

Tropical Cyclone Report
Tropical Storm Barbara
20-26 June 2001

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a. Synoptic history

The origin of Barbara can be traced to a tropical wave that moved westward off the coast of Africa on 1 June. The wave moved into the Caribbean Sea on 7 June, and into the eastern Pacific on 10-11 June with little sign of development. The wave continued westward to near 120°W by 18 June, where it first became organized into an area of disturbed weather with a broad circulation. Further slow organization over the next two days resulted in the formation of Tropical Depression Two-E at 0000 UTC 20 June, about 1150 n mi southwest of Cabo San Lucas, Mexico (Figure 1 and Table 1). As the cyclone formed, it began a west-northwestward motion that would persist through its lifetime.

The depression intensified into Tropical Storm Barbara later on 20 June, then reached a peak intensity of 50 kt on the 21st. Thereafter, increasing southwesterly vertical shear caused weakening, and Barbara became a depression as it crossed 140°W into the central Pacific hurricane basin. The depression passed north of the Hawaiian Islands on 25-26 June, then weakened to an easterly wave to the northwest of Kauai on 26 June. The remnants of Barbara continued west-northwestward until being absorbed by a frontal zone near the International Dateline on 30 June.

b. Meteorological statistics

The “best track” of Barbara is given in Table 1 and Figure 1. Figures 2 and 3 show the best track maximum sustained (1 min average) surface (10 m elevation) wind speed and minimum central pressure, as well as the associated observations. These include Dvorak technique position and intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the NOAA/NESDIS Satellite Analysis Branch (SAB), and the Air Force Weather Agency (AFWA). Data west of 140°W was provided by the Central Pacific Hurricane Center in Honolulu, HI.

The only observation of tropical storm-force winds was from the ship **V2FA2** (name unavailable) which reported 47 kt winds 105 n mi northwest of the center at 0000 UTC 22 June. While this report is close to the best track intensity at the time, the distance from the center makes the wind speed appear inconsistent with expectation.

c. Casualty and damage statistics

No reports of damage or casualties were received by the National Hurricane Center (NHC).

d. Forecast and warning critique

Barbara was a tropical storm for only 42 h, so there are only 6, 4, and 2 forecasts to verify at 12, 24, and 36 h respectively. The average track forecast errors for Barbara at those times were 15, 30 and 28 n mi. These errors are well below the NHC ten-year average. Average intensity forecast errors were 2.5, 2.5, and 5 kt for the 12, 24, and 36 h forecasts, which are also below the long term averages.

Watches and warnings were neither issued nor needed for Barbara.

Table 1. Best track, Tropical Storm Barbara, 20-26 June 2001. Data west of 140 °W longitude provided by the Central Pacific Hurricane Center in Honolulu, HI.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
20 / 0000	11.9	126.5	1008	30	tropical depression
20 / 0600	12.3	127.8	1008	30	"
20 / 1200	12.7	129.1	1007	30	"
20 / 1800	13.2	130.4	1005	35	tropical storm
21 / 0000	13.7	131.6	1003	40	"
21 / 0600	14.2	132.8	1000	45	"
21 / 1200	14.7	134.1	997	50	"
21 / 1800	15.1	135.3	999	45	"
22 / 0000	15.6	136.5	1001	45	"
22 / 0600	16.1	137.8	1003	40	"
22 / 1200	16.5	139.0	1005	35	"
22 / 1800	16.8	140.1	1006	30	tropical depression
23 / 0000	17.3	141.2	1006	30	"
23 / 0600	17.7	142.6	1007	30	"
23 / 1200	18.0	143.7	1009	25	"
23 / 1800	18.2	145.0	1011	25	"
24 / 0000	18.8	146.3	1011	25	"
24 / 0600	19.3	147.6	1011	25	"
24 / 1200	19.8	148.9	1011	25	"
24 / 1800	20.3	150.3	1012	25	"
25 / 0000	20.7	151.8	1012	25	"
25 / 0600	21.1	153.2	1013	25	"
25 / 1200	21.6	155.0	1014	25	"
25 / 1800	22.2	156.9	1014	25	"
26 / 0000	22.6	158.9	1014	25	"
26 / 0600	23.1	161.0	1014	25	"
26 / 1200					dissipated
21 / 1200	14.7	134.1	997	50	minimum pressure

