

Preliminary Report
Hurricane Adolph
15-21 June 1995

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a. Synoptic History

A tropical disturbance gradually became better organized during the middle of June off the southwest coast of Mexico. The disturbance was possibly associated with a westward moving tropical wave, although a lack of sufficient upper-air data and significant cloudiness makes it difficult to accurately track the wave from Central America into the eastern Pacific Ocean. Satellite imagery indicated increased banding features on 15 June, and the "best track" (Fig. 1 and Table 1) shows that the disturbance became Tropical Depression Two-E at 1200 UTC on this date. The depression began drifting generally toward the north at 5 to 7 knots while embedded within weak steering currents. Deep convection increased near the center, and the depression became Tropical Storm Adolph at 0000 UTC 16 June. At this time, Adolph was located over warm water and exhibited a well-defined upper-level outflow pattern. The tropical cyclone rapidly strengthened into a hurricane by 0000 UTC 17 June when a banding type eye appeared in satellite imagery. The hurricane gradually turned toward the northwest, while the forward motion remained slow.

Rapid strengthening continued and Adolph is estimated to have reached maximum sustained winds of 115 knots and a minimum pressure of 948 mb at 0600 UTC 18 June based upon satellite intensity estimates from analysts at the NESDIS Synoptic Analysis Branch and the National Hurricane Center. The 3-hour averages of objective intensity estimates peaked near this time when satellite imagery indicated a small and distinct eye embedded within very cold cloud tops.

Adolph began weakening when the upper-level environment became less favorable and when the cyclone moved over cooler water. On 19 June the cyclone gradually turned toward the west and the forward motion slowed to less than 5 knots. Adolph weakened to a tropical storm by 1200 UTC on this date, and to a tropical depression by 1200 UTC on the following day. Adolph dissipated on 21 June when the cyclone was centered about 300 n mi south-southwest of the southernmost tip of Baja California. At this time Adolph was characterized by a swirl of low clouds with no deep convection and maximum winds of 20 knots.

b. Meteorological Statistics

The best track positions and intensities were derived solely

from Dvorak technique estimates. Figures 2 and 3 show the curves of minimum central pressure and maximum one-minute wind speed, respectively, versus time, along with the observations on which they are based.

c. Casualty and Damage Statistics

The NHC has not received any reports of casualties or damage related to Adolph.

d. Forecast and Warning Critique

The government of Mexico issued a tropical storm warning and a hurricane watch at 0300 UTC on the 17th from Punta Tejupan to Cabo Corrientes when Adolph was about 250 n mi from the coast of Mexico and moving northward near 6 knots. The watch and warning were discontinued at 1500 UTC on the 18th, when it was determined that the cyclone was going to move northwestward away from the mainland.

There were sixteen official forecasts verified during the time when Adolph was of tropical storm stage. The mean official track forecast errors of 33, 64, 91, 142 and 250 n mi at 12, 24, 36, 48 and 72 hours respectively were close to the long-term averages from 1988 through 1994, except at 72 hours which were somewhat larger.

The forecast rates of strengthening and weakening were less than the observed rates. There were two 65 knot under-forecasts at the 48 hour period which contributed to a large negative bias during the developing stage. During these early stages, Adolph was over warm water and exhibited an impressive outflow pattern in satellite imagery, but only a little strengthening was forecast because of the forecasters' reliance on the NMC Aviation Model which incorrectly indicated strong upper-level westerlies moving over the cyclone.

Table 1. Preliminary best track, Hurricane Adolph, 15-21 June 1995.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
15/1200	11.4	105.9	1011	25	Trop. Depresssion
1800	11.9	106.1	1008	30	" "
16/0000	12.5	106.3	1005	35	Tropical Storm
0600	13.1	106.4	1000	40	" "
1200	13.6	106.3	995	50	" "
1800	14.2	106.2	990	60	" "
17/0000	14.8	106.3	983	70	Hurricane
0600	15.4	106.6	975	80	"
1200	15.8	106.9	967	90	"
1800	16.2	107.2	960	100	"
18/0000	16.6	107.5	953	110	"
0600	17.1	107.8	948	115	"
1200	17.5	108.3	953	110	"
1800	17.8	108.8	960	100	"
19/0000	18.2	109.1	973	85	"
0600	18.3	109.5	985	70	"
1200	18.3	109.8	992	60	Tropical Storm
1800	18.2	110.2	997	50	" "
20/0000	18.1	110.6	1000	40	" "
0600	18.2	111.0	1001	35	" "
1200	18.2	111.2	1002	30	Trop. Depression
1800	18.3	111.4	1003	30	" "
21/0000	18.3	111.5	1004	25	" "
0600	18.4	111.5	1006	20	Dissipating
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18/0600	17.1	107.8	948	115	Minimum Pressure

