

Preliminary Report
Tropical Storm Genevieve
27 September - 9 October 1996

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Genevieve was a weak tropical cyclone that meandered over the eastern North Pacific for over 11 days without affecting any land areas.

a. Synoptic History

Satellite imagery showed an increase in cloudiness and thunderstorms in the vicinity of the Gulf of Tehuantepec on 23 September. The tropical disturbance moved westward over the next few days without signs of development. Deep convection became more concentrated and the "best track" indicates that a tropical depression formed from the disturbance near 1800 UTC 27 September, while centered about 400 n mi south of the southern tip of Baja California (Fig. 1 and Table 1). The developing cyclone initially moved westward near 10 knots.

The tropical depression quickly strengthened into Tropical Storm Genevieve as upper-level outflow became better established and convective banding increased. Maximum winds of 45 knots are estimated to have occurred from late on the 28th to early on the 30th.

Genevieve tracked toward the west-southwest and decelerated. As steering currents collapsed, the forward motion slowed to less than 5 knots by 30 September. A rather erratic motion occurred between 30 September and 8 October, during which time the center of Genevieve moved less than 200 n mi. Although there is uncertainty in the precise track, visible satellite fixes indicate that the tropical cyclone executed two loops during this time.

Genevieve weakened to a tropical depression near 0000 UTC 1 October in response to increased easterly shear. The shear temporarily diminished on 6 October, and Genevieve regained tropical storm strength for about 36 hours. Thereafter, the tropical cyclone again weakened to a tropical depression as it entrained drier air.

Genevieve dissipated on 9 October less than 650 n mi from where it developed a little over 11 days earlier, although occasional flare-ups of convection occurred in association with a low-level swirl for a few more days.

b. Meteorological Statistics

Figures 2 and 3 show "best track" curves of minimum central pressure and maximum one-minute surface wind speed, respectively, as a function of time. The observations on which the curves are based are also plotted and consist of Dvorak-technique estimates using satellite imagery. The **NEDLLOYD DEJIMA** reported a north wind of 35 knots at 1800 UTC 7 October while located about 200 n mi to the north-northwest of the center of Genevieve. This was the only ship report of tropical storm force winds received.

c. Casualty and Damage Statistics

No reports of casualties or damage associated with Genevieve have been received at the NHC.

d. Forecast and Warning Critique

Genevieve was categorized as a tropical storm for only four days. Those days were not consecutive, so only limited forecast evaluations are possible. During Genevieve's life as a tropical storm, the average official track forecast errors ranged from 145 n mi at 24 hours (11 cases) to 283 n mi at 48 hours (4 cases). These errors are nearly double the previous eight year averages. The official forecasts as well as many of the track prediction models consistently indicated a west-northwestward motion which did not occur.

The intensity forecasts showed a positive bias (i.e., intensity was overestimated). This bias resulted primarily from the early forecasts that, incorrectly, expected Genevieve to remain within a light-shear environment and strengthen.

Operationally, advisories were discontinued at 2100 UTC 3 October when the

cloud pattern appeared very disorganized; advisories resumed at 2100 UTC 6 October. In contrast, a post-analysis indicates that a weak low-level circulation persisted and the best track shows depression status through this period.

The tropical storm did not threaten land. Therefore, coastal watches or warnings were not necessary.

Table 1. Best track, Tropical Storm Genevieve, 27 September - 9 October, 1996.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
1800	16.3	110.0	1008	30	tropical depression
28/0000	16.2	111.0	1005	35	tropical storm
0600	15.9	111.9	1003	40	"
1200	15.7	112.7	1001	40	"
1800	15.4	113.6	1000	45	"
29/0000	15.2	114.5	1000	45	"
0600	15.1	115.2	1000	45	"
1200	15.1	115.8	999	45	"
1800	15.3	116.3	1000	45	"
30/0000	15.5	116.5	1000	45	"
0600	15.6	116.6	1003	40	"
1200	15.7	116.7	1005	35	"
1800	15.8	116.9	1005	35	"
01/0000	16.0	117.0	1006	30	tropical depression
0600	16.1	117.1	1007	30	"
1200	16.2	117.2	1008	30	"
1800	16.3	117.4	1009	30	"
02/0000	16.4	117.6	1009	25	"
0600	16.3	118.1	1009	25	"
1200	15.9	118.7	1009	25	"
1800	15.3	119.3	1009	25	"
03/0000	15.0	120.0	1009	25	"
0600	15.1	120.1	1009	25	"
1200	15.3	120.2	1009	25	"
1800	15.4	120.1	1009	25	"
04/0000	15.5	120.0	1010	20	"
0600	15.5	119.8	1010	20	"
1200	15.4	119.7	1010	20	"
1800	15.4	119.5	1010	25	"
05/0000	15.3	119.3	1009	30	"
0600	15.4	119.0	1009	30	"
1200	15.5	118.7	1009	30	"
1800	15.6	118.3	1009	30	"
06/0000	15.7	118.0	1008	30	"
0600	15.9	117.8	1007	30	"
1200	16.1	117.6	1006	30	"
1800	16.3	117.5	1005	35	tropical storm
07/0000	16.6	117.5	1005	40	"
0600	16.8	117.6	1004	40	"
1200	17.0	117.7	1003	40	"
1800	17.1	117.9	1003	40	"
08/0000	17.0	118.2	1004	35	"
0600	16.6	118.6	1005	35	"
1200	16.1	119.1	1006	30	tropical depression
1800	15.4	119.9	1007	25	"
09/0000	14.8	120.8	1008	25	"
0600					dissipating
29/1200	15.1	115.8	999	45	minimum pressure

