and 65 ft above sea level, respectively.

The largest rainfall amounts associated with Erika, by far, were observed on Dominica, where maximum totals reached 12.62 inches. Practically all of this precipitation occurred from 0600 to 1800 UTC 27 August. These torrential rains produced catastrophic flooding and mud slides over the island. Elsewhere, there was localized flooding in Guadeloupe, and the rains were described as "beneficial" in Puerto Rico owing to the drought conditions that prevailed over that island.

Storm surge inundations over the islands of the northeast Caribbean were generally 1 ft or less.

CASUALTY AND DAMAGE STATISTICS

Erika was responsible for 30 direct deaths², all in Dominica. Also, 574 persons on that island were left homeless by the storm. In Haiti, one person died due to a mud slide after Erika had dissipated as a tropical cyclone.

² Deaths occurring as a direct result of the forces of the tropical cyclone are referred to as "direct" deaths. These would include those persons who drowned in storm surge, rough seas, rip currents, and freshwater floods. Direct deaths also include casualties resulting from lightning and wind-related events (e.g., collapsing structures). Deaths occurring from such factors as heart attacks, house fires, electrocutions from downed power lines, vehicle accidents on wet roads, etc., are considered indirect" deaths.

In Dominica, 271 houses were reportedly damaged or destroyed. There was also major damage to roads, bridges and other infrastructure on the island. Press accounts of total damage estimates for Dominica were highly variable, but ranged up to \$500 million (U.S.).

Most of the damage from Erika in Puerto Rico occurred in the agricultural sector and it was estimated to be about \$17.4 million, mainly due to losses of plantains, bananas, and coffee. Some trees and power lines were downed in Puerto Rico, leaving some 250,000 people without power, and over 30 roofs were blown off of homes in the island. In St. Croix, Erika's winds downed trees, limbs, light poles and power lines causing power outages to 11,000 customers.

FORECAST AND WARNING CRITIQUE

Erika's formation was reasonably well anticipated (Table 4). The disturbance that eventually became Erika was introduced into the Tropical Weather Outlook 102 h prior to formation with a low (<40%) chance of tropical cyclogenesis in 5 days. Ninety-six hours prior to formation, it was first given a low chance of genesis in 2 days. The 5-day genesis probability was raised to medium (40-60%) 66 h prior to formation, and the 2-day probability was raised to medium 36 h prior to formation. The 5-day genesis probability was raised to high 36 h before formation, and the 2-day probability was raised to high 24 h before formation.

A verification of the NHC official track forecasts for Erika is given in Table 5a. The mean official forecast track errors were greater than the mean official errors for the previous 5-yr period at all forecast intervals. A homogeneous comparison of the official track errors with selected guidance models is given in Table 5b. For the 24- through 120-h forecast intervals, EMXI and NVGI had lower errors than the official forecasts. The consensus guidance TCON and TVCA had lower errors than the official forecasts only at 12 and 24 h. Climatology and persistence (OCD5) had lower errors than the official forecasts at 24 and 36 h. The best dynamical models, EMXI, GFSI, and HWRF, generally exhibited a poleward bias in their forecasts for Erika, as can be seen in Fig. 4.

A verification of NHC official intensity forecasts for Erika is given in Table 6a. Official forecast intensity errors were lower than the mean official errors for the previous 5-yr period at the 12- through 48-h forecast interval, and greater than the 5-yr mean at 72 h. A homogeneous comparison of the official intensity errors with selected guidance models is given in Table 6b. A number of guidance models, such as HWFI and DSHP, had lower mean absolute intensity errors than the official forecasts at most forecast intervals. These models, however, had a high bias around the critical time when Erika would have been near Florida, had it survived. As a result of this high bias in the guidance, there were several official forecasts for Erika that showed the system as a hurricane near or over the Florida peninsula, prompting concern for the residents of that state. Figure 5 shows all of the OFCL, HWFI, DSHP, and LGEM intensity forecasts made for Erika. Note that many of these forecasts, some of which showed a strong tropical storm or hurricane after 1200 UTC 28 August, are not part of the official verification since the tropical cyclone had dissipated by the verifying time. Figure 6 shows an example of a model prediction that implied a significant threat to Florida, wherein the HWRF model predicted a hurricane near Ft. Lauderdale, FL at 0600 UTC 31 August, a time long after Erika was gone.



Watches and warnings associated with Erika are given in Table 7. It is worth mentioning that no watches or warnings were ever issued for Florida, since the survivability of Erika after passing Hispaniola was questioned by forecasters. The National Hurricane Center elected to delay the issuance of watches for Florida beyond the normal time. As it turned out, this decision was the correct one.

Table 1. Best track for Tropical Storm Erika, 24-28 August 2015.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
24 / 1800	14.3	45.1	1003	40	tropical storm
25 / 0000	14.4	46.9	1003	40	"
25 / 0600	14.7	48.6	1003	40	"
25 / 1200	15.0	50.2	1003	40	"
25 / 1800	15.3	51.9	1004	35	"
26 / 0000	15.7	53.6	1006	35	"
26 / 0600	15.9	55.2	1005	35	"
26 / 1200	16.2	56.8	1005	40	"
26 / 1800	16.4	58.2	1005	40	"
27 / 0000	16.6	59.5	1006	40	"
27 / 0600	16.5	60.8	1001	45	"
27 / 1200	16.5	62.2	1004	45	"
27 / 1800	16.6	63.6	1006	45	"
28 / 0000	17.2	65.1	1006	45	"
28 / 0600	17.5	66.8	1006	45	"
28 / 1200	17.6	68.6	1008	45	"
28 / 1800					dissipated
27 / 0600	16.5	60.8	1001	45	minimum pressure and maximum winds



Table 2. Selected ship reports with winds of at least 34 kt for Tropical Storm Erika, 24-28 August 2015.