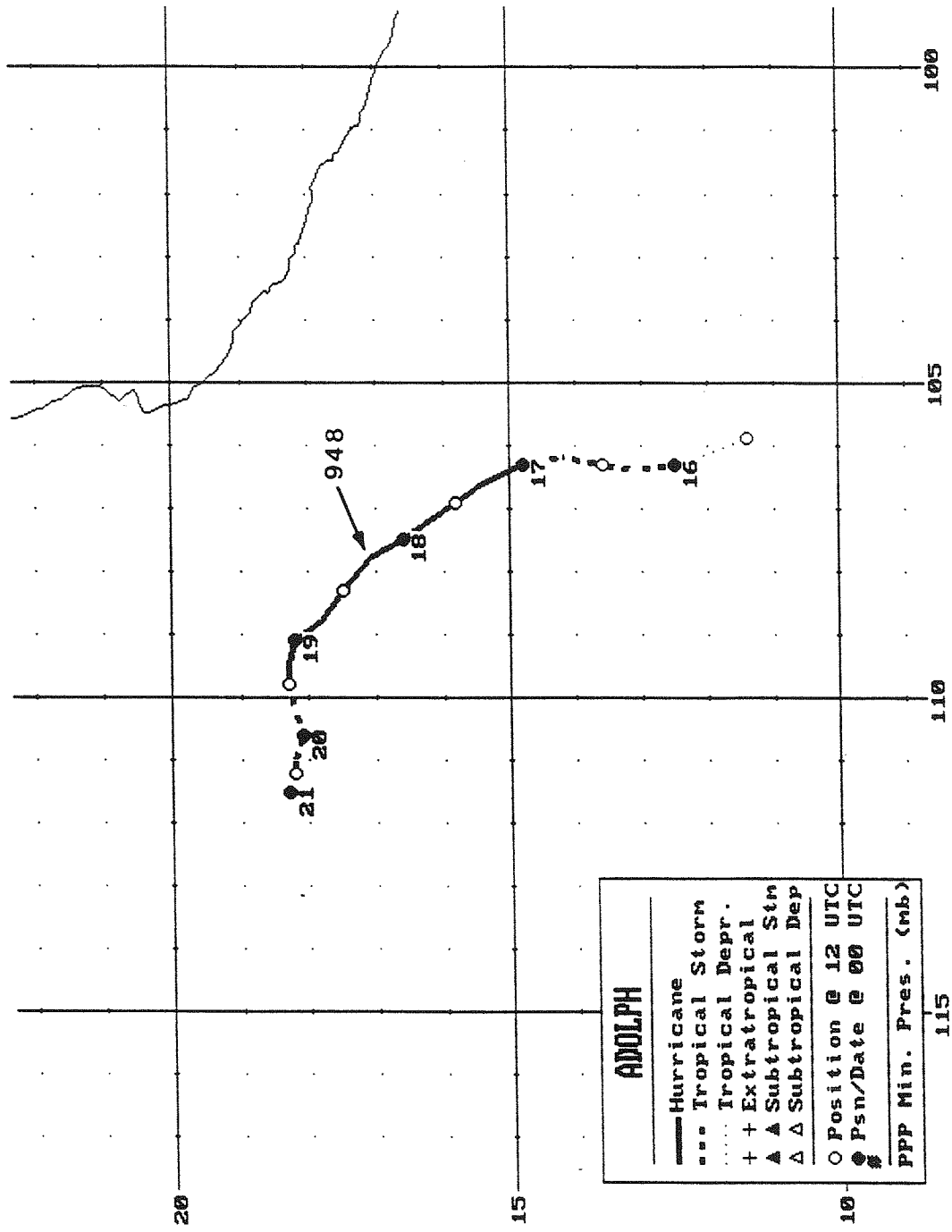


Figure 1. Best track positions for Hurricane Adolph, 15-21 June 1995.