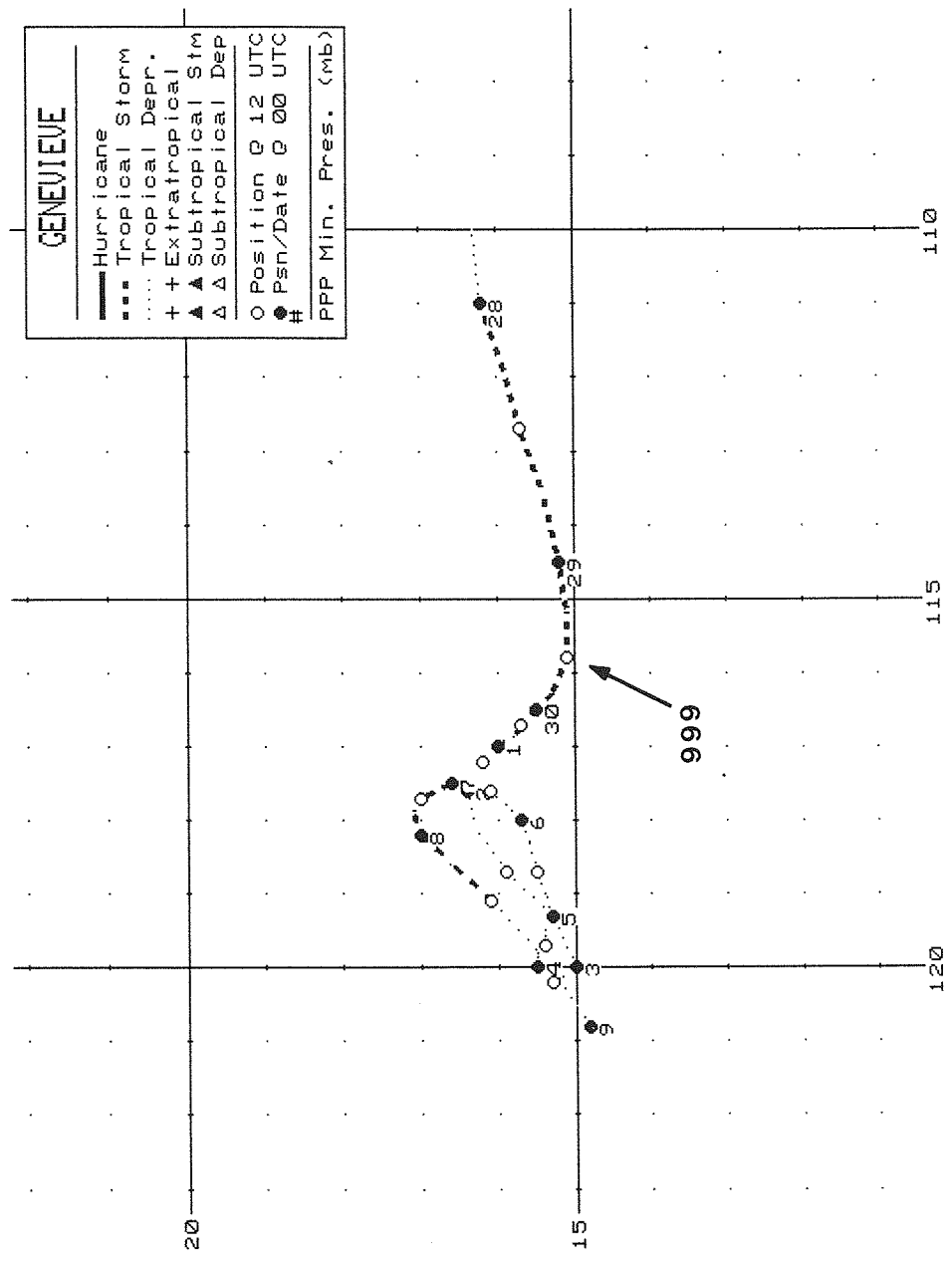


Figure 1. Best track positions for Tropical Storm Genevieve, 27 September - 9 October 1996.