Date/Time (UTC)	Ship call sign	Latitude (°N)	Longitude (°W)	Wind dir/speed (kt)	Pressure (mb)
27 / 1800	J8AZ3	15.9	62.4	230 / 44	1010.2
28 / 0400	J8QB8	16.0	64.0	130 / 37	1014.9
28 / 0700	J8AZ3	17.9	64.4	230 / 52	1009.7

Table 3. Selected surface observations for Tropical Storm Erika, 24-28 August 2015.

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
Antigua and Barbuda									
Automated Weather Observation Systems (AWOS)									
Antigua (17.14N 61.79W)			27/0700	19	34				
National Ocean Service (NOS) Sites									
Station BARA9, Barbuda (17.59N 61.82W)	27/0648	1007.9	27/1600	38	46	0.81	1.03	0.7	
Dominica									
Canefield Airport (TDCF) (15.34N 61.39W)					29				12.62
Douglas–Charles Airport (TDPD) (15.55N 61.30W)					34				8.74
Dominican Republic									
AWOS Sites									
Punta Cana (18.57N 68.36W)			28/1400	20	35				
Villa Duarte (18.43N 69.67W)			28/1900	24	44				
Barahona (18.26N 71.11W)			29/0000	22	45				
Guadeloupe									
Pointe-à-Pitre Le Raizet Airport (TFFR), Grande- Terre (16.26N 61.52W)	27/0400	1006.3	27/1358	25	37				1.96



Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
Marie-Galante Airport (TFFM), Marie-Galante (15.87N 61.27W)	27/0300	1007.7	27/1045	27	39				2.57
La Désirade Airport – Beauséjour, La Désirade (TFFA) (16.34N 61.00W)	27/0300	1005.6	27/0739	43	52				2.17
AWOS Sites									
Guadeloupe (16.27N 61.53W)			27/1800	22	35				
Martinique									
Lorrain Vallon (14.83N 61.05W)			27/1018	13	24				2.66
Trinité (14.77N 60.88W)	27/0700	1008.4	27/1103	45	50				0.95
Morne-Cadets (14.74N 61.15W)			27/1545	35	45				1.04
Puerto Rico									
Weatherflow									
Yabucoa-El Negro (XYAB) (18.05N 65.83W)	27/1513	1007.8	28/0210	40	47				
Las Mareas (XMRS) (17.93N 66.16W)	27/1920	1007.6	28/0542	45	50				
Del Rey Marina (XREY) (18.29N 65.63W)	27/1915	1009	28/0210	33	39				
San Juan NAVAID (XJUA) (18.46N 66.13W)			28/0235	29	34				
Club Deportivo Del Oeste (XCDP) (18.10N 67.19W)			28/1055	21	35				
AWOS Sites									



Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
Ponce (18.01N 66.34W)			28/0650	18	35				
Puerto Rico Seismic Network Sites									
Station FRDP4, Fajardo (18.34 65.63W)	27/2048	1011.5	28/0200	28	39	0.87		0.8	
Station YABP4, Yabucoa Harbor (18.06N 65.83W)			28/0248	36	45	1.26		1.0	
NOS Sites									
Station ESPP4, Esperanza, Vieques Island (18.09N 65.47W)	27/1918	1010.3	28/0236	36	44	0.96	1.18	0.8	
Caribbean Integrated Coastal Ocean Observing System (CarlCOOS) Sites									
Station 41053, San Juan (18.47N 66.10W)	27/2050	1009.9	28/0230	25	35				
Station 42085, Southeast of Ponce (17.86N 66.52W)	27/2023	1008	28/0920	35	44				
Station 41056, Vieques Island (18.25N 65.46W)	27/2140	1008.9	28/0200	31	45				
Aviation Routine Weather Reports (METAR)									
San Juan International (TJSJ) (18.43N 66.00W)	27/1832	1010.6	27/2225	25	36				
Roosevelt Roads (TJNR) (18.15N 65.38W)			28/1216	30	47				
Remote Automated Weather Stations (RAWS)									
Maricao (MAOP4) (18.16N 67.03W)			28/1234	29	51				
Cabo Rojo (CRRP4) (17.97N 67.16W)			28/1057	27	46				



Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
Camp Santiago (CSAP4) (18.01N 66.29W)			28/0509	24	41				
Vieques (VIEP4) (18.12N 65.42W)			28/0311	19	39				
Hydrometeorological Automated Data System (HADS)									
Adjuntas (ADJP4) (18.16N 66.72W)									4.45
Ciales (VILP4) (18.33N 66.47W)									3.27
Guyama (LCSP4) (17.97N 66.11W)									3.02
Naguabo (NGIP4) (18.21N 65.74W)									2.78
Caguas (SLKP4) (18.23N 66.04W)									2.78
Saint Barthélemy									
Saint Barthélemy / St. Jean Airport (TFFJ), Saint Barthélemy (17.90N 62.85W)	27/0400	1009.3	26/2255	29	40				0.25
Saint Kitts and Nevis									
AWOS Sites									
F.D. Roosevelt Airport, Oranjestad (17.49N 62.97W)			28/0100	17	35				
Virgin Islands-US									
Weatherflow									
Savana Island (XSAV) (18.34N 65.08W)			28/0214	34	47				



Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
Crown Mountain (XWGO) (18.36N 64.97W)			28/0105	16	38				
Buck Island (XBUK) (18.28N 64.89W)			28/0030	47	52				
Rupert Rock (XRUP) (18.33N 64.93W)	27/1952	1006.5	28/0647	35	42				
Two Brothers (XBRO) (18.34N 64.82W)	27/1901	1009.8	28/0306	37	46				
Sandy Point NWR (XCRX) (17.68N 64.90W)			28/0058	49	57				
AWOS Sites									
St. Martin (18.10N 63.05W)			27/2000	31	45				
St. Croix Port (17.70N 64.75W)	27/2354	1004.3	28/0100	37	46				
NOS Sites									
Station CHSV3, Christiansted Harbor, St. Croix (17.75N 64.71W)	27/2348	1007.7	28/0030	22	39	0.66		0.7	
Station LTBV3, Lime Tree Bay, St. Croix (17.69N 64.75W)	27/2354	1004.3	28/0100	37	46	0.80		1.0	
CarlCOOS Sites									
Station 41052, South of St. John (18.24N 64.76W)	27/1900	1008.3	28/0020	31	47				
Station 41051, South of St. Thomas (18.25N 65.00W)	27/2100	1009.2	28/0120	33	41				
RAWS									
Cotton Valley, St. Croix (CVAV3) (17.74N 64.62W)			28/0113	26	47				



Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Storm surge (ft) ^c	Storm tide (ft) ^d	Estimated Inundation (ft) ^e	Total rain (in)
	Date/time (UTC)	Press. (mb)	Date/time (UTC) ^a	Sustained (kt) ^b	Gust (kt)				
METAR									
Henry E. Rohlsen Airport, St. Croix (TISX) (17.70N 64.80W)	27/2000	1005.5	27/2039	41	56				
Cyril E. King Airport, St. Thomas (TIST) (18.33N 64.97W)	27/1553	1009.6	27/2351	32	42				
Offshore									
National Data Buoy Center (NDBC) Sites									
Station 42S60, WSW of Plymouth, Montserrat (16.41N 63.19W)	27/1350	1006.5	27/2000	31	38				
Station 41S43, NNE of San Juan, PR (21.13N 64.86W)	27/2030	1013.9	28/0900	25	34				
Station 41041, North Equatorial 2 (14.33N 46.08W)	24/1929	1003.9	24/2251	39	45				
Station 42060, NE Caribbean (16.33N 63.24W)	27/1414	1006.7	27/2003	37	43				

- ^a Date/time is for sustained wind when both sustained and gust are listed.
- ^b Except as noted, sustained wind averaging periods for C-MAN and land-based reports are 2 min; buoy averaging periods are 8 min.
- ^c Storm surge is water height above normal astronomical tide level.
- ^d For Puerto Rico and the U.S. Virgin Islands, storm tide is water height above the Puerto Rico Vertical Datum of 2002 (PRVD02) and the Virgin Islands Vertical Datum of 2009 (VIVD09), respectively. For Barbuda, storm tide is water height above Mean Sea Level (MSL).
- ^e Estimated inundation is the maximum height of water above ground. The height of the water above Mean Higher High Water (MHHW) is used as a proxy for inundation.

Table 4. 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%)	96	102
Medium (40%-60%)	36	66
High (>60%)	24	36



Table 5a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) track forecast errors (n mi) for Tropical Storm Erika, 24-28 August 2015. 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	29.0	57.8	81.0	91.2	118.5		
OCD5	33.1	43.7	70.6	98.2	166.0		
Forecasts	13	11	9	7	3		
OFCL (2010-14)	28.4	45.0	60.4	77.1	113.1		
OCD5 (2010-14)	48.3	101.5	161.5	222.6	329.8		



Table 5b. Homogeneous comparison of selected track forecast guidance models (in n mi) for Tropical Storm Erika, 24-28 August 2015. Errors smaller than the NHC official forecast are shown in boldface type. The number of official forecasts shown here will generally be smaller than that shown in Table 5a due to the homogeneity requirement.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	30.7	61.8	87.4	101.4	135.1		
OCD5	35.2	46.3	77.1	110.1	187.9		
GFSI	37.6	72.1	104.4	126.8	112.6		
GHMI	41.2	73.3	113.3	147.7	206.8		
HWFI	30.7	66.3	108.4	125.0	268.1		
EGRI	29.6	60.0	92.2	113.4	239.5		
EMXI	33.2	58.2	83.5	95.7	124.0		
NVGI	38.0	58.7	75.5	90.1	103.8		
GFNI	31.2	48.2	74.6	113.4	169.0		
CMCI	32.4	68.4	99.3	122.4	108.2		
TCON	29.7	59.0	92.7	111.6	187.3		
TVCA	30.1	59.4	90.4	106.6	172.3		
FSSE	29.7	61.5	95.1	119.1	143.6		
AEMI	34.9	64.6	94.8	118.1	137.3		
BAMS	44.7	88.2	125.8	156.4	174.5		
BAMM	31.1	51.5	75.3	103.5	197.8		
BAMD	53.5	95.5	141.3	191.7	370.1		
Forecasts	12	10	8	6	2		

Table 6a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) intensity forecast errors (kt) for Tropical Storm Erika, 24-28 August 2015. 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	4.6	6.4	7.2	7.9	15.0		
OCD5	4.5	7.0	8.8	9.3	21.7		
Forecasts	13	11	9	7	3		
OFCL (2010-14)	6.2	9.4	11.5	13.3	14.6		
OCD5 (2010-14)	7.3	10.8	13.3	15.3	17.7		

Table 6b. Homogeneous comparison of selected intensity forecast guidance models (in kt) for Tropical Storm Erika, 24-28 August 2015. 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	4.6	6.4	7.2	7.9	15.0		
OCD5	4.5	7.0	8.8	9.3	21.7		
HWFI	4.2	6.5	6.2	6.1	12.7		
GHMI	4.9	7.4	7.2	5.4	1.3		
DSHP	4.6	5.9	6.6	7.9	10.0		
LGEM	5.0	6.1	7.7	9.1	14.7		
ICON	4.1	5.5	5.4	5.7	9.0		
IVCN	4.1	5.5	5.4	5.7	9.0		
GFNI	4.2	4.5	5.7	7.6	8.3		
GFSI	4.2	7.3	8.2	11.6	11.3		
EMXI	3.5	4.6	5.9	8.1	6.7		
FSSE	4.2	5.4	5.4	6.1	11.3		
Forecasts	13	11	9	7	3		

Table 7. Watch and warning summary for Tropical Storm Erika, 24-28 August 2015.

