

Preliminary Report  
Hurricane Cosme  
17 - 22 July 1995

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a. Synoptic History

This tropical cyclone can be traced to a cloud cluster that moved across Central America on 10 and 11 July. Moving westward, the cluster showed signs of a low-level circulation by the 15th and it became a depression on the 17th, about 350 n mi south-southeast of the southern tip of Baja California. The track of Cosme begins at this time and is plotted in Fig. 1. Table 1 is a listing, every six hours, of position, maximum one-minute surface wind speed, and minimum central sea level pressure.

Movement was slow and toward the northwest from the 17th to the 20th, while the depression gradually strengthened to a 65-knot hurricane. Cosme then turned and moved a little faster toward the west-southwest and weakened. By the 22nd, only a swirl of low clouds remained, about 850 n mi west-southwest of the southern tip of Baja California.

b. Meteorological Statistics

Figures 2 and 3 show the curves of minimum sea-level pressure and maximum one-minute wind speed as a function of time, along with the data on which they are based. All of the data in both figures are estimates from satellite imagery using the Dvorak method.

A ship was located about 60 n mi east of the center of Cosme at 1800 UTC on the 18th and reported a sustained wind speed of 15 knots and 1006.1-mb pressure. At this time, satellite-based wind speed estimates from both the Tropical Analysis and Forecast Branch and from the Satellite Analysis Branch were 45 kts. One might normally expect 35-knot winds to extend out to 60 n mi from the center of a tropical storm, unless it tiny. Cosme was not tiny. This suggests considerable uncertainty in the determination of the maximum sustained wind in a tropical cyclone.

c. Casualty and Damage Statistics

Cosme did not affect land and there are no casualties or damage.

d. Forecast and Warning Critique

Average track forecast errors for Cosme range from 84 n mi at 24 hours to 188 n mi at 48 hours to 319 n mi at 72 hours. These errors are somewhat higher than the long-term errors for the eastern Pacific basin and were influenced by the turn on the 20th

from northwestward to west-southwestward. Even after the turn occurred, the track guidance based on the steering from the Aviation global/spectral model insisted on a northwestward motion. The simple climatology-persistence model had smaller track errors than all of the guidance models and the official forecast.

Table 1. Track of Hurricane Cosme, 17 - 22 July 1995.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
17/0000	17.0	108.1	1007	25	Trop. Dep.
0600	17.2	108.4	1007	30	"
1200	17.3	109.0	1006	30	"
1800	17.5	109.5	1005	30	"
18/0000	17.8	109.8	1004	30	"
0600	18.1	110.5	1002	35	Trop. Storm
1200	18.4	111.2	1000	40	"
1800	18.8	112.0	997	50	"
19/0000	19.3	112.8	995	55	"
0600	19.7	113.6	993	55	"
1200	20.2	114.4	990	60	"
1800	20.8	115.4	987	65	Hurricane
20/0000	21.5	116.5	985	65	"
0600	21.7	117.3	985	65	"
1200	21.8	118.3	987	60	Trop. Storm
1800	21.6	119.4	991	50	"
21/0000	21.4	120.6	996	40	"
0600	21.2	121.7	1002	35	"
1200	21.0	122.8	1005	30	Trop. Dep.
1800	20.8	124.0	1008	25	"
22/0000	20.6	125.0	1009	25	"
0600					dissipated
20/0000	21.5	116.5	985	65	minimum pressure

