

Preliminary Report
Tropical Storm Kevin
3 -7 September 1997

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a. Synoptic History

Kevin may have originated from a tropical wave which moved from Africa to the eastern tropical Atlantic Ocean on 16 August. The wave remained weak as it moved across the Atlantic at low latitudes and then across northern South America. On the 26th of August, convection flared up just south of Panama in association with the wave. The convection developed and dissipated intermittently for the next several days as the system moved near and parallel to the Pacific coast of southern Mexico.

Although satellite Dvorak classifications began on 1 September, it was not until the 3rd that satellite imagery indicated a well-defined low-level circulation, along with a small circular area of deep convection near the center and a band of convection to the east. Tropical depression status begins at 1800 UTC on the 3rd while the system was centered about 325 nautical miles southwest of the southern tip of Baja California. Fig. 1 shows a plot of the best track of Kevin and this track is tabulated in Table 1.

The area of deep convection over the center became larger and outflow aloft became better defined. It is estimated that Kevin reached tropical storm strength at 0600 UTC on the 4th and a maximum intensity of 50 knots at 0000 UTC on the 5th. Only 18 hours later, at 1800 UTC, the center of the storm was devoid of deep convection, which is an indication of significant weakening. By 0600 UTC on the 6th, Kevin weakened to a depression and was reduced to a swirl of low clouds 24 hours later. Kevin's motion was basically toward the west-northwest at about 12 knots from the time it became a depression, as it was steered by a ridge to its north. Late on the 5th, when it began to weaken and became de-coupled from upper-layer flow, it moved more westward until dissipation on the 7th.

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 Synoptic Analysis Branch (SAB) and the U.S. Air Force Global Weather Center (AFGWC). The ship **Kentucky Highway** reported 39 knots sustained wind at 1800 UTC on the 4th while located about 110 nautical miles east-northeast of the storm center.

c. Casualty and Damage Statistics

Kevin did not affect land and there were no known casualties or damage.

d. Forecast and Warning Critique

Average official track forecast errors were 15, 35, 30, and 43 nautical miles, respectively, for the 0-, 12-, 24-, and 36-hour forecast periods. Kevin was a tropical storm for only two days and only eight forecasts were verified. No 48- or 72-hour forecasts were verified.

Table 1. Best track, Tropical Storm Kevin, 03-07 September 1997.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed(kt)	Stage
03/1800	17.7	112.2	1009	30	tropical depression
04/0000	18.2	113.4	1007	30	"
0600	18.7	114.4	1004	35	tropical storm
1200	19.2	115.4	1001	40	"
1800	19.6	116.6	998	45	"
05/0000	20.0	117.8	995	50	"
0600	20.4	118.9	994	50	"
1200	20.6	120.0	995	50	"
1800	20.6	121.2	998	45	"
06/0000	20.4	122.3	1003	35	"
0600	20.4	123.4	1006	30	tropical depression
1200	20.7	124.5	1007	30	"
1800	20.9	125.6	1008	25	"
07/0000	21.2	126.8	1009	25	"
0600	dissipated				
05/0600	20.4	118.9	994	50	minimum pressure