Date/Time (UTC)	Action	Location
25 / 0900	Tropical Storm Watch issued	Antigua, Barbuda, Montserrat, St. Kitts, Nevis, Anguilla, Saba, and St. Eustatius
25 / 1200	Tropical Storm Watch issued	St. Maarten
25 / 1500	Tropical Storm Watch issued	Guadeloupe, St. Martin, and St. Barthelemy
26 / 0300	Tropical Storm Watch changed to Tropical Storm Warning	Anguilla, Saba, St. Eustatius, and St. Maarten
26 / 0300	Tropical Storm Watch issued	Puerto Rico, U. S. Virgin Islands and British Virgin Islands
26 / 0900	Tropical Storm Watch changed to Tropical Storm Warning	Antigua, Barbuda, Montserrat, St. Kitts, Nevis, Puerto Rico, U. S. Virgin Islands, and British Virgin Islands
26 / 1500	Tropical Storm Watch changed to Tropical Storm Warning	St. Martin and St. Barthelemy
26 / 2100	Tropical Storm Watch issued	Southeast Bahamas, Turks and Caicos, and Cabo Engano to Cabo Frances Viejo, Dominican Republic
27 / 1500	Tropical Storm Watch modified to	Cabo Engano to northern border with Haiti, Dominican Republic
27 / 1800	Tropical Storm Watch modified to	Isla Saona to northern border with Haiti, Dominican Republic
27 / 1800	Tropical Storm Warning discontinued	Antigua and Barbuda
27 / 2100	Tropical Storm Watch changed to Tropical Storm Warning	Isla Saona to northern border with Haiti, Dominican Republic
27 / 2105	Tropical Storm Watch discontinued	Guadeloupe



28 / 0000	Tropical Storm Watch changed to Tropical Storm Warning	Turks and Caicos and Southeast Bahamas
28 / 0000	Tropical Storm Watch issued	Central Bahamas and Isla Saona to Punta Palenque, Dominican Republic
28 / 0000	Tropical Storm Warning discontinued	Anguilla, Montserrat, St. Kitts, Nevis, Saba, St. Eustatius, and St. Maarten
28 / 0355	Tropical Storm Warning issued	Haiti
28 / 0900	Tropical Storm Watch changed to Tropical Storm Warning	Central Bahamas
28 / 0900	Tropical Storm Watch issued	Northwest Bahamas
28 / 0900	Tropical Storm Warning issued	South coast of Dominican Republic west of Isla Saona
28 / 1200	Tropical Storm Warning discontinued	St. Martin and St. Barthelemy
28 / 1500	Tropical Storm Watch issued	Ciego De Avila to Guantanamo, Cuba
28 / 1500	Tropical Storm Warning discontinued	U.S. Virgin Islands and British Virgin Islands
28 / 1800	Tropical Storm Warning discontinued	Puerto Rico
29 / 0915	Tropical Storm Warning discontinued	Dominican Republic
29 / 1330	Tropical Storm Watch discontinued	All
29 / 1330	Tropical Storm Warning discontinued	All