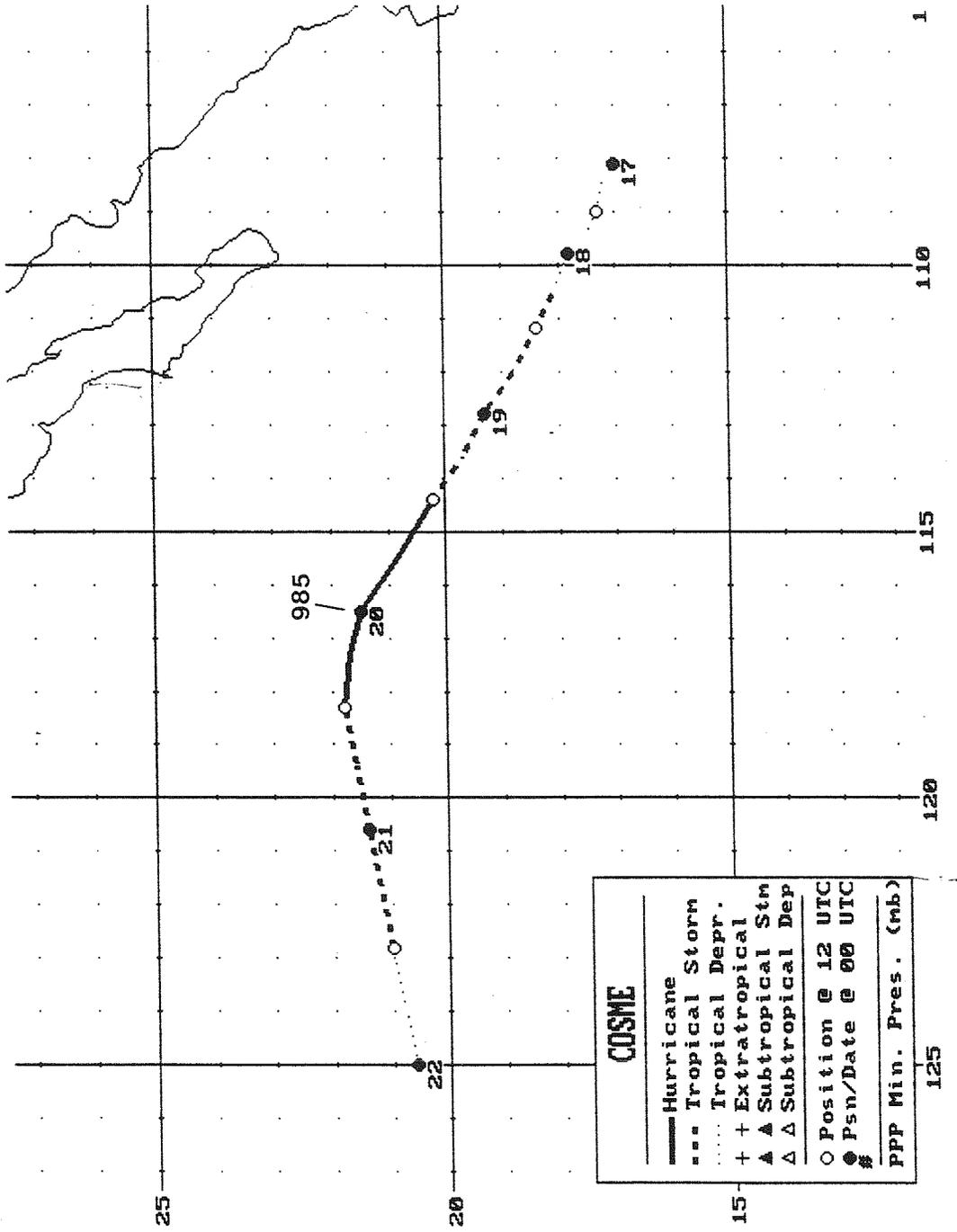


Fig. 1. Track of Hurricane Cosme, July 1995

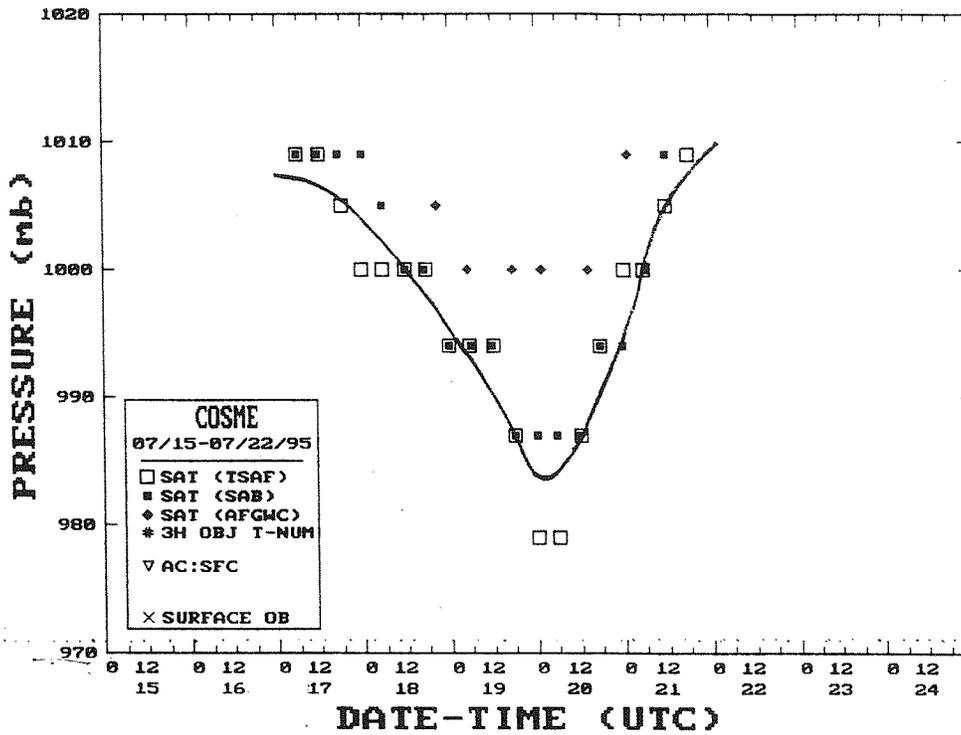