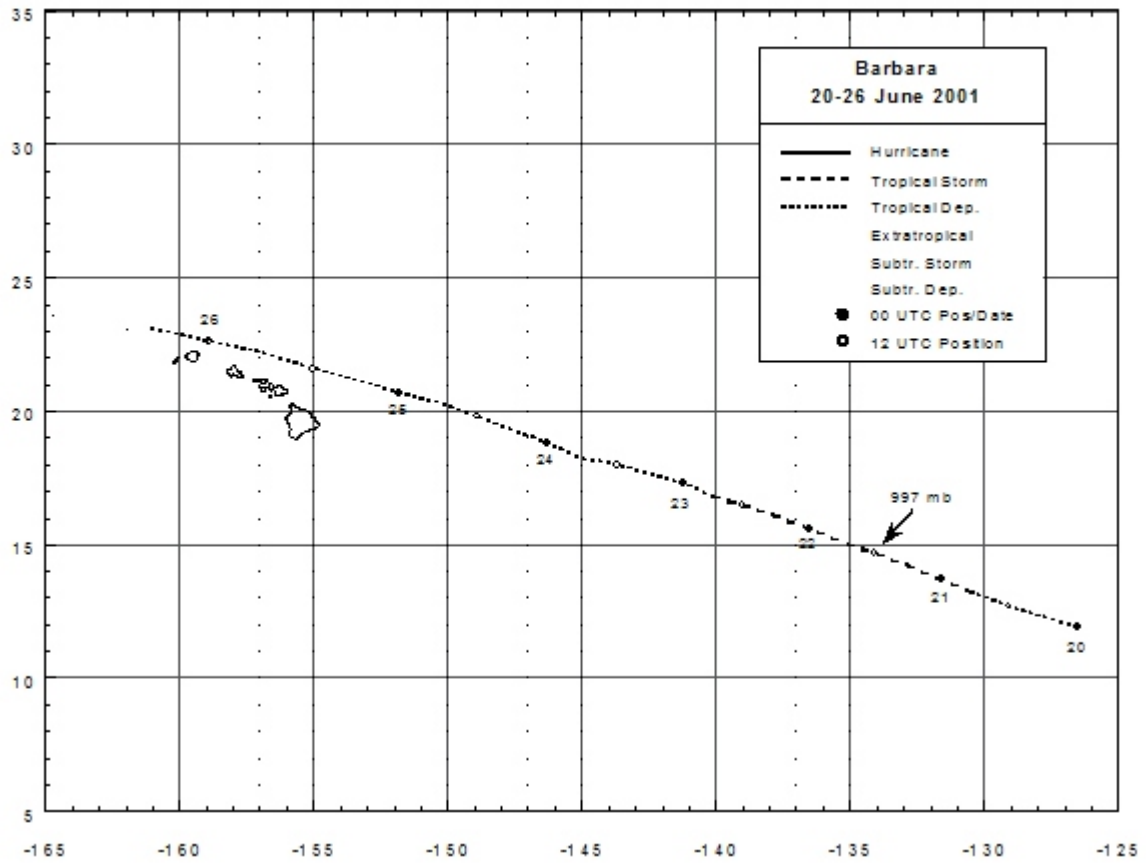


Figure 1. Best track of Tropical Storm Barbara, 20-26 June 2001. Data west of 140°W longitude provided by the Central Pacific Hurricane Center, Honolulu, HI.

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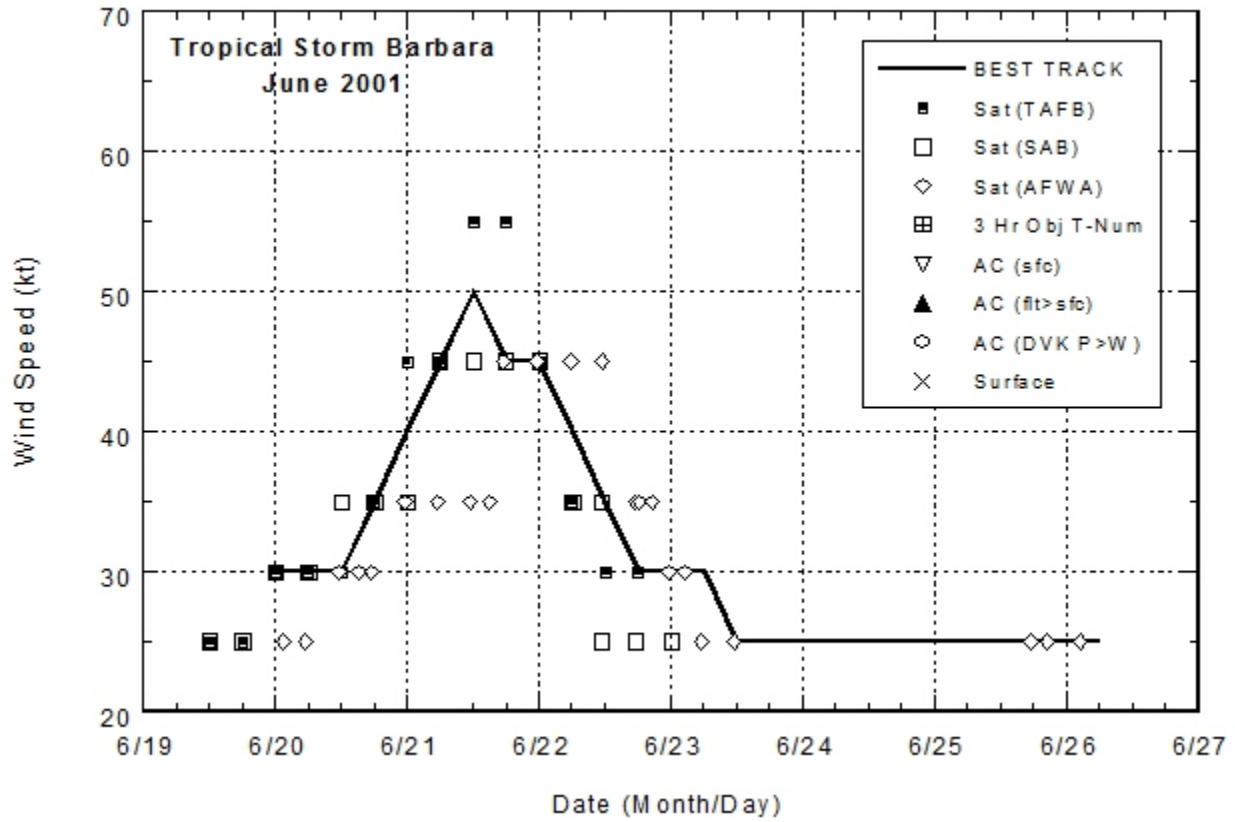