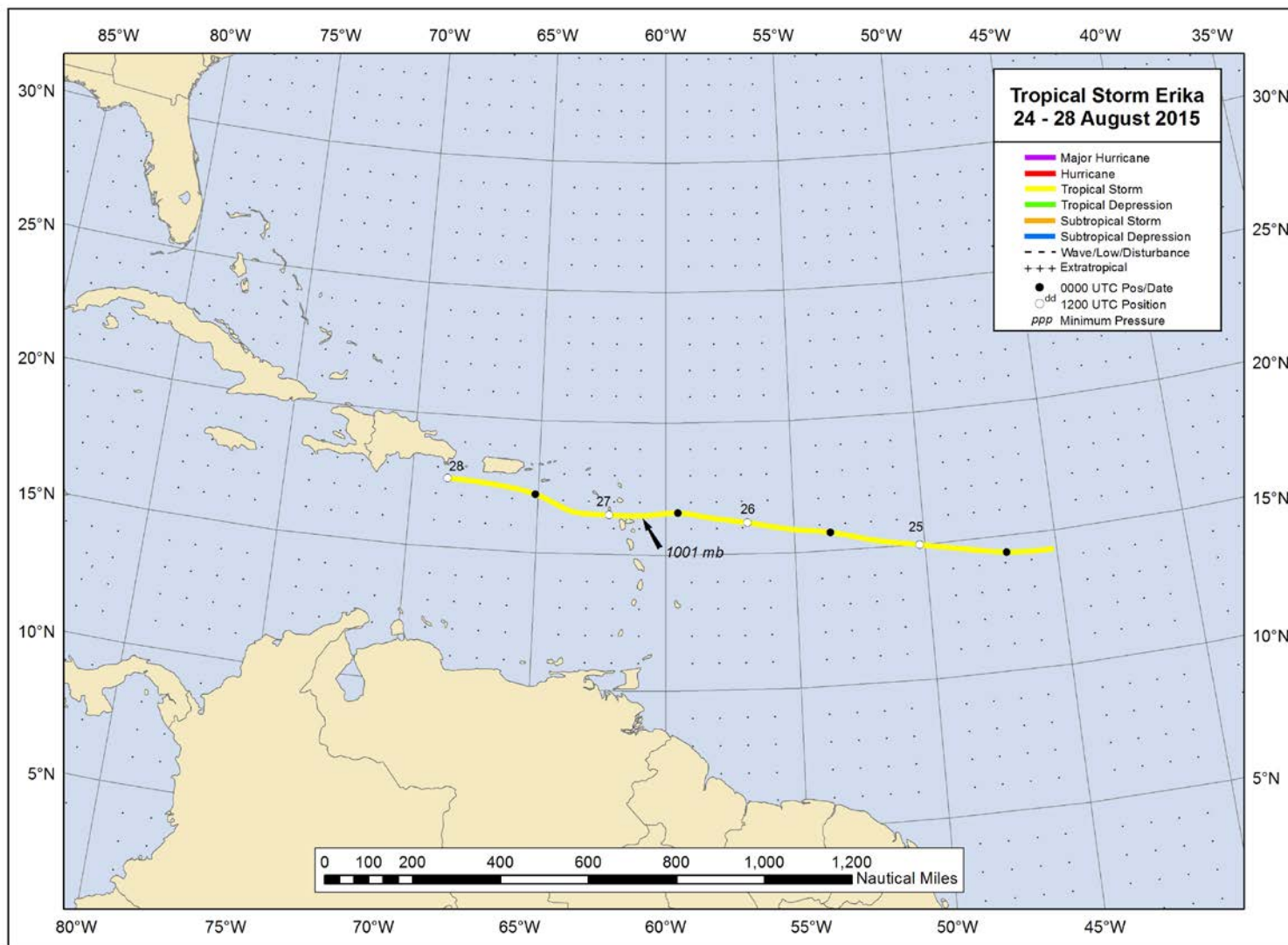


Figure 1. Best track positions for Tropical Storm Erika, 24-28 August 2015.

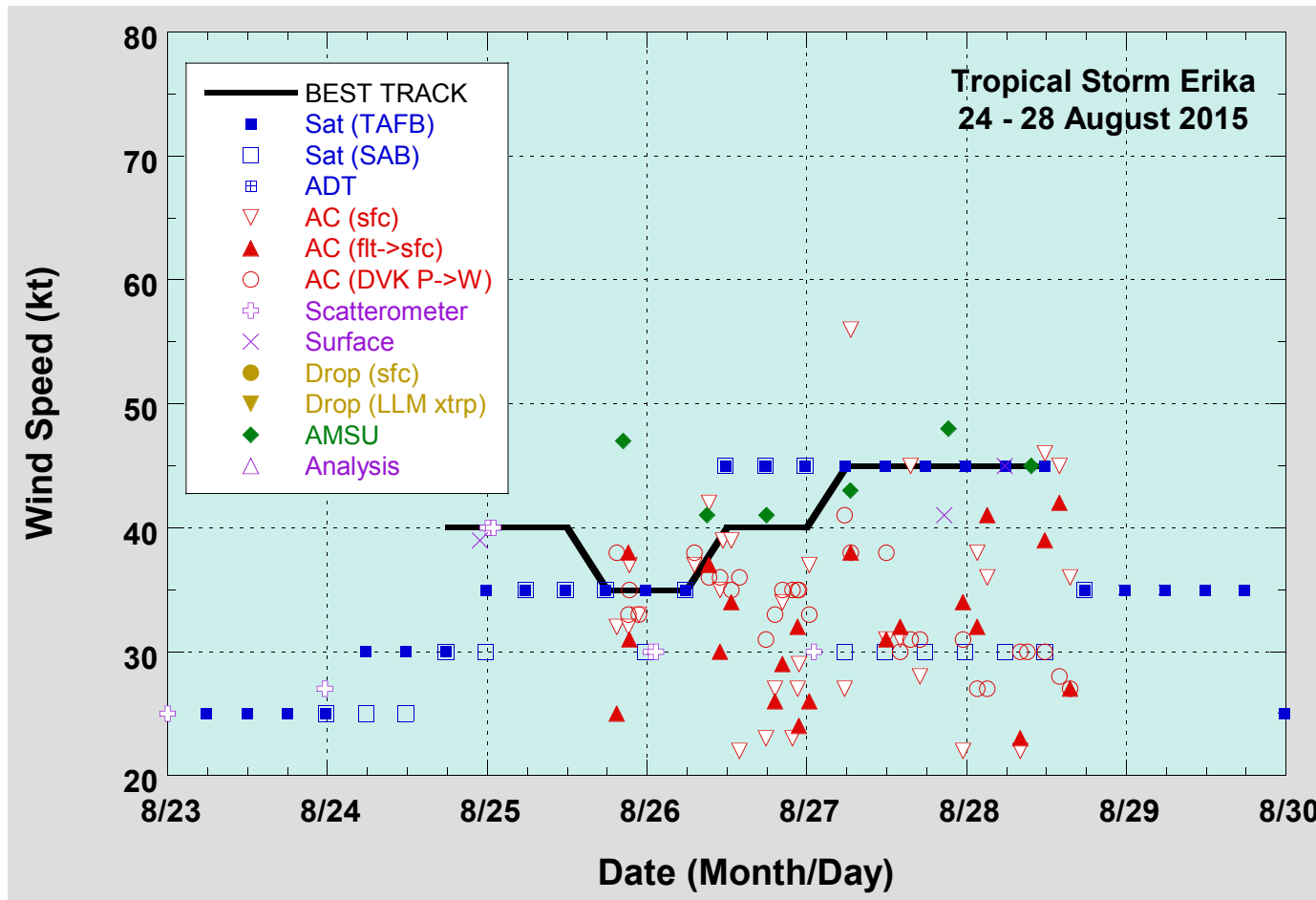


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Erika, 24-28 August 2015. Aircraft observations have been adjusted for elevation using 90%, 80%, and 80% adjustment factors for observations from 700 mb, 850 mb, and 1500 ft, respectively. Dropwindsonde observations include actual 10 m winds (sfc), as well as surface estimates derived from the mean wind over the lowest 150 m of the wind sounding (LLM). Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. AMSU intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies technique. Dashed vertical lines correspond to 0000 UTC.

