

Tropical Cyclone Report
Tropical Storm Lester
11-13 October 2004

Richard J. Pasch and David P. Roberts
National Hurricane Center
10 December 2004

Lester was a short-lived tropical storm that moved near Acapulco, Mexico.

a. Synoptic History

An area of disturbed weather persisted a couple hundred nautical miles to the southwest of the Gulf of Tehuantepec from 8-10 October. On 10 October, a surface low developed in this area, while the associated deep convection gradually became organized into slightly curved bands, and initial Dvorak classifications were performed around 1800 UTC that day. The gradual development trend continued on the following day, so that by 1800 UTC 11 October the low-level circulation and cloud pattern were sufficiently well-organized to indicate the formation of a tropical depression, centered about 80 n mi south of Puerto Escondido, Mexico.

Steered by the flow between a weak mid-level ridge to its north, and a broad cyclonic circulation to its southwest, the tropical cyclone moved on a northwestward to west-northwestward track for a couple of days. A weak upper-level anticyclone was centered just east of the system, which resulted in an atmospheric environment that was favorable for intensification. The depression became Tropical Storm Lester around 1800 UTC 12 October, and the storm reached its peak intensity of 45 kt about 6-12 h later. Radar images indicated that the center passed just to the south of Acapulco, Mexico around 0400 UTC 13 October. The interaction with land, and the influence of a larger low-level cyclonic circulation to the southwest, appeared to have disrupted the tropical cyclone, and the storm began to weaken rapidly just after 0600 UTC 13 October. Lester weakened to a tropical depression with a poorly-defined circulation by 1200 UTC that day, and observations from an Air Force Reserve Unit Hurricane Hunter Aircraft flying at an altitude of about 1000 ft indicated that the system had degenerated into a trough on the northeast side of the larger low pressure area later that day.

Figure 1 is a “best track” chart of Lester’s path. Wind and pressure histories for this storm are shown in Figs. 2 and 3, respectively, and the best track positions and intensities are listed in Table 1.

b. Meteorological Statistics

Observations in Lester (Figs. 2 and 3), or in the post-storm trough, 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), as well

as flight-level observations from a mission of the 53rd Weather Reconnaissance Squadron of the U. S. Air Force Reserve Command (the Hurricane Hunters). Acapulco radar imagery from the National Meteorological Service of Mexico along with microwave satellite imagery from NOAA polar-orbiting satellites, the NASA Tropical Rainfall Measuring Mission (TRMM), the NASA QuikSCAT, and Defense Meteorological Satellite Program (DMSP) satellites were also useful in tracking Lester.

Lester produced locally heavy rainfall, totaling around 3 to 5 inches, over portions of the coastal areas of the Mexican states of Oaxaca and Guerrero.

c. Casualty and Damage Statistics

Although Lester very likely produced at least localized flooding over portions of southern Mexico, no reports of damages or casualties have been received.

d. Forecast and Warning Critique

Because Lester was so short-lived, there are few official forecasts to verify, and therefore no meaningful forecast error statistics. There was a generally leftward bias to the official track forecasts, and the sudden weakening of Lester was not anticipated – in fact, the first few NHC intensity forecasts called for the system to become a hurricane.

The Mexican government issued a tropical storm watch for the southern coast of Mexico from Punta Maldonado to Zihuatanejo at 1500 UTC 12 October, and upgraded this watch to a tropical storm warning for the same area at 2100 UTC 12 October. At 0900 UTC 13 October, the tropical storm warning was extended westward to Lazaro Cardenas. The entire tropical storm warning was discontinued at 2100 UTC 13 October.

Table 1. Best track for Tropical Storm Lester, 11-13 October 2004.