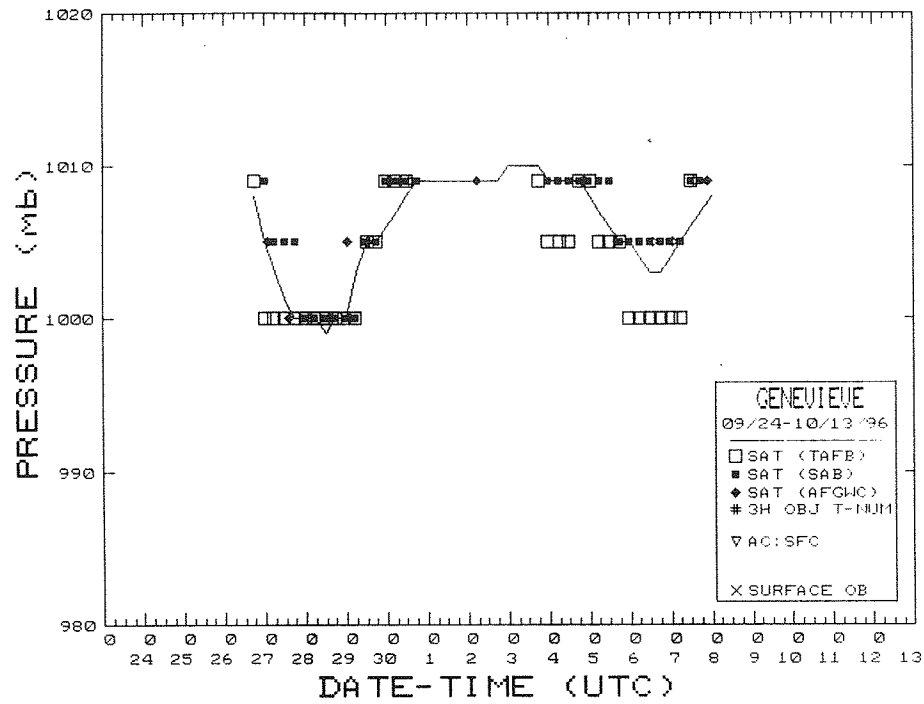


Figure 2. Best track minimum central pressure curve for Tropical Storm Genevieve.

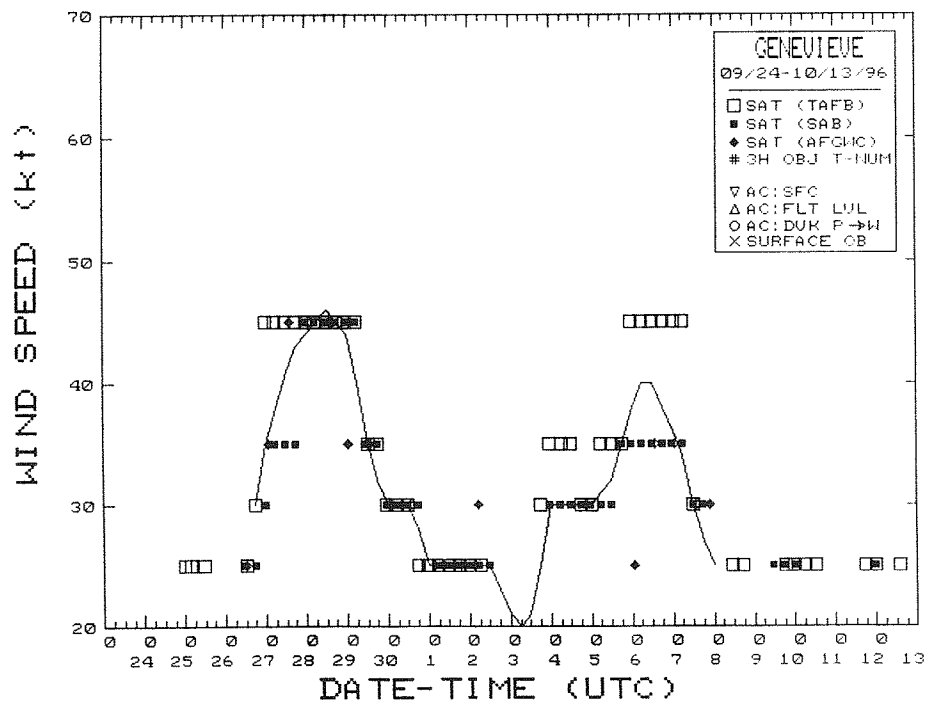


Figure 3. Best track maximum sustained wind speed curve for Tropical Storm Genevieve.