

Tropical Cyclone Report
Tropical Storm Irwin
25-28 August 2005

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a. Synoptic History

Irwin likely originated from the southern portion of the tropical wave that spawned Hurricane Katrina in the Atlantic. This wave emerged from the coast of Africa on 10 August. It moved westward with little development until 19 August, when the northern portion of the wave encountered a mid-level vorticity center associated with the remnants of Atlantic Tropical Depression Ten north of the Leeward Islands. This eventually led to the development of Katrina. The southern portion of the wave continued westward and crossed Central America into the eastern Pacific on 22 August. Shower activity associated with the wave increased on 23 August and showed signs of organization on 24 August. It is estimated that a tropical depression formed from the wave near 1200 UTC 25 August about 135 n mi south of Manzanillo, 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 1.

The depression moved westward on the south side of a low/mid-level ridge and intensified. It became Tropical Storm Irwin early on 26 August, and the storm reached an estimated peak intensity of 45 kt later that day. Northeasterly vertical wind shear caused weakening thereafter, with Irwin weakening back to a depression early on 28 August. The cyclone became a non-convective remnant low later that day about 490 n mi southwest of Cabo San Lucas, Mexico. The remnant low moved westward until 1 September when it turned southwestward. This motion continued until dissipation on 3 September.

b. Meteorological Statistics

Observations in Irwin (Figs. 2 and 3) include satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the U. S. Air Force Weather Agency (AFWA). Microwave satellite imagery from NOAA polar-orbiting satellites, the NASA Tropical Rainfall Measuring Mission (TRMM), the NASA Aqua, the NASA QuikSCAT, the Department of Defense WindSat, and Defense Meteorological Satellite Program (DMSP) satellites were also useful in tracking Irwin.

The only report of tropical storm-force winds in Irwin was from a ship with the call sign WCY845, which reported 37-kt winds at 0300 UTC 26 August. However, the ship was far from the center at the time and the reliability of the report is uncertain.

c. Casualty and Damage Statistics

There were no reports of damage or casualties associated with Irwin.

d. Forecast and Warning Critique

Irwin was a tropical cyclone for only 72 h, so there are relatively few forecasts to verify. The average of the official track errors (with the number of cases in parentheses) were 21 (10), 43 (8), 73 (6), and 108 (4) n mi for the 12, 24, 36, and 48 h forecasts, respectively. These errors are lower than the average official track errors for the 10-yr period 1995-2004¹ (37, 68, 97, and 123 n mi, respectively).

Average official intensity errors were 6, 10, 15, and 21 kt for the 12, 24, 36, and 48 h forecasts, respectively. For comparison, the average official intensity errors over the 10-yr period 1995-2004 are 6, 11, 14, and 17 kt, respectively.

No watches or warnings were issued for Irwin.

¹ Errors given for the 96 and 120 h periods are averages over the four-year period 2001-4.

Table 1. Best track for Tropical Storm Irwin, 25 – 28 August 2005.

Date/Time (UTC)	Latitude (EN)	Longitude (EW)	Pressure (mb)	Wind Speed (kt)	Stage
25 / 1200	16.9	104.7	1007	25	tropical depression
25 / 1800	17.0	105.8	1005	30	"
26 / 0000	17.2	106.8	1004	35	tropical storm
26 / 0600	17.5	107.7	1002	40	"
26 / 1200	17.7	108.7	1000	45	"
26 / 1800	17.5	109.6	1000	45	"
27 / 0000	17.4	110.5	1001	40	"
27 / 0600	17.4	111.3	1002	40	"
27 / 1200	17.4	112.2	1003	35	"
27 / 1800	17.3	113.1	1004	35	"
28 / 0000	17.1	114.0	1005	30	tropical depression
28 / 0600	17.0	114.6	1006	25	"
28 / 1200	16.9	115.2	1006	25	"
28 / 1800	16.9	115.9	1006	25	remnant low
29 / 0000	17.0	116.5	1006	25	"
29 / 0600	17.0	117.0	1007	25	"
29 / 1200	17.0	117.4	1008	25	"
29 / 1800	17.0	117.7	1009	20	"
30 / 0000	17.0	118.1	1009	20	"
30 / 0600	17.0	118.6	1009	20	"
30 / 1200	17.1	119.2	1009	20	"
30 / 1800	17.1	119.7	1009	20	"
31 / 0000	17.1	120.1	1009	20	"
31 / 0600	17.0	120.6	1010	20	"
31 / 1200	17.0	121.1	1010	20	"
31 / 1800	16.9	121.6	1010	20	"
01 / 0000	16.8	122.1	1010	20	"
01 / 0600	16.3	122.5	1010	20	"
01 / 1200	15.8	123.1	1010	20	"
01 / 1800	15.4	123.6	1010	20	"
02 / 0000	14.8	123.9	1010	20	"
02 / 0600	14.4	124.5	1010	20	"
02 / 1200	13.9	125.3	1011	15	"
02 / 1800	13.4	126.2	1011	15	"
03 / 0000					dissipated
26 / 1200	17.7	108.7	1000	45	minimum pressure

