

PRELIMINARY REPORT  
Hurricane Barbara  
7-18 July 1995

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a. Synoptic History

The development of Barbara appears to be related to a weak tropical wave which crossed Dakar, Africa as a large swirl of low clouds on 24 June. The wave moved westward over the Atlantic and then over South America with little representation on satellite images and rawinsonde data. The wave reached the eastern Pacific on 5 July. There, convection developed and gradually became organized. Satellite intensity estimates indicated that the westward-moving system became a tropical depression at 1800 UTC 7 July about 500 n mi south of Manzanillo, Mexico. The depression intensified and became Tropical Storm Barbara 12 hours later. The formation of an eye indicated strengthening and Barbara reached hurricane status at 0600 UTC 9 July. The rapid intensification process began and both objective and subjective Dvorak T-numbers suggested that the winds increased to 115 knots. The well defined eye disappeared from satellite images as fast as it formed and Barbara weakened. During that period, the hurricane was moving through a very favorable upper-level wind environment for intensification and over warm sea-surface temperatures. As forecast, Barbara then intensified again and re-developed a distinct eye. It was estimated that the hurricane reached its maximum winds of 120 knots and a minimum pressure of 940 mb at 0000 UTC 14 July (when T-numbers peaked at 7.0 on the Dvorak scale). Barbara remained a strong hurricane for several days while moving westward south of a well established high pressure ridge. It finally moved over cool waters and began to weaken. Barbara crossed 140°W as a tropical storm near 1800 UTC 16 July, and it was dissipating at 0000 UTC 18 July. A swirl of low clouds, remnants of the hurricane, moved westward for several more days.

Barbara's track is shown in Fig. 1. Table 1 is a listing, at six-hour intervals, of the best-track position, estimated minimum central pressure and maximum 1-minute surface wind speed.

b. Meteorological Statistics.

The best track pressure and wind curves as a function of time shown in Figures 2 and 3 are based on satellite intensity estimates from the National Hurricane Center, the Satellite Analysis Branch (SAB) and the Air Force Global Weather Central (AFGWC). No ship observations of tropical storm force winds near Barbara were received at the National Hurricane Center.

### c. Casualty and Damage Statistics

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

### d. Forecast and Warning Critique

Excluding the tropical depression stage, the NHC average official track errors ranged from 11 n mi at 12 hours to 60 n mi at 72 hours. The 1988-94 averages for such periods are 34 and 166 n mi respectively. BAMD performed better than the official forecast and other models at 72 hours with an error of only 43 n mi. On the other hand, the AVN produced an error of 150 n mi for the same period.

#### Figure Captions:

Fig. 1. Best track positions for Hurricane Barbara, 7 - 18 July 1995.

Fig. 2. Best track one-minute surface wind speed curve for Hurricane Barbara.

Fig. 3. Best track minimum central pressure curve for Hurricane Barbara.

Table 1. Preliminary best track, Hurricane Barbara,  
7- 18 July, 1995

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
7/1800	11.3	103.2	1009	30	Tropical Depression
8/0000	11.7	104.8	1008	30	" "
0600	12.0	106.2	1005	35	Tropical Storm
1200	12.2	107.2	1004	35	" "
1800	12.3	108.2	1000	45	" "
9/0000	12.5	109.1	998	55	" "
0600	12.7	110.2	995	65	Hurricane
1200	12.9	111.1	990	70	" "
1800	13.1	112.0	980	80	" "
10/0000	13.3	112.8	970	90	" "
0600	13.4	113.5	960	105	" "
1200	13.5	114.2	948	115	" "
1800	13.6	114.8	946	115	" "
11/0000	13.7	115.3	945	115	" "
0600	13.8	115.9	945	115	" "
1200	13.9	116.5	947	100	" "
1800	14.0	117.1	950	100	" "
12/0000	14.1	117.8	955	100	" "
0600	14.3	118.6	960	100	" "
1200	14.3	119.4	965	100	" "
1800	14.3	120.3	960	100	" "
13/0000	14.2	121.3	950	110	" "
0600	14.2	122.3	948	115	" "
1200	14.1	123.3	947	115	" "
1800	14.2	124.5	943	120	" "
14/0000	14.3	125.8	940	120	" "
0600	14.4	127.1	941	120	" "
1200	14.7	128.5	943	115	" "
1800	15.0	130.0	950	110	" "
15/0000	15.2	131.4	960	100	" "
0600	15.4	132.9	970	90	" "
1200	15.6	134.3	980	75	" "
1800	15.7	135.6	988	65	" "
16/0000	15.7	136.7	995	55	Tropical Storm
0600	15.8	137.7	1000	45	" "
1200	15.9	138.6	1005	40	" "
1800	16.0	139.5	1005	40	" "
17/0000	16.3	140.5	1009	30	Tropical Depression
0600	16.5	141.5	1009	30	" "
1200	16.8	142.4	1009	30	" "
1800	17.1	143.4	1009	30	" "
18/0000	17.3	144.4	1009	25	Dissipating
14/0000	14.3	125.8	940	120	Minimum Pressure

