

Tropical Cyclone Report
Hurricane Gilma
5-11 August 2000

James L. Franklin
National Hurricane Center
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Gilma was a category 1 hurricane (on the Saffir-Simpson Hurricane Scale) that took a climatological west-northwesterly track over the open waters of the eastern North Pacific.

a. Synoptic History

The precursor disturbance for Hurricane Gilma was a tropical wave that moved off the coast of Africa on 20-21 July. The wave quickly lost convection which it did not regain until it entered the eastern Caribbean on the 28th. The wave moved into the eastern Pacific on 2 August. Early on the 4th a cloud system center became briefly trackable about 300 n mi south of Zihuatanejo, Mexico. This center dissipated but a second one consolidated rapidly late in the day and a tropical depression formed on the 5th at 0000 UTC, about 250 n mi south of Manzanillo. The “best track” chart of the tropical cyclone’s path is given in Fig. 1, with the wind and pressure histories shown in Figs. 2 and 3, respectively. The best track is listed in Table 1.

The depression remained very poorly organized for the next 36 hours and did not have a very well-defined circulation center while it moved to the west-northwest, a heading from which the cyclone never deviated very much. By 1200 UTC on the 5th, the cloud pattern had become better organized and the cyclone became a tropical storm about 350 n mi south of Cabo San Lucas. Gilma gradually intensified over the next couple of days and became a hurricane at 0600 UTC on the 8th about 500 n mi west-southwest of Cabo San Lucas. Gilma’s peak intensity of 70 kt was reached at 1200 UTC on the 8th as water temperatures under the cyclone’s center fell below about 26°C. A smooth decline in intensity ensued over the next 60 hours, with the system weakening to a tropical depression at 0000 UTC on the 10th. No significant convection was noted after about 1800 UTC on the 10th, and the tropical cyclone had dissipated by 0000 UTC on the 11th about 750 n mi west of Cabo San Lucas.

b. Meteorological Statistics

Observations in Gilma (Figs. 2 and 3) were limited to satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the U. S. Air Force Weather Agency (AFWA). Of note is the relatively large discrepancy between intensity estimates from the various agencies on the 7th and 8th, which introduces more than the usual uncertainty regarding the peak intensity attained by the cyclone.

There were no ship reports of winds of tropical storm force associated with Gilma.

c. Casualty and Damage Statistics

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

d. Forecast and Warning Critique

There were relatively few verifying forecasts for Gilma (twelve at 12 hours and only two at 72 hours). Average official track errors for Gilma were 27, 49, 61, 82, and 93 n mi for the 12, 24, 36, 48, and 72 h forecasts, respectively. These errors are lower than the average official track errors for the 10-yr period 1990-1999 (37, 69, 101, 132, and 189 n mi, respectively). Intensity errors were close to or less than the long term averages.

There were no watches or warnings associated with Gilma.

Table 1. Best track for Hurricane Gilma, 5-11 August 2000.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
05 / 0000	15.0	105.2	1005	30	tropical depression
05 / 0600	15.2	106.1	1005	30	"
05 / 1200	15.5	106.9	1005	30	"
05 / 1800	15.8	107.8	1005	30	"
06 / 0000	16.2	108.8	1005	30	"
06 / 0600	16.6	109.9	1005	30	"
06 / 1200	17.0	111.0	1003	35	tropical storm
06 / 1800	17.4	112.0	1000	45	"
07 / 0000	17.9	113.0	995	50	"
07 / 0600	18.2	114.1	993	55	"
07 / 1200	18.4	114.9	991	60	"
07 / 1800	18.5	115.8	991	60	"
08 / 0000	18.7	116.7	990	60	"
08 / 0600	18.9	117.5	987	65	hurricane
08 / 1200	19.0	118.3	984	70	"
08 / 1800	19.3	119.1	986	70	"
09 / 0000	19.8	119.7	989	60	tropical storm
09 / 0600	20.2	120.2	992	55	"
09 / 1200	20.7	120.6	996	45	"
09 / 1800	21.2	121.1	999	35	"
10 / 0000	21.7	121.6	1002	30	tropical depression
10 / 0600	22.0	122.2	1004	30	"
10 / 1200	22.1	122.7	1005	25	"
10 / 1800	22.2	123.2	1006	25	"
11 / 0000	22.3	123.6	1007	25	"
11 / 0600					dissipated
08 / 1200	19.0	118.3	984	70	minimum pressure