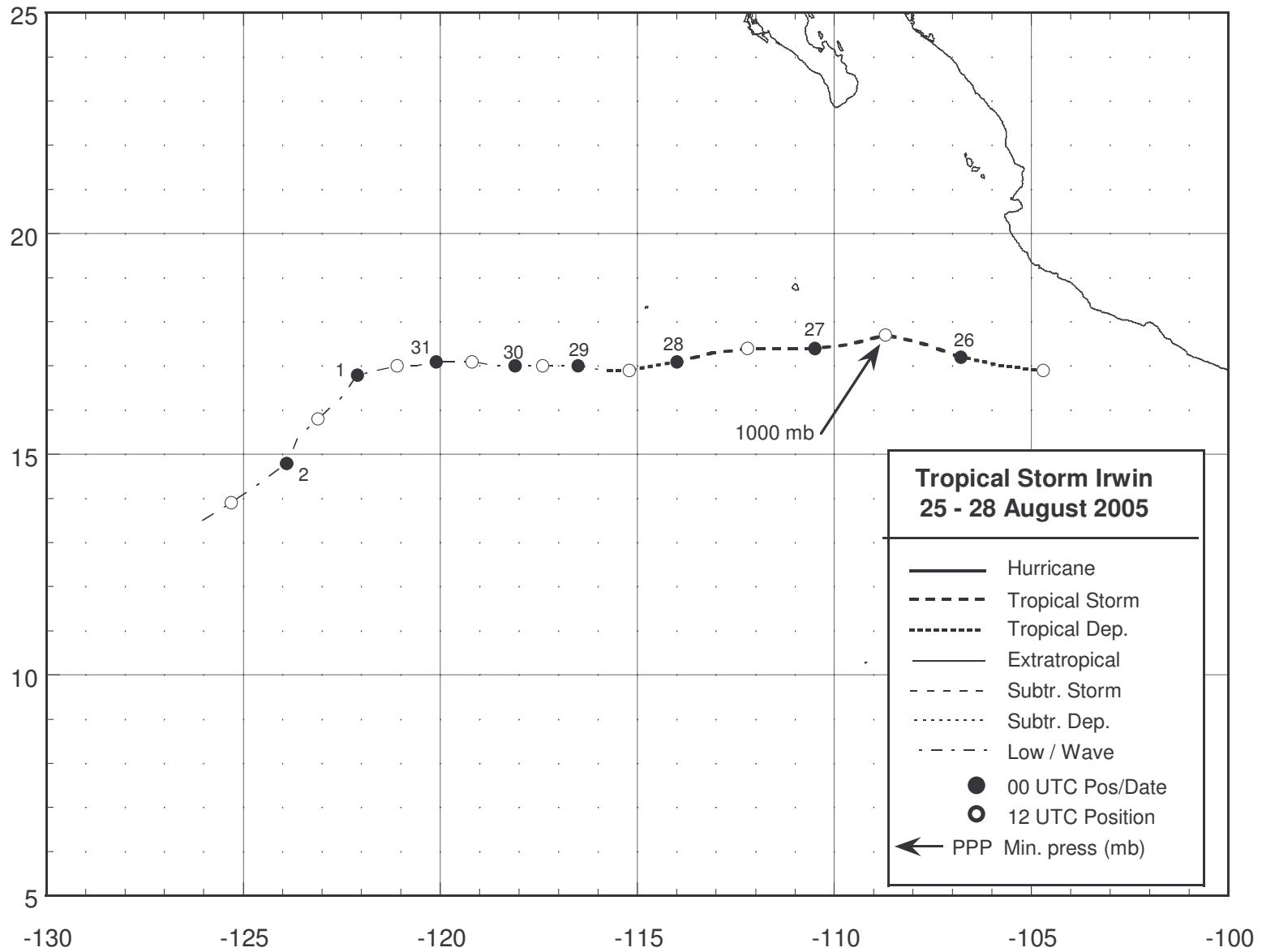


Figure 1. Best track positions for Tropical Storm Irwin, 25 – 28 August 2005.