\* Best track data west of 140° were provided by Central Pacific Hurricane Center at Honolulu.

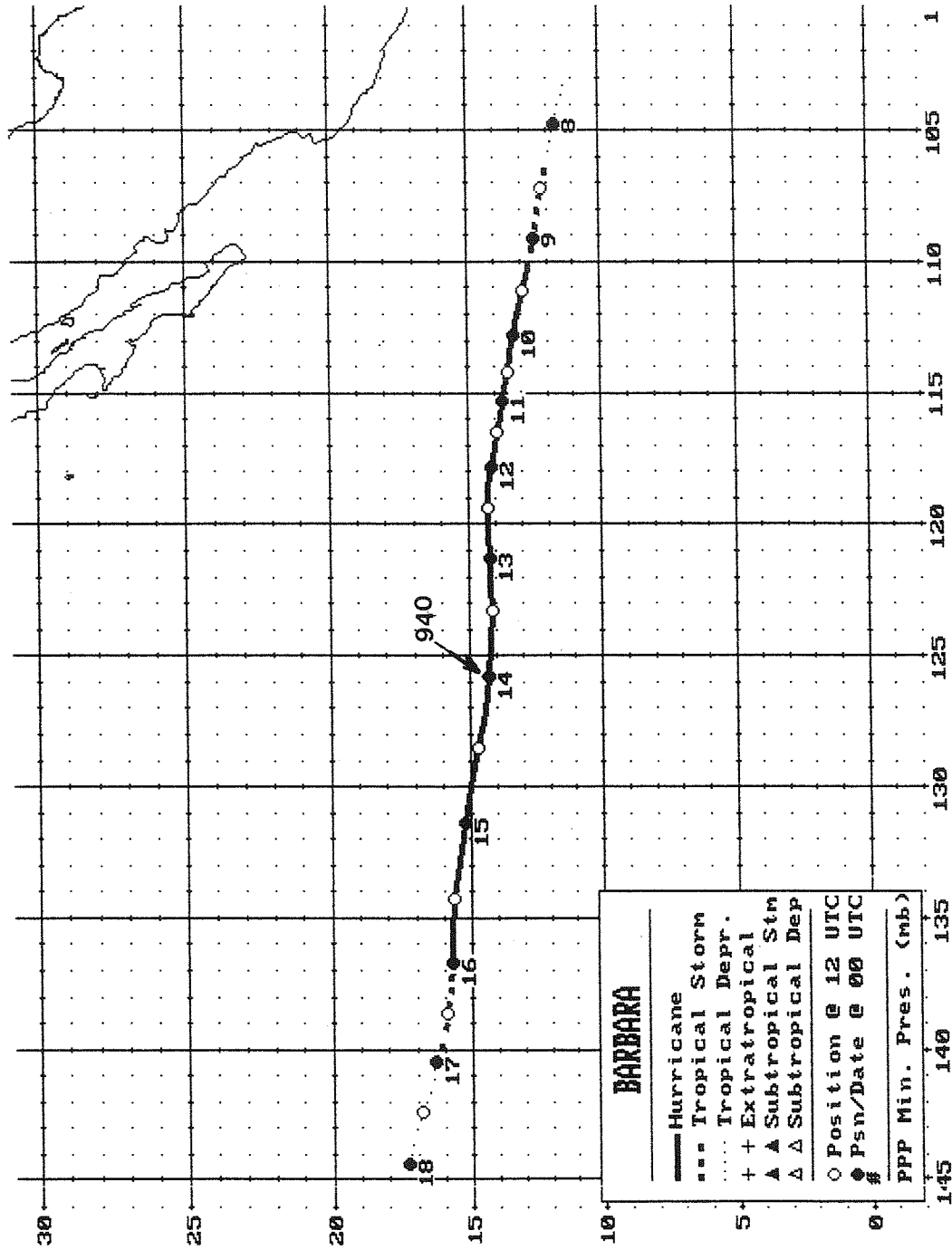


Fig. 1. Best track positions for Hurricane Barbara, 7 - 18 July 1995.