Figure 2. Best track maximum sustained 1-minute 10 meter wind speed curve for Tropical Storm Barbara, 20 - 26 June 2001.

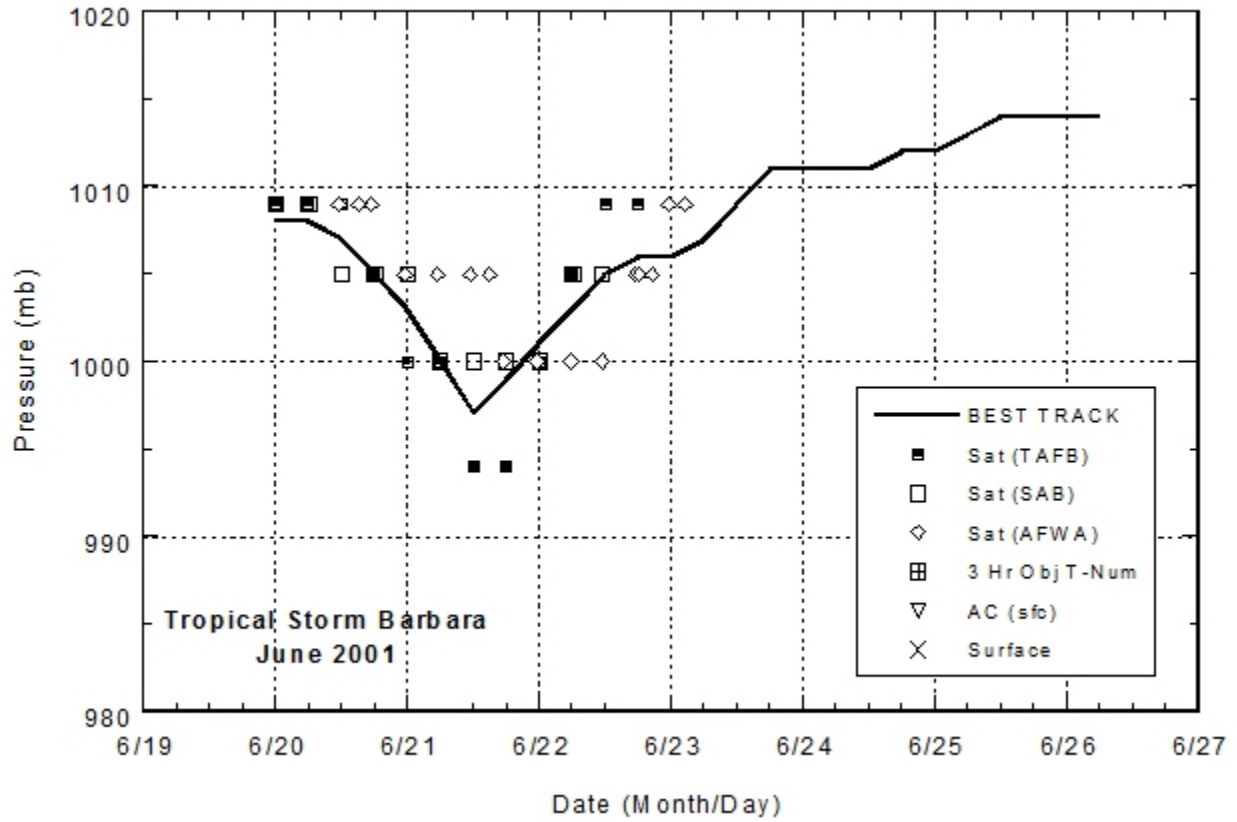


Figure 3. Best track minimum central pressure curve for Tropical Storm Barbara, 20 - 26 June 2001.