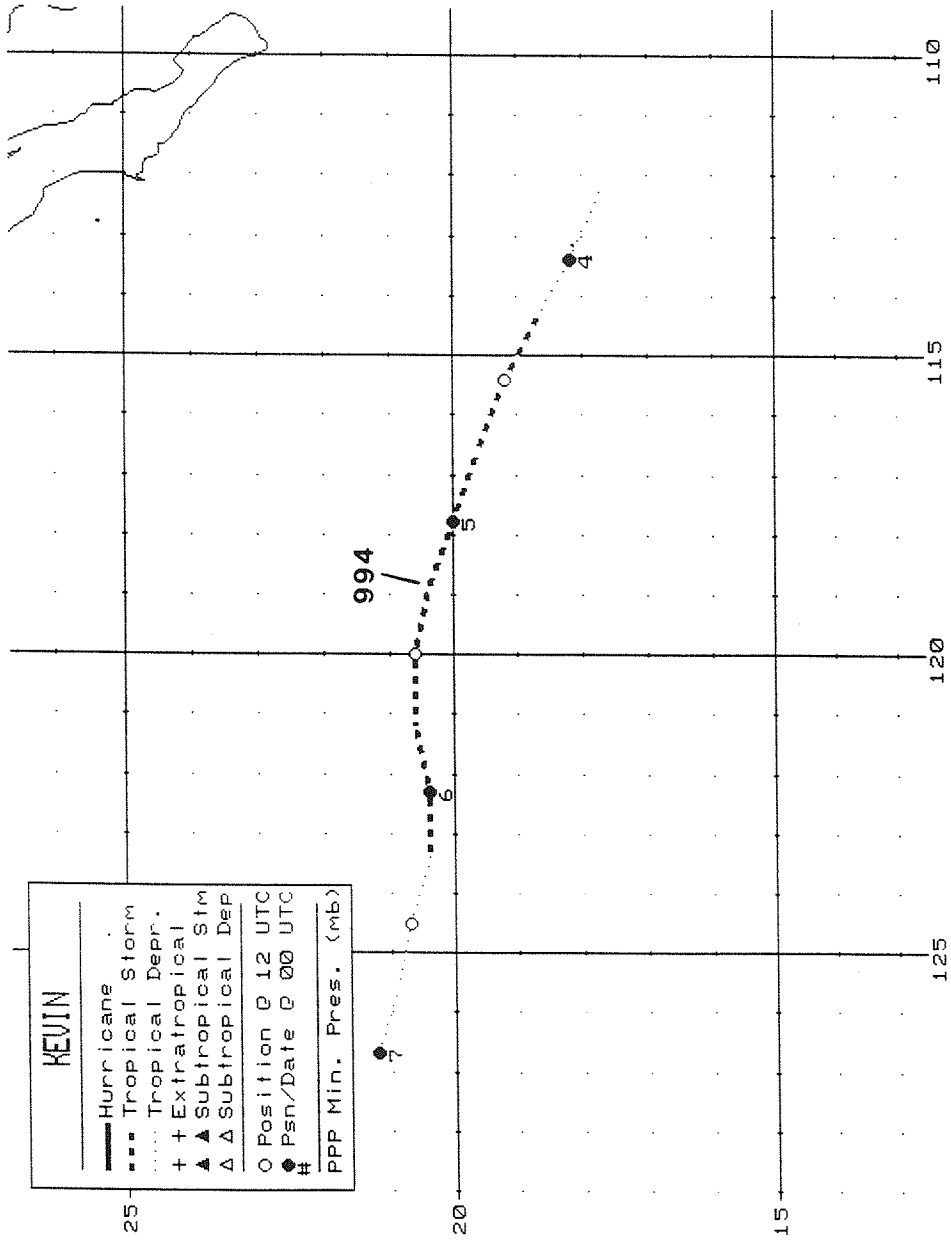


Fig. 1. Best track positions for Tropical Storm Kevin, 03-07 September 1997.

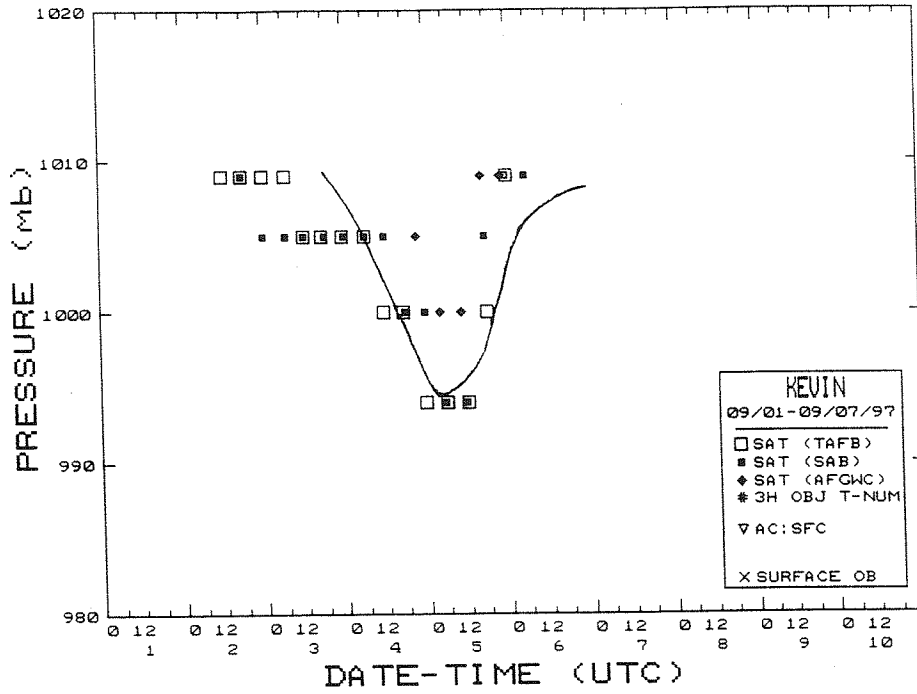


Fig. 2. Best track minimum sea level pressure curve for Tropical Storm Kevin.

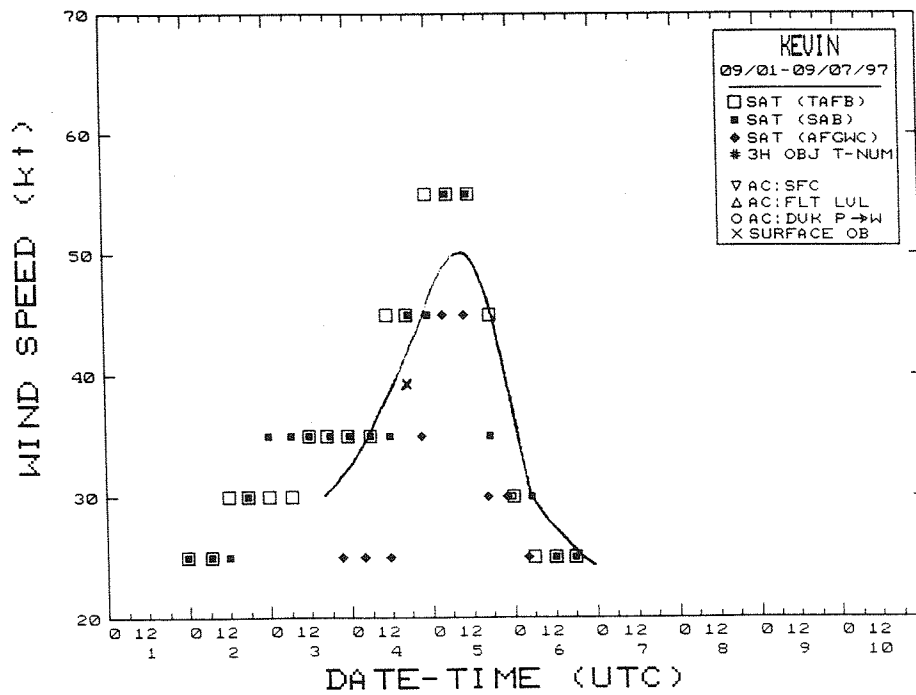


Fig. 3. Best track maximum one-minute wind speed curve for Tropical Storm Kevin.