

Preliminary Report
Tropical Storm Ana
30 June - 4 July 1997

Miles B. Lawrence
National Hurricane Center
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a. Synoptic History

Ana formed as a tropical depression from a frontal low pressure system just off the coast of South Carolina on 30 June. It moved slowly eastward and became a tropical storm with 40-knot sustained winds on the next day even as vertical wind shear limited convective development near the center of the low-level circulation. A deepening short-wave trough moved to eastern North America and accelerated the storm toward the northeast on the 2nd and 3rd. On 4 July, Ana became extra-tropical while moving over colder water and then dissipated. Fig. 1 shows the best track of the storm and the track is tabulated in Table 1. Ana did not affect land.

b. Meteorological Statistics

Figures 2 and 3 show curves of minimum sea-level pressure and maximum one-minute surface wind speed, respectively, as a function of time. Satellite data plotted in these figures are based on the Dvorak satellite intensity estimating technique as applied at the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the U.S. Air Force Global Weather Center (AFGWC).

A USAF Reserve reconnaissance aircraft flew into Ana on the afternoon of 1 July and measured a 54-knot wind speed in the northeast quadrant at 1500 feet and a minimum surface pressure of 1000 millibars. These values are the basis for the maximum one-minute surface wind speed of 40 knots and the minimum sea level pressure as given in Table 1.

c. Casualty and Damage Statistics

There were none.

d. Forecast and Warning Critique

Ana was a tropical storm for 60 hours, during which there were ten official forecasts issued. The official track errors are small compared to past performance, but none of the forecasts verified at 72 hours.

Table 1. Best track, Tropical Storm Ana, 30 June - 4 July 1997.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
30/1200	32.0	77.2	1013	30	tropical depression
1800	32.0	76.6	1011	30	"
01/0000	31.9	76.0	1009	30	"
0600	31.8	75.4	1006	35	tropical storm
1200	31.7	74.6	1004	40	"
1800	31.4	73.8	1002	40	"
02/0000	31.4	72.9	1000	40	"
0600	31.7	72.0	1000	35	"
1200	32.1	71.2	1000	35	"
1800	32.7	70.5	1000	35	"
03/0000	33.5	69.8	1001	35	"
0600	34.4	69.2	1001	35	"
1200	35.2	68.4	1002	35	"
1800	36.1	67.5	1002	30	tropical depression
04/0000	36.9	66.2	1003	25	"
0600	37.7	64.5	1003	25	extratropical
1200	38.4	62.4	1004	25	"
1800	39.5	59.5	1004	25	"
05/0000	41.0	58.0	1005	25	"
0600					dissipated
02/0000	31.4	72.9	1000	40	minimum pressure