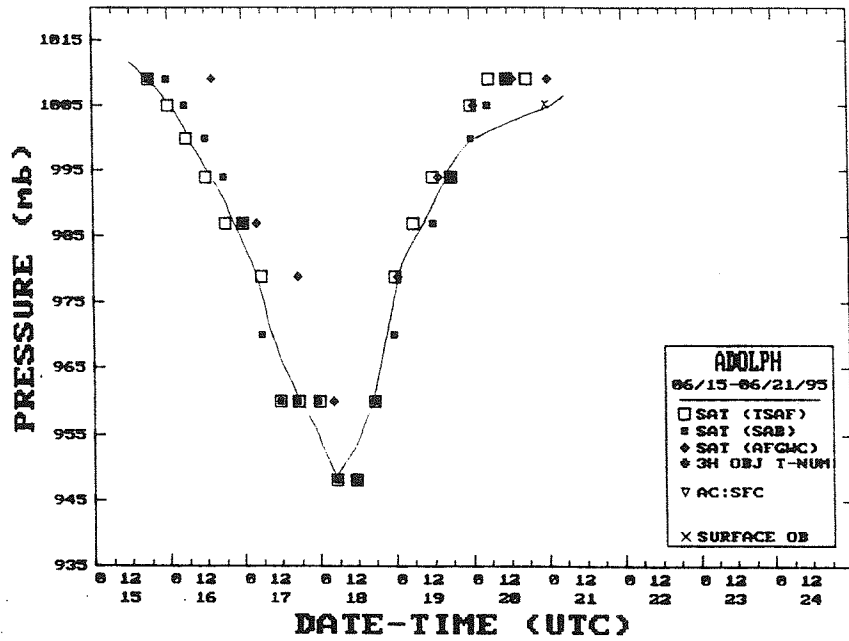


Figure 2. Best track minimum central pressure curve for Hurricane Adolph.

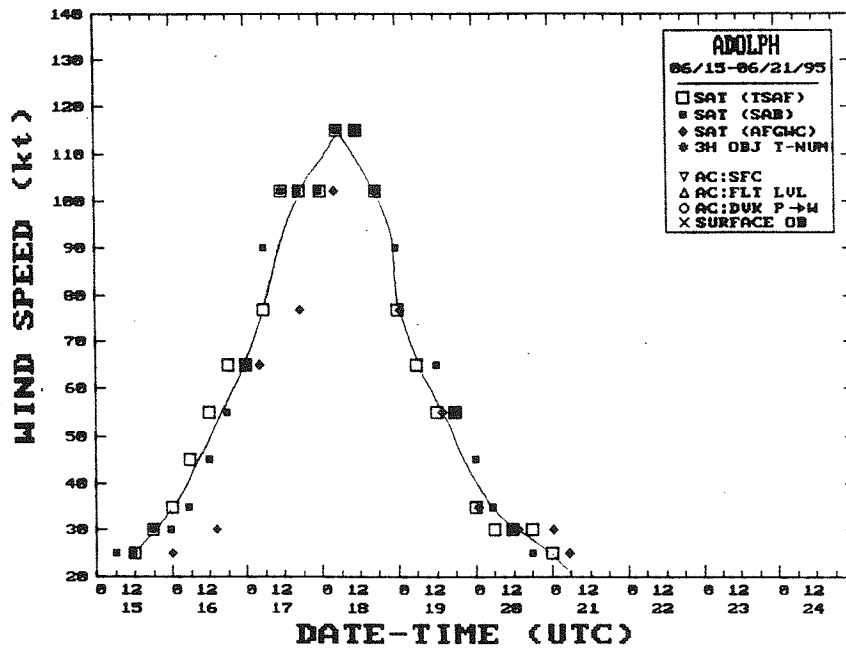


Figure 3. Best track maximum sustained wind speed curve for Hurricane Adolph.