Date/Time (UTC)	Latitude (EN)	Longitude (EW)	Pressure (mb)	Wind Speed (kt)	Stage
11 / 1800	14.4	96.7	1006	30	tropical depression
12 / 0000	14.8	97.2	1006	30	"
12 / 0600	15.2	97.9	1006	30	"
12 / 1200	15.7	98.7	1006	30	"
12 / 1800	16.2	99.2	1004	35	tropical storm
13 / 0000	16.4	99.6	1000	45	"
13 / 0600	16.7	100.2	1000	45	"
13 / 1200	16.7	100.6	1004	30	tropical depression
13 / 1800					dissipated
13 / 0000	16.4	99.6	1000	45	minimum pressure

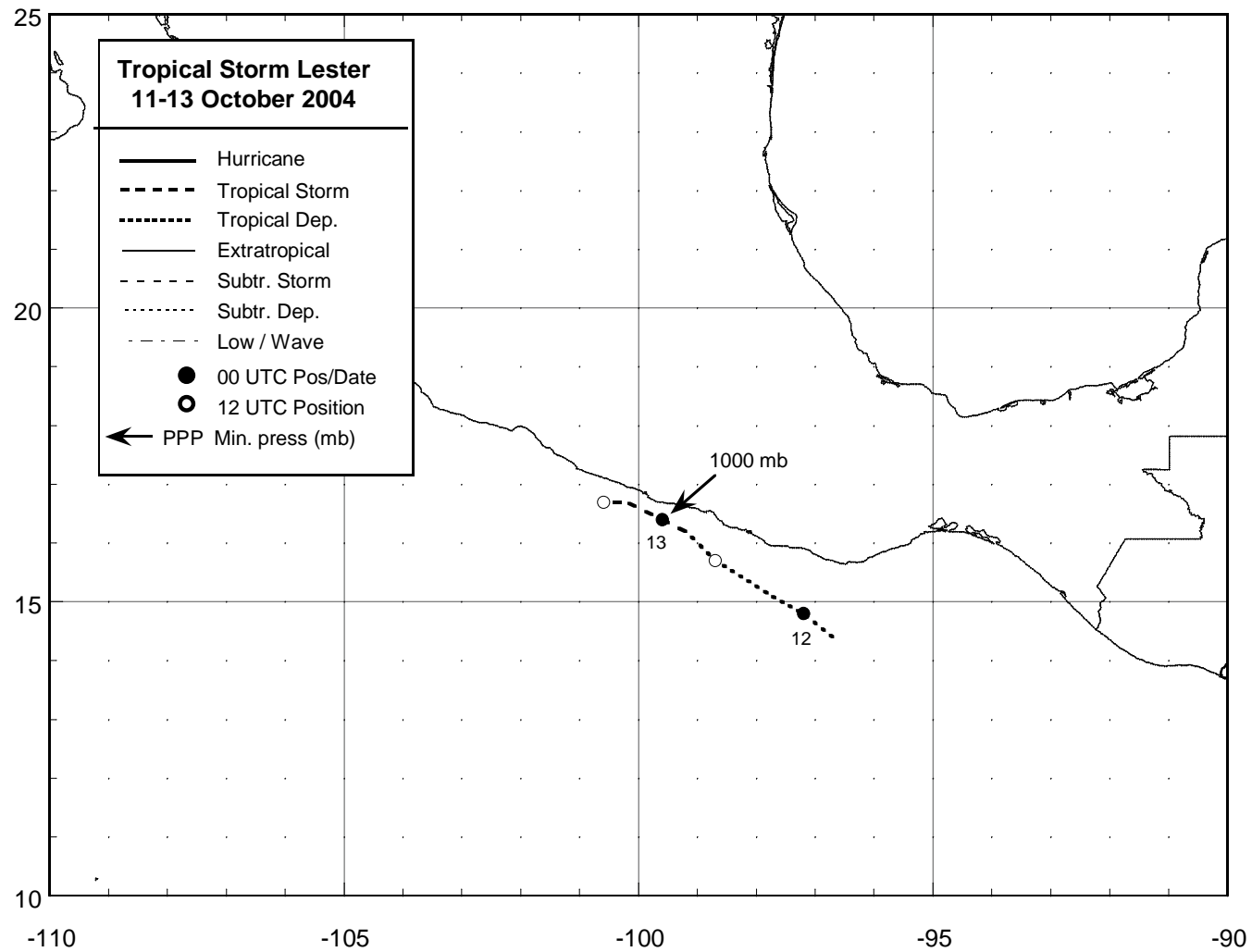


Figure 1. Best track positions for Tropical Storm Lester, 11-13 October 2004.

