Tropical Cyclone Report
Tropical Storm Lowell
22-31 October 2002

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Lowell was a poorly-organized tropical storm that formed in the western portion of the eastern Pacific basin and moved generally westward over the central Pacific where it dissipated.

a. Synoptic History

Lowell originated from a weak westward moving disturbance that crossed Central America on 12 October. The disturbance was probably associated with a tropical wave that exited the west coast of Africa earlier. Shower activity began to increase on the 18th when the disturbance was approaching 120° W, but it was not until1800 UTC 22 October that the system developed a broad circulation and enough convection to be considered a tropical depression. The depression became a little better organized as it moved slowly on a general westward track and became a tropical storm at 0600 UTC 23 October, and the maximum winds reached 40 knots six hours later. Thereafter, a strong southwesterly shear began to affect the system and the center became exposed. A gradual weakening trend began and Lowell became a tropical depression. The tropical cyclone continued westward and crossed 140° W into the Central Pacific Hurricane Center (CPHC) area of responsibility around 0000 UTC 26 October. Lowell continued westward and as the shear relaxed, the convection redeveloped near the center and winds increased to 45 knots near 1200 UTC 28 October for about 6 to 12 hours. A gradual weakening began shortly thereafter and the system was dissipating by 0000 UTC 31 October.

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 positions and intensities are listed in Table 1. The best track west of 140° W was provided by CPHC.

b. Meteorological Statistics

Observations in Lowell (Figs. 2 and 3) include 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).

c. Casualty and Damage Statistics

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

d. Forecast and Warning Critique

Lowell was a tropical storm for a short period of time in the NHC area of responsibility. Therefore, the average track forecast error values should not be considered meaningful.

Table 1. Best track for Tropical Storm Lowell, 22-31 October, 2002.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
22 / 1800	11.0	130.5	1008	30	tropical depression
23 / 0000	11.8	130.5	1006	30	"
23 / 0600	11.8	130.5	1004	35	tropical storm
23 / 1200	12.7	131.0	1002	40	"
23 / 1800	12.3	131.5	1003	40	"
24 / 0000	12.4	132.4	1003	40	"
24 / 0600	12.6	133.2	1003	40	"
24 / 1200	12.3	134.5	1005	35	"
24 / 1800	12.3	135.5	1009	30	tropical depression
25 / 0000	12.5	136.8	1009	30	"
25 / 0600	12.5	137.7	1009	30	"
25 / 1200	12.5	138.8	1009	30	"
25 / 1800	12.6	139.7	1009	30	"
26 / 0000	12.7	140.5	1009	30	"
26 / 0600	12.8	141.2	1009	30	"
26 / 1200	13.0	142.0	1009	30	"
26 / 1800	12.5	143.0	1009	30	"
27 / 0000	12.3	143.7	1009	30	"
27 / 0600	12.3	143.9	1008	30	"
27 / 1200	12.5	144.0	1009	30	"
27 / 1800	12.8	144.1	1009	35	tropical storm
28 / 0000	13.1	144.5	1009	35	"
28 / 0600	13.2	144.7	1004	40	"
28 / 1200	13.3	144.9	1002	45	"
28 / 1800	12.9	145.4	1002	45	"

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
29 / 0000	12.7	145.8	1004	40	"
29 / 0600	12.6	146.3	1005	35	"
29 / 1200	12.3	147.0	1007	30	tropical depression
29 / 1800	12.0	147.6	1009	25	"
30 / 0000	12.1	148.3	1009	25	"
30 / 0600	11.9	148.7	1009	25	"
30 / 1200	11.7	148.9	1009	25	"
30 / 1800	11.5	149.1	1009	25	"
31 / 0000	11.2	149.2	1009	25	dissipating
23 / 1200	13.3	144.9	1002	45	minimum pressure
28 / 1200	12.7	131.0	1002	40	minimum pressure