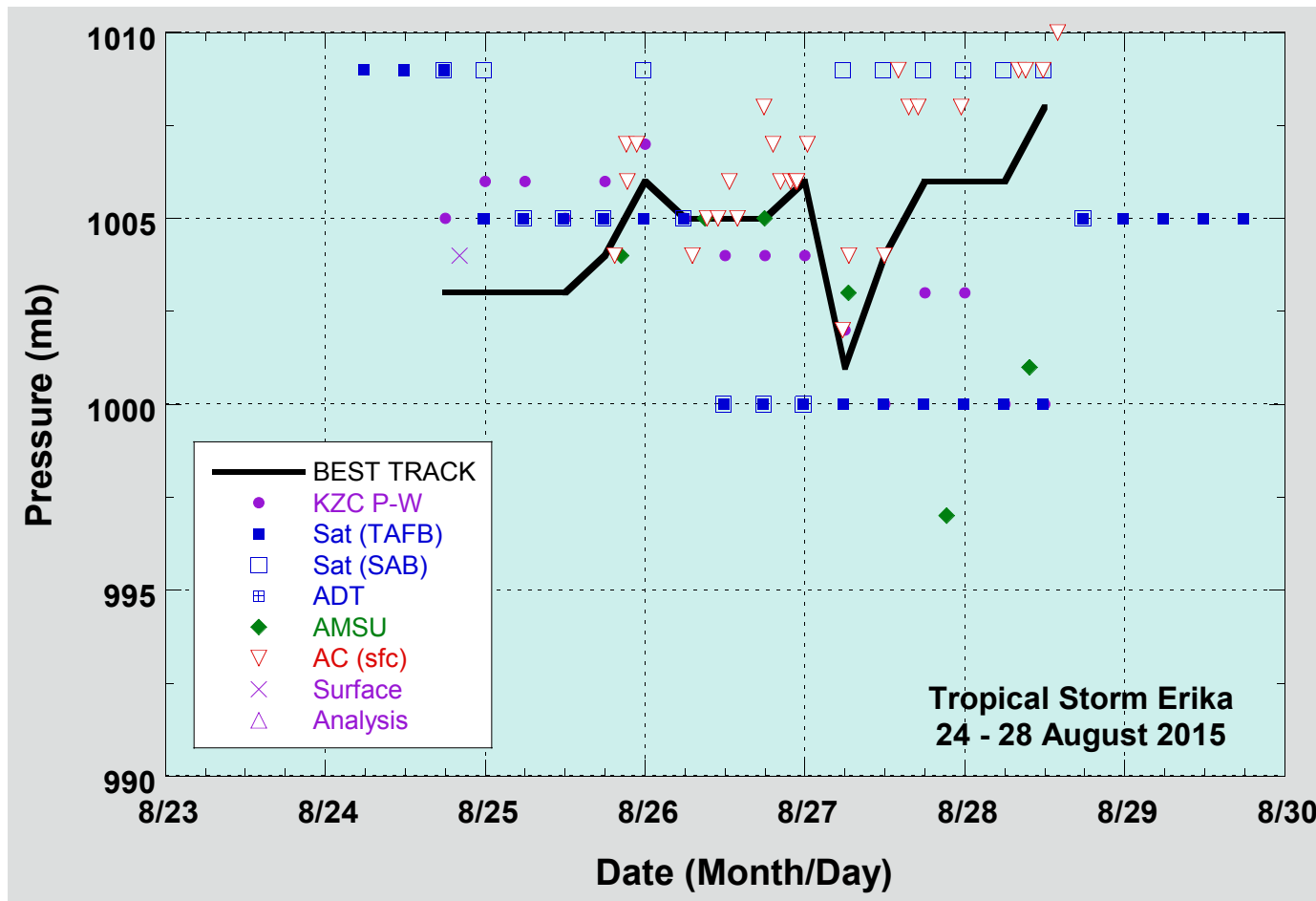


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Erika, 24-28 August 2015. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. AMSU intensity estimates are from the Cooperative Institute for Meteorological 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.