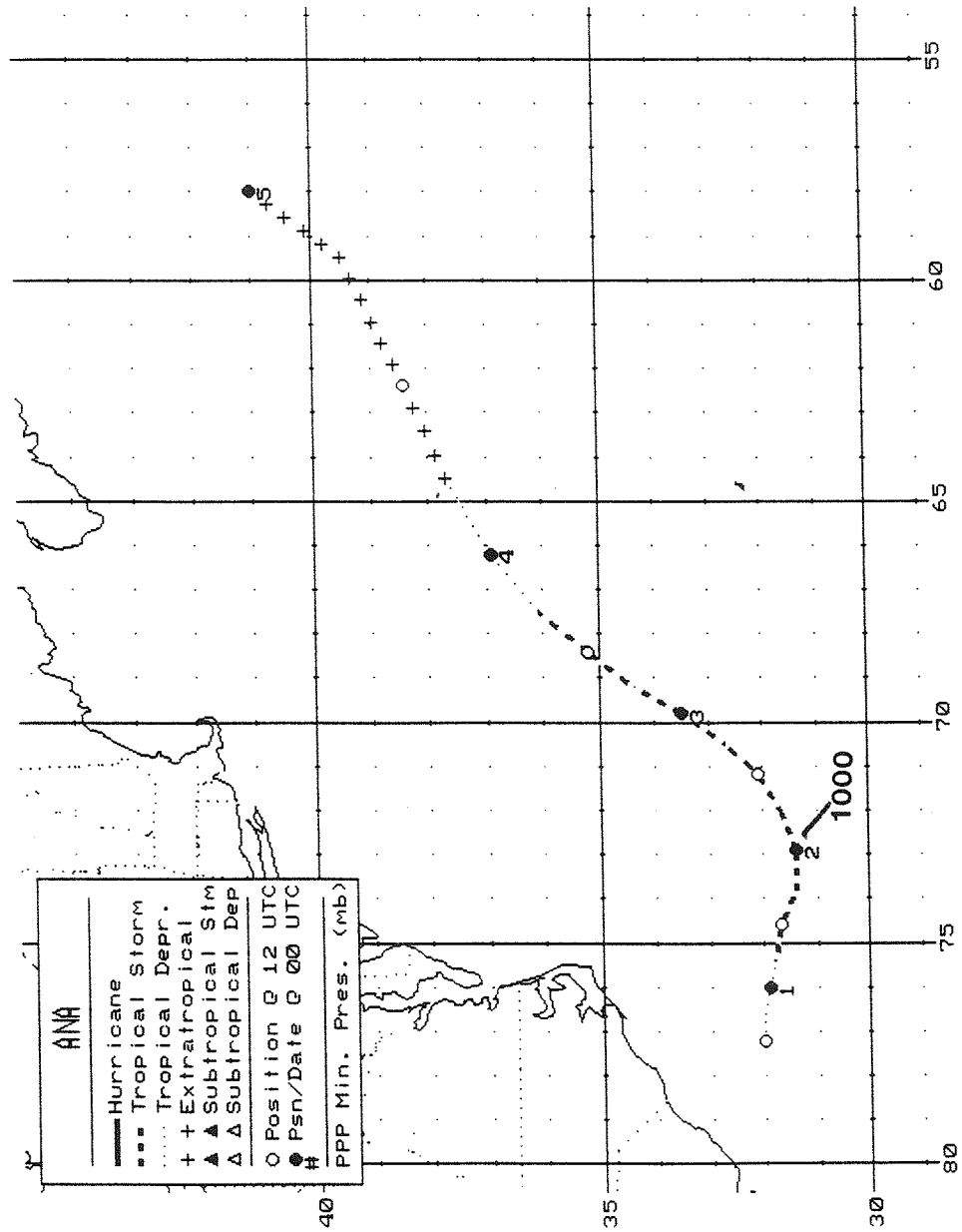
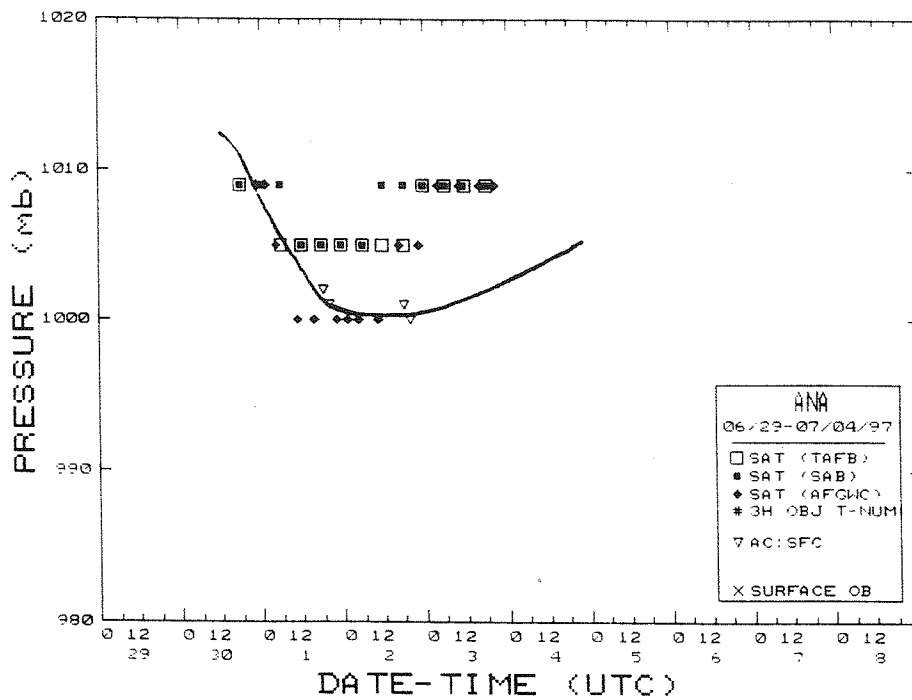


Fig. 1. Best track positions for Tropical Storm Ana.



2. Best track minimum sea level pressure curve for Tropical Storm Ana.

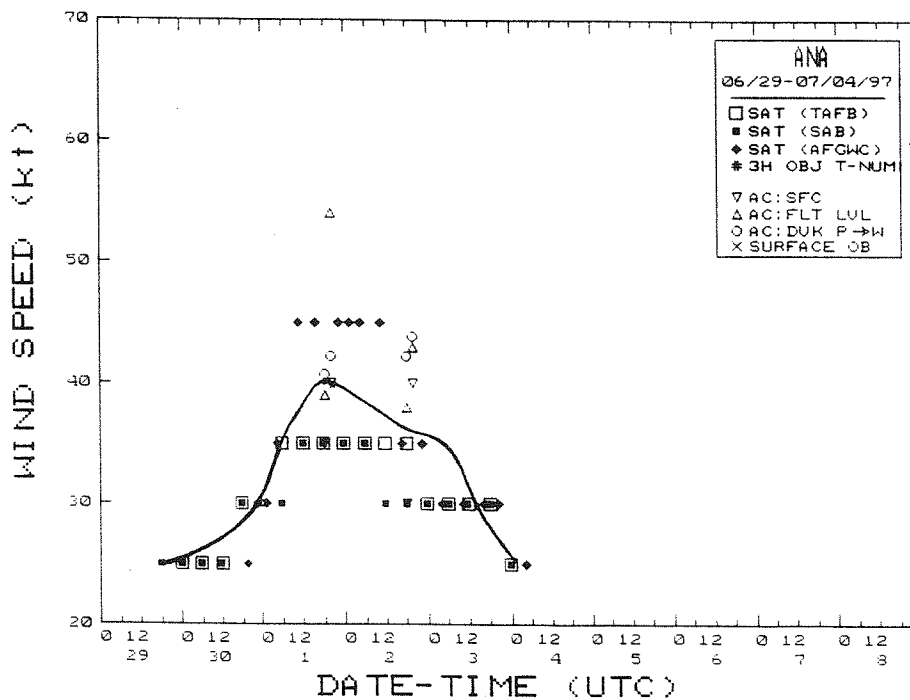


Fig. 3. Best track maximum one-minute wind speed curve for Tropical Storm Ana.