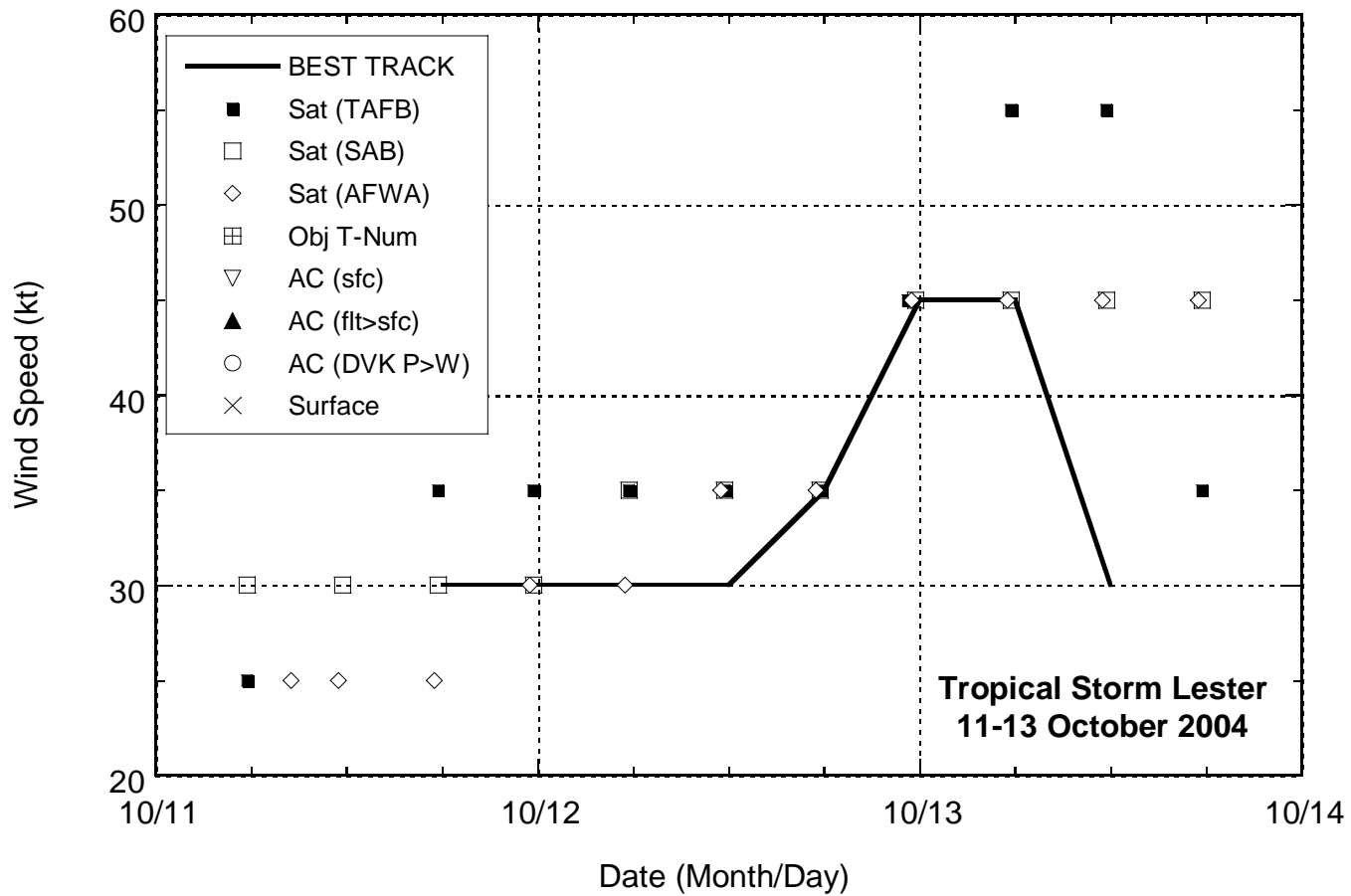


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Lester, 11-13 October 2004.