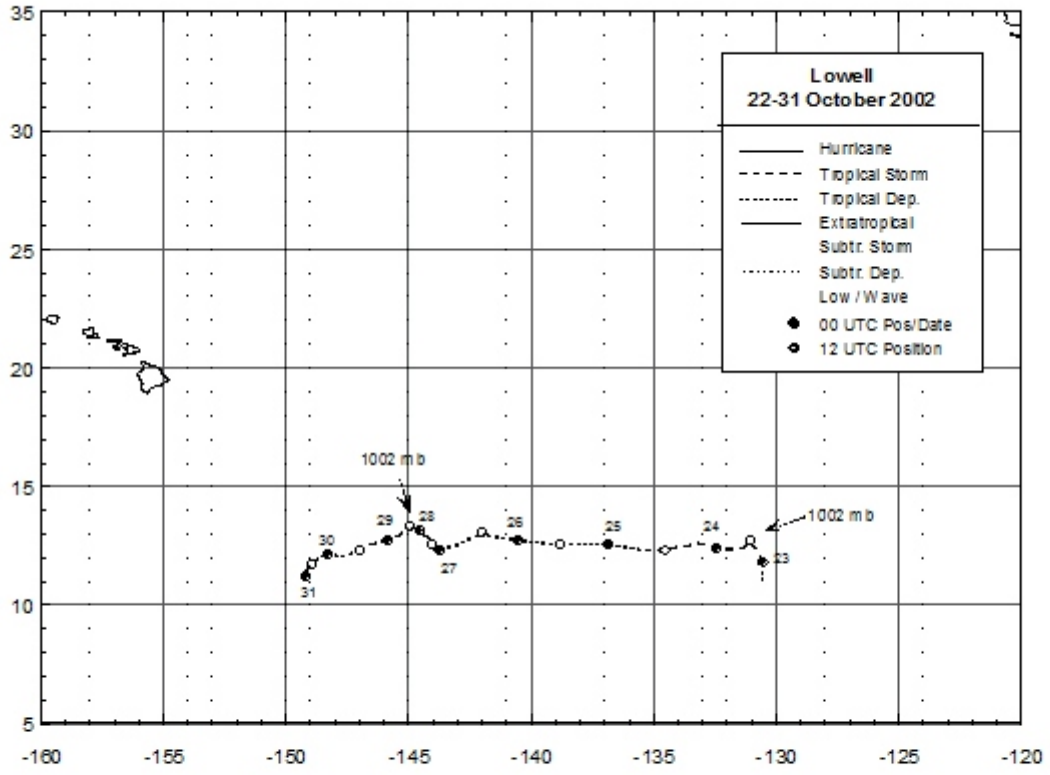

Figure 1. Best track positions for Tropical Storm Lowell, 22-31 October, 2002.