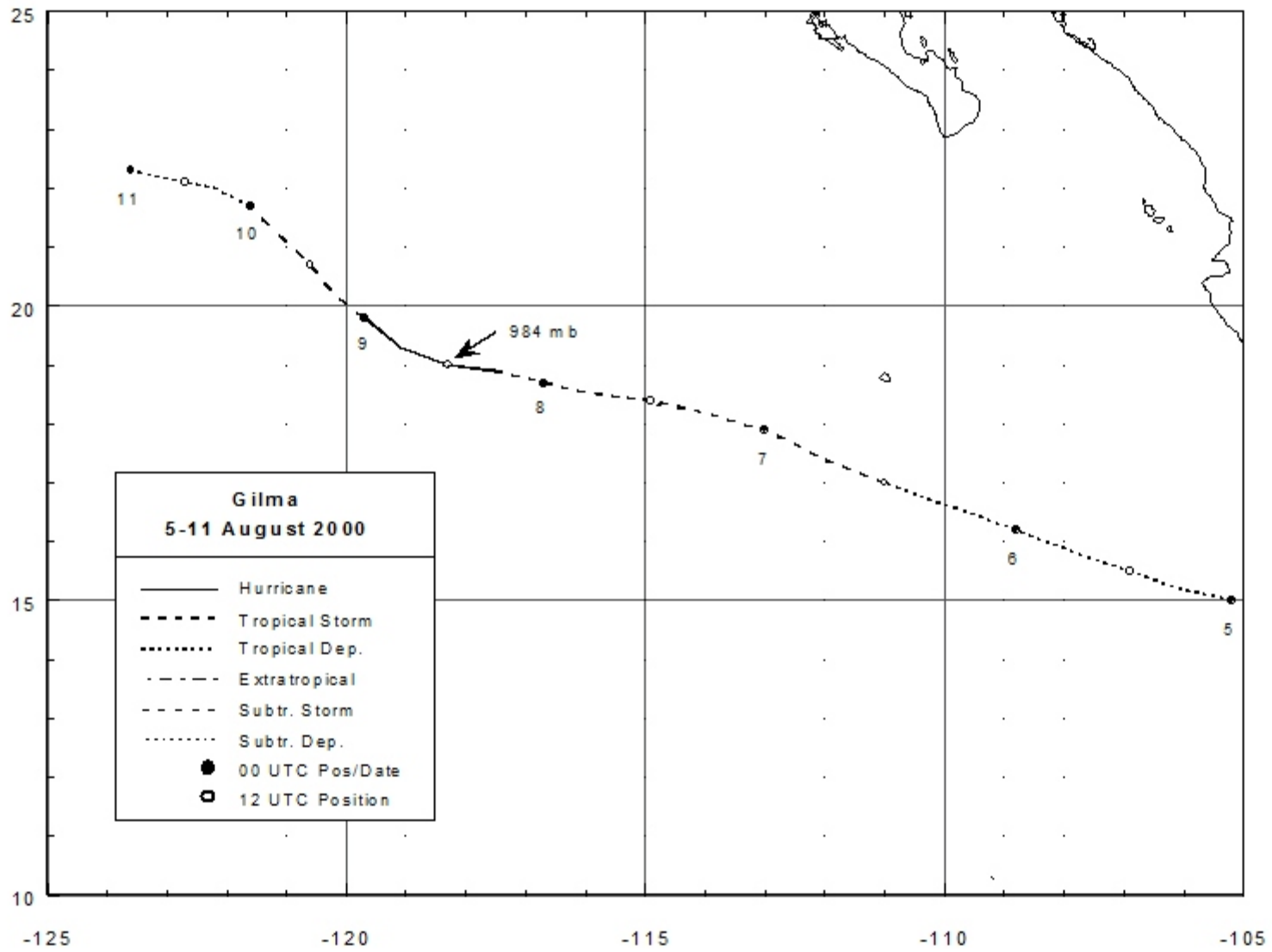


Figure 1. Best track positions for Hurricane Gilma, 5-11 August 2000.