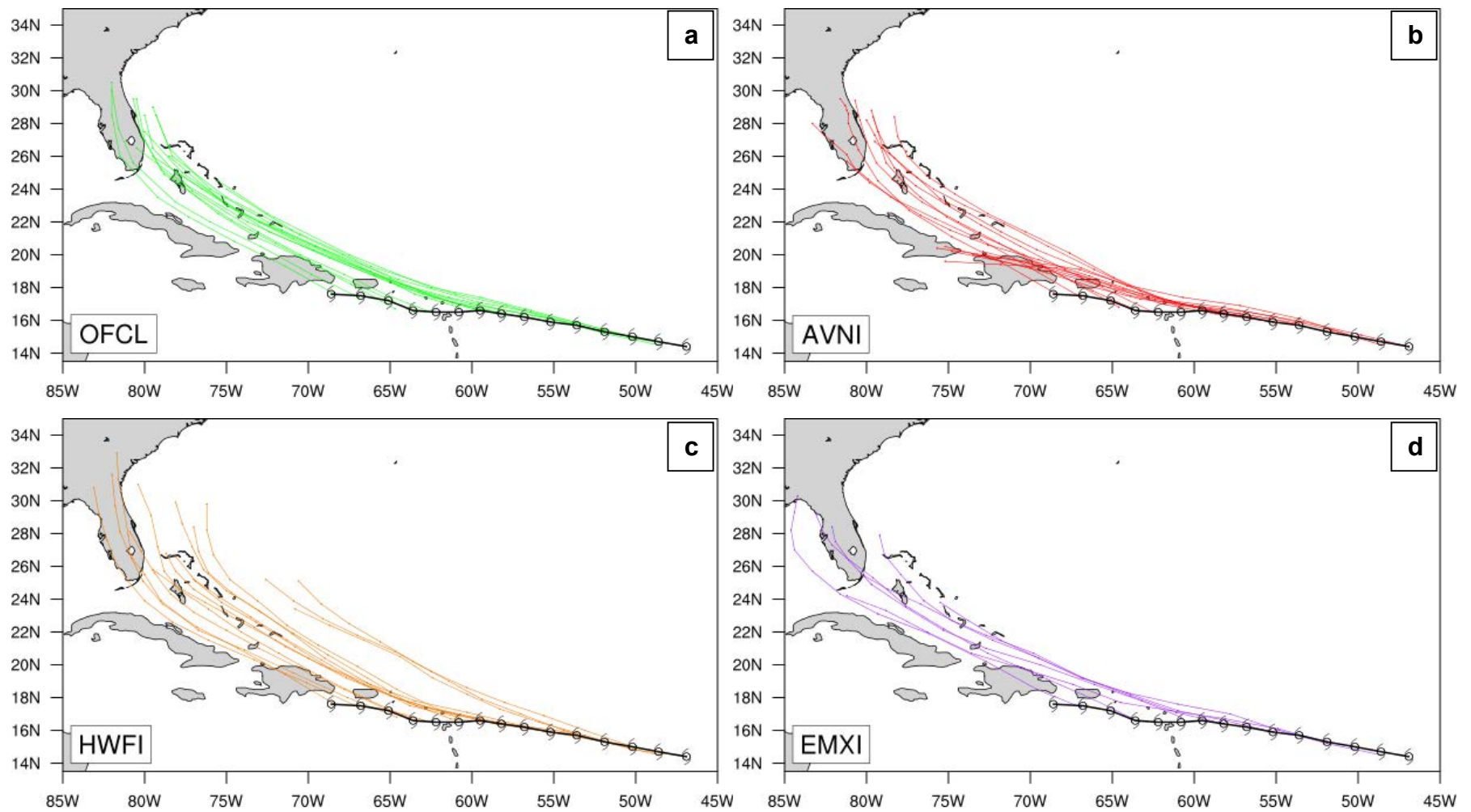


Figure 4. Five-day forecast track plots of the (a) NHC official forecasts (OFCL), (b) GFSI, (c) HWFI, and (d) EMXI for the forecast cycles from 0000 UTC 25 August to 1200 UTC 28 August 2015 for Tropical Storm Erika. The best track of Erika is indicated by the black lines with six-hourly tropical cyclone positions.