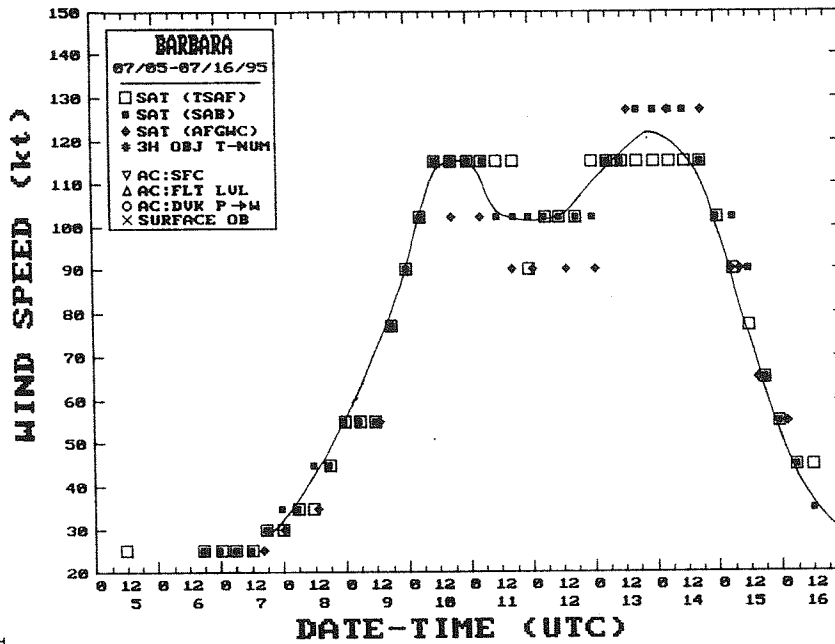


Fig. 2. Best track one-minute surface wind speed curve for Hurricane Barbara.

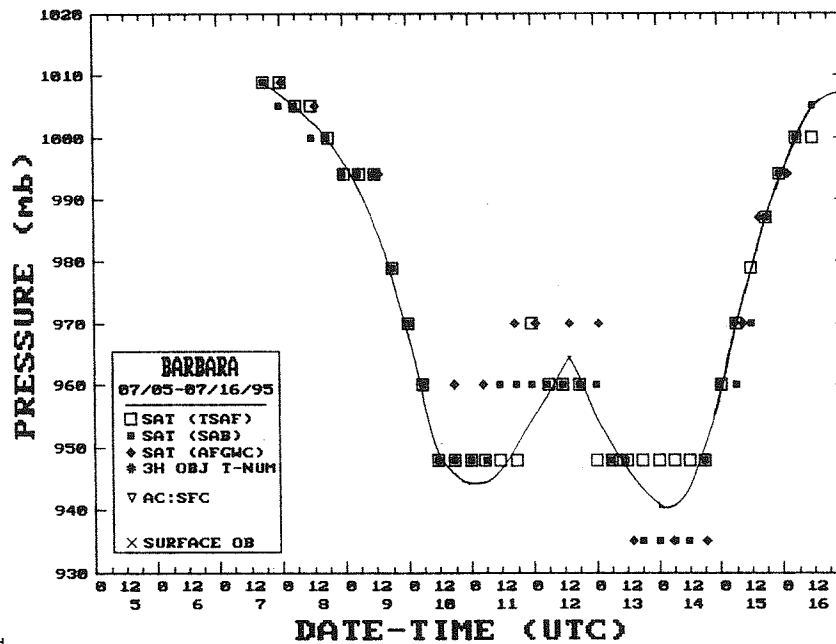


Fig. 3. Best track minimum central pressure curve for Hurricane Barbara.