Fig. 2. Minimum sea-level-pressure versus time.

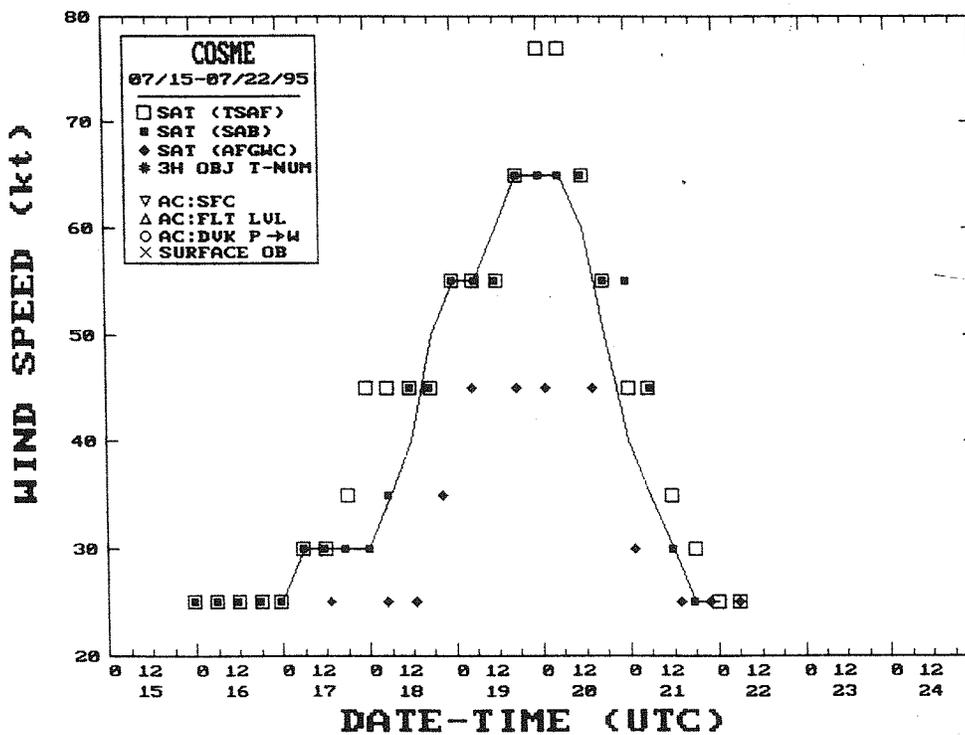


Fig. 3. Maximum one-minute wind speed versus time.