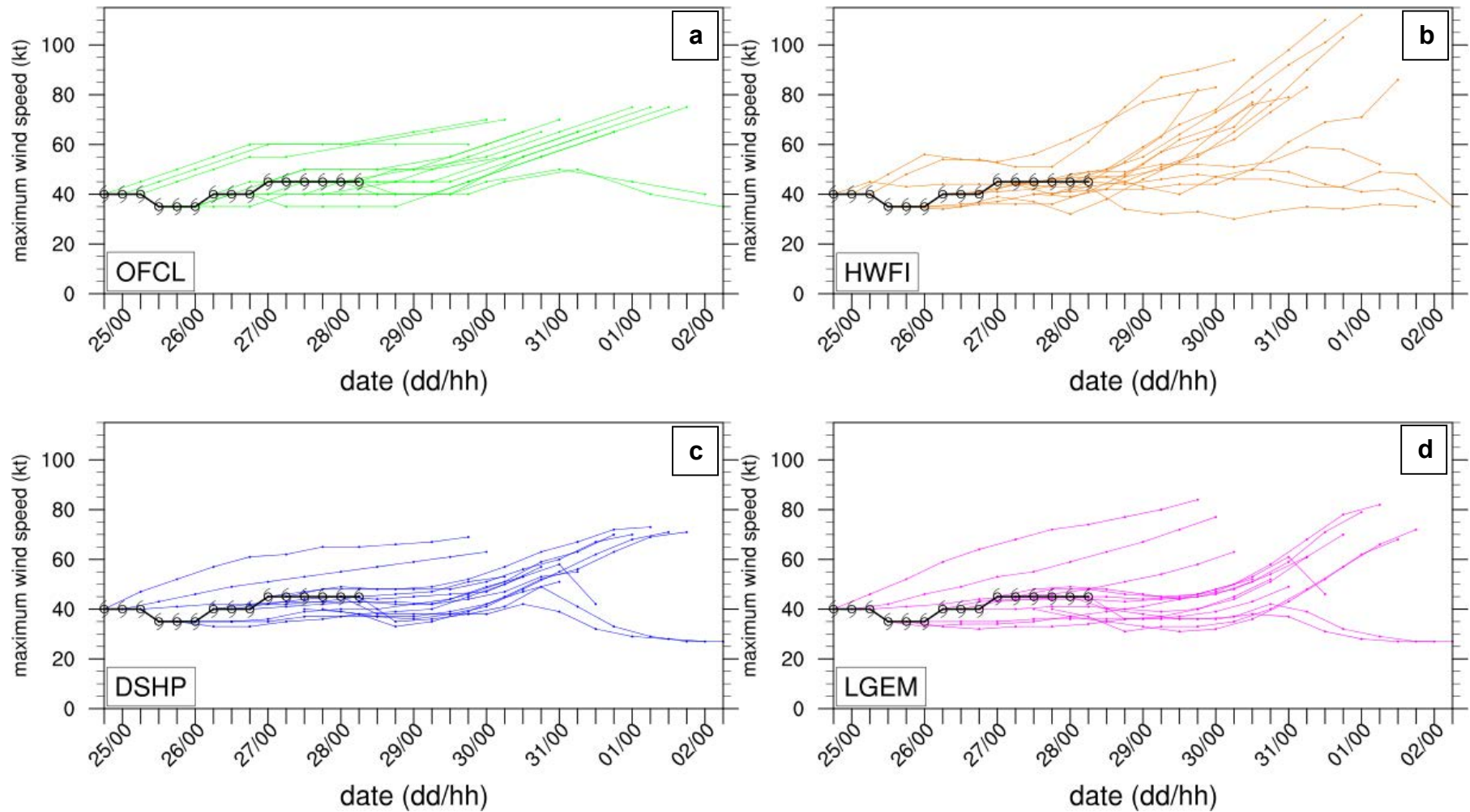


Figure 5. Five-day intensity forecast plots of the (a) NHC official forecasts (OFCL), (b) HWFI, (c) DSHP, and (d) LGEM for the forecast cycles from 0000 UTC 25 August to 1200 UTC 28 August 2015 for Tropical Storm Erika. The best track of Erika is indicated by the black lines and tropical storm symbols with six-hourly intensities.

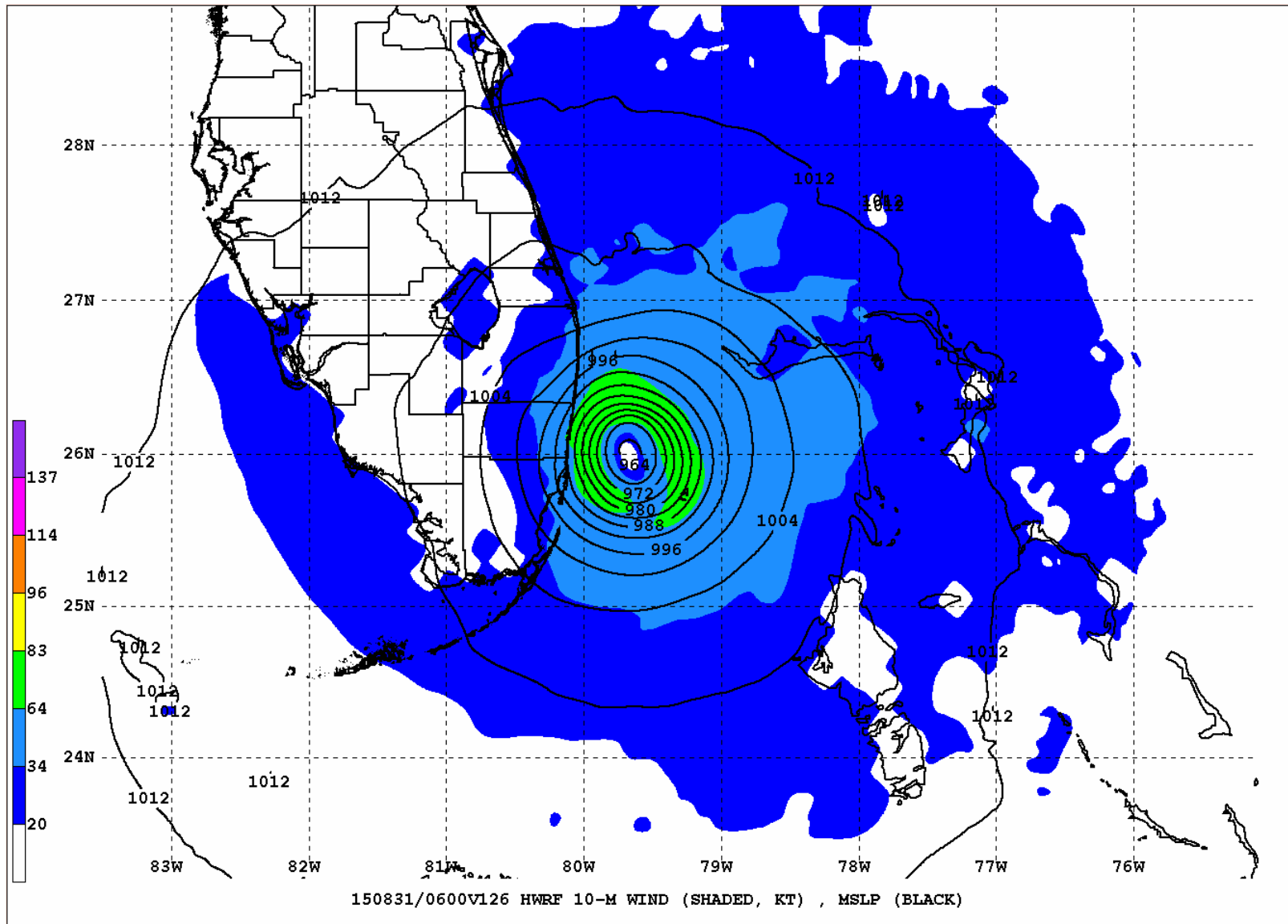


Figure 6. HWRf model forecast of mean sea-level pressure and 10-m winds for Erika. Initial time is 0000 UTC 26 August 2015 and the forecast interval is 126 h (i.e. verifying at 0600 UTC 31 August 2015).