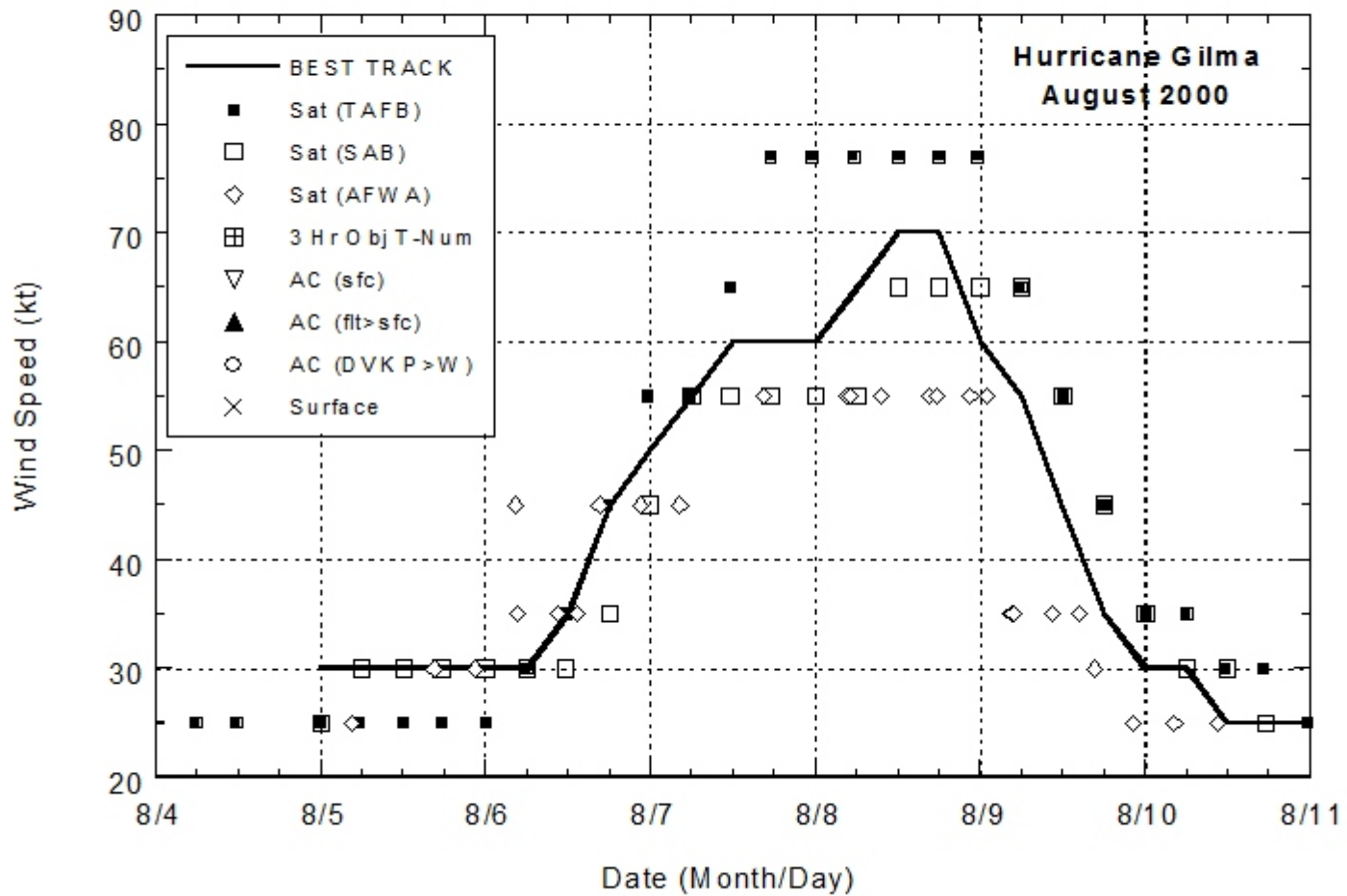


Figure 2. Best track maximum sustained surface wind speed curve for Hurricane Gilma, 5-11 August 2000, and the observations on which the best track curve is based.