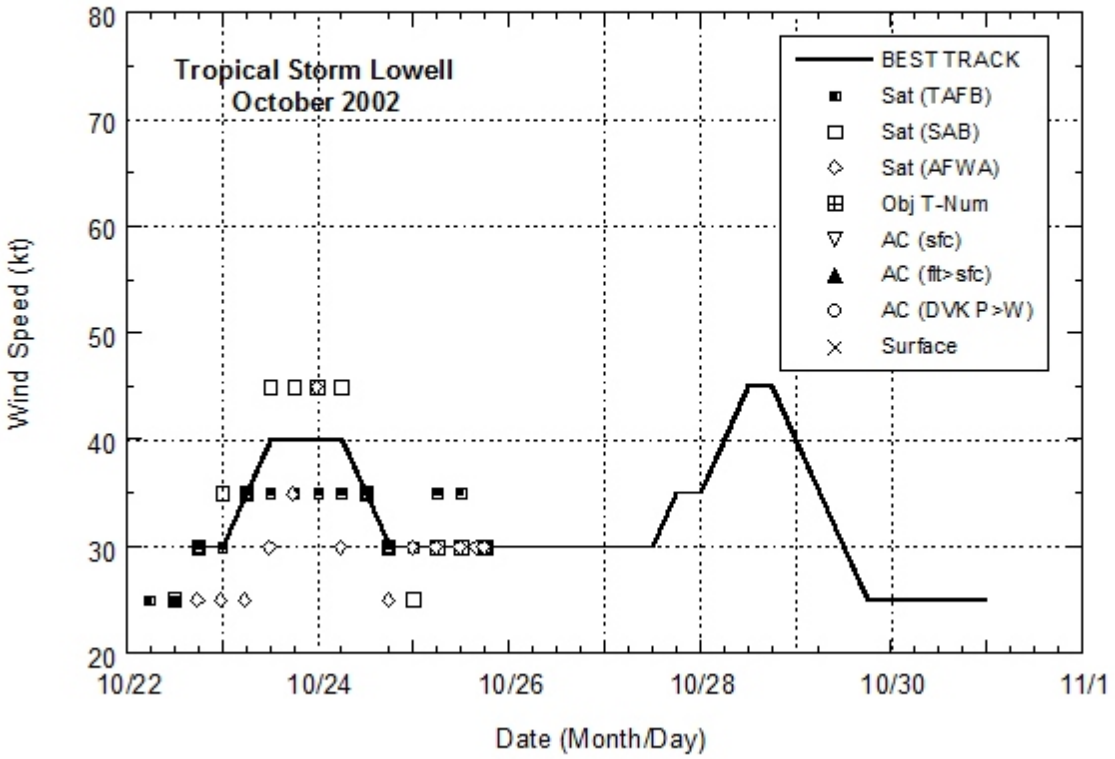

Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Lowell, 22-31 October, 2002.

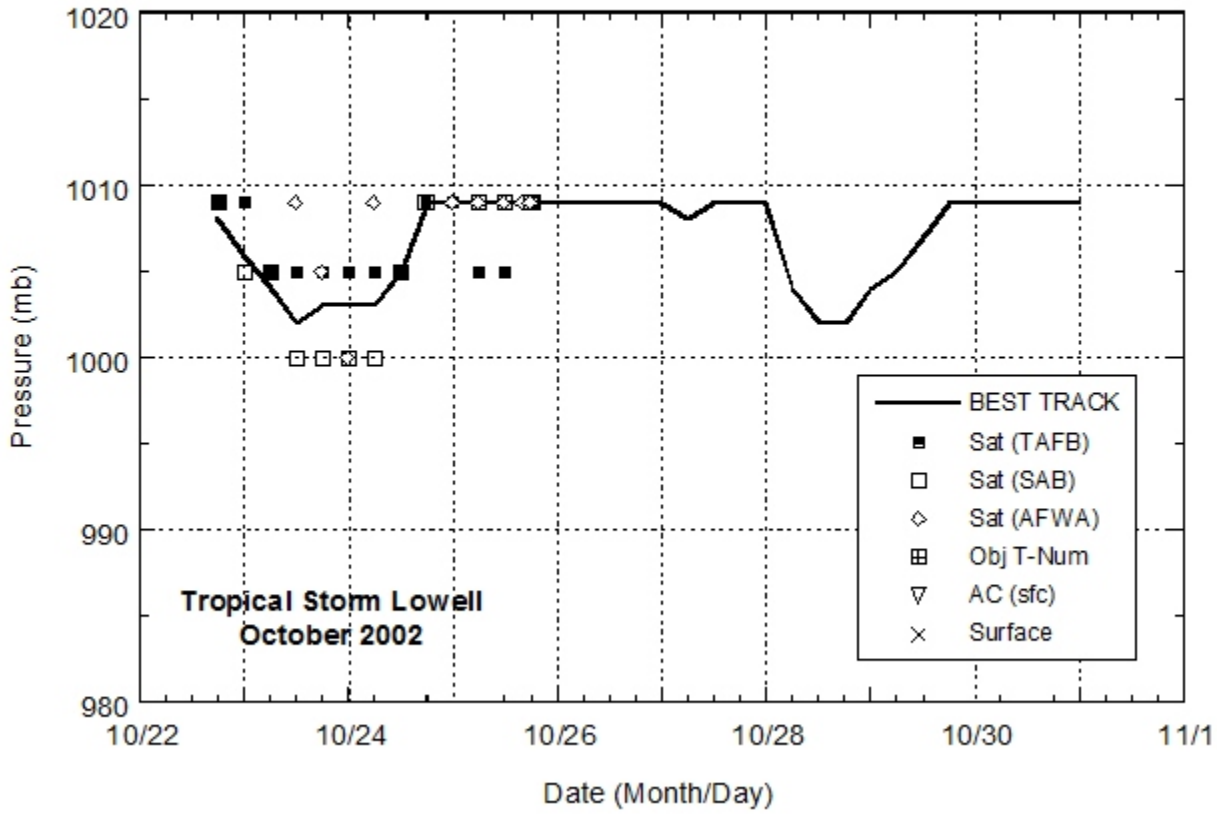

Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Lowell, 22-31 October, 2002.