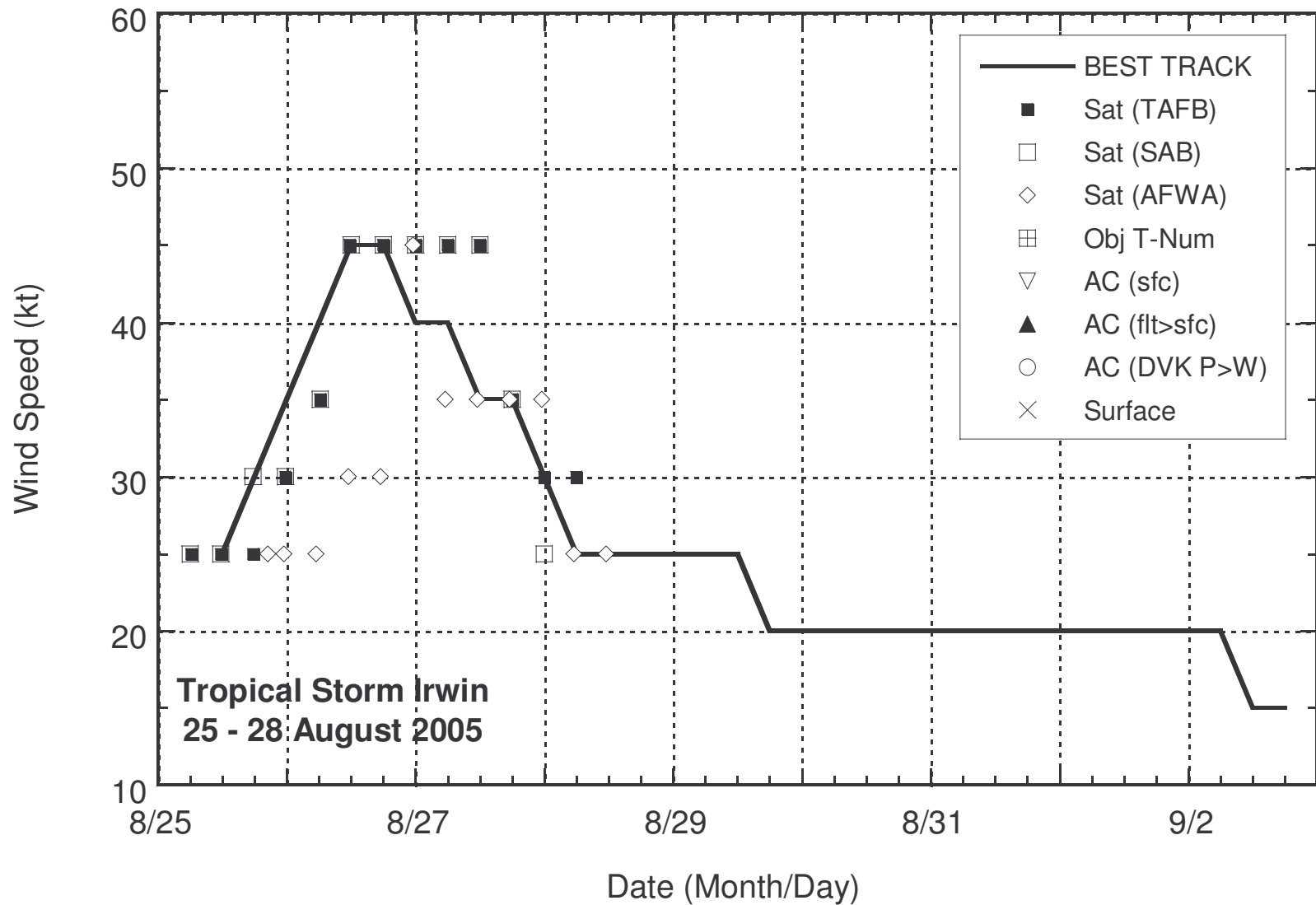


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Irwin, 25 – 28 August 2005. Objective Dvorak estimates represent linear averages over a three-hour period centered on the nominal observation time.

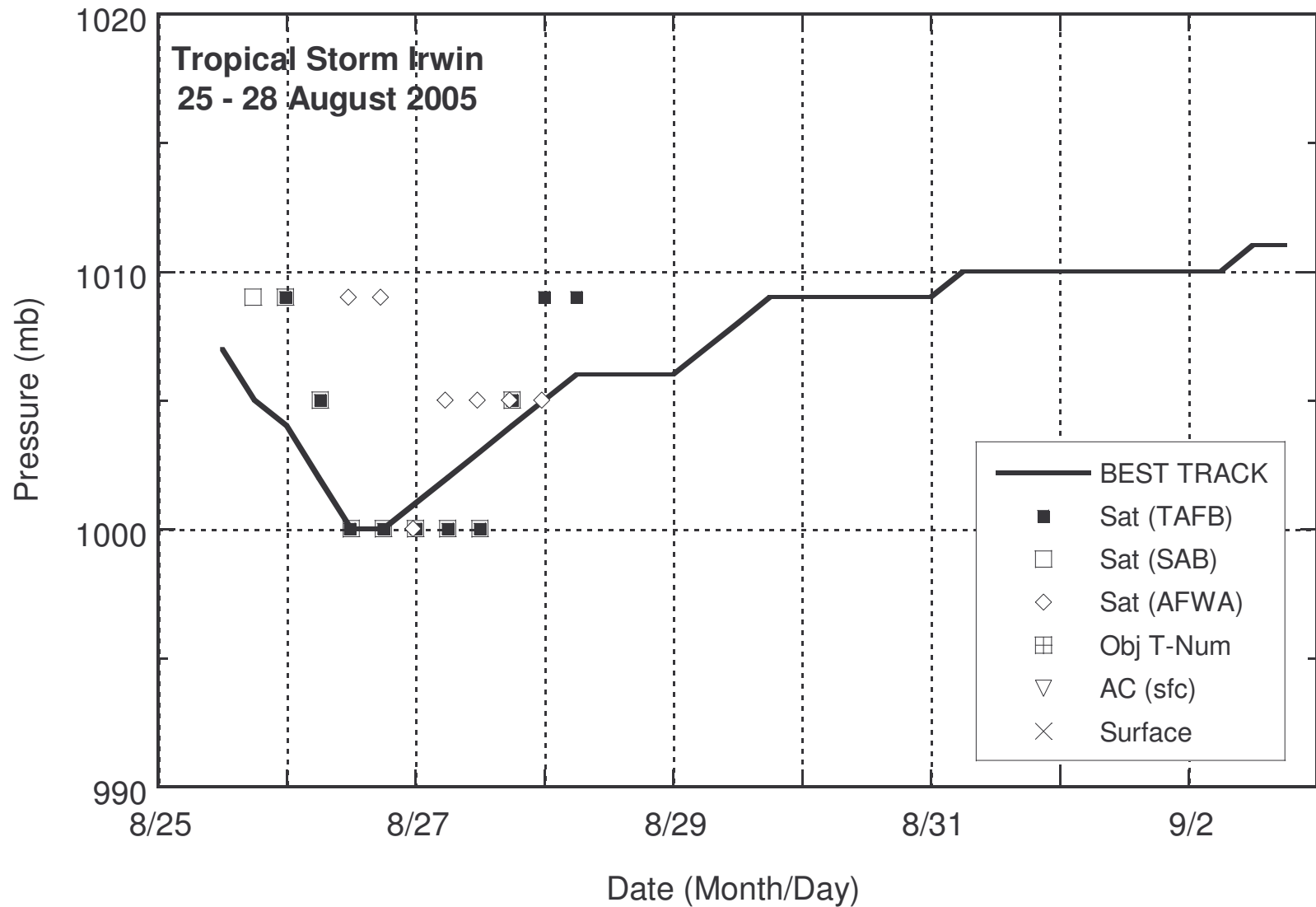


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Irwin, 25 – 28 August 2005. Objective Dvorak estimates represent linear averages over a three-hour period centered on the nominal observation time.