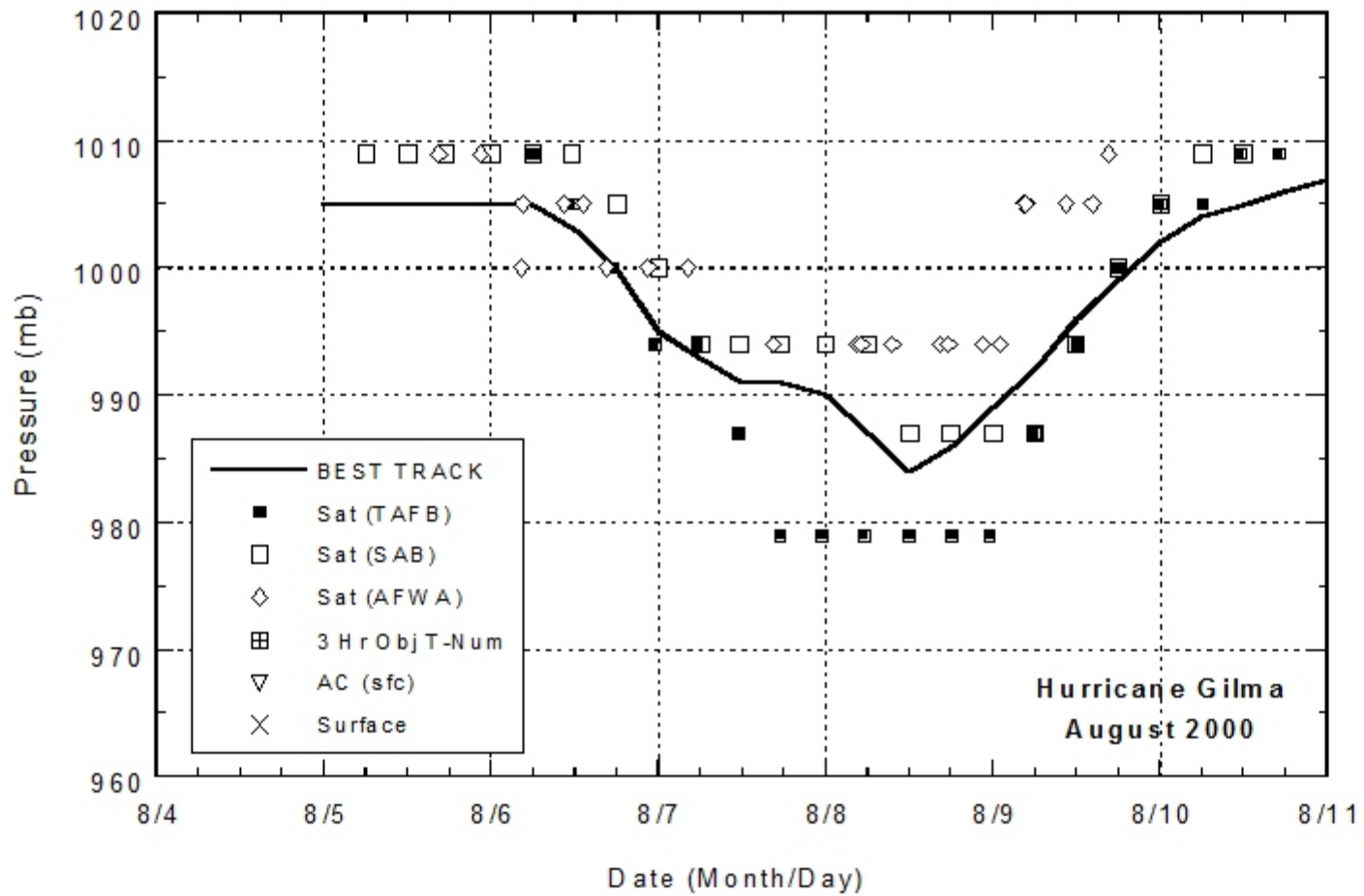


Figure 3. Best track minimum central pressure curve for Hurricane Gilma, 5-11 August 2000, and the observations on which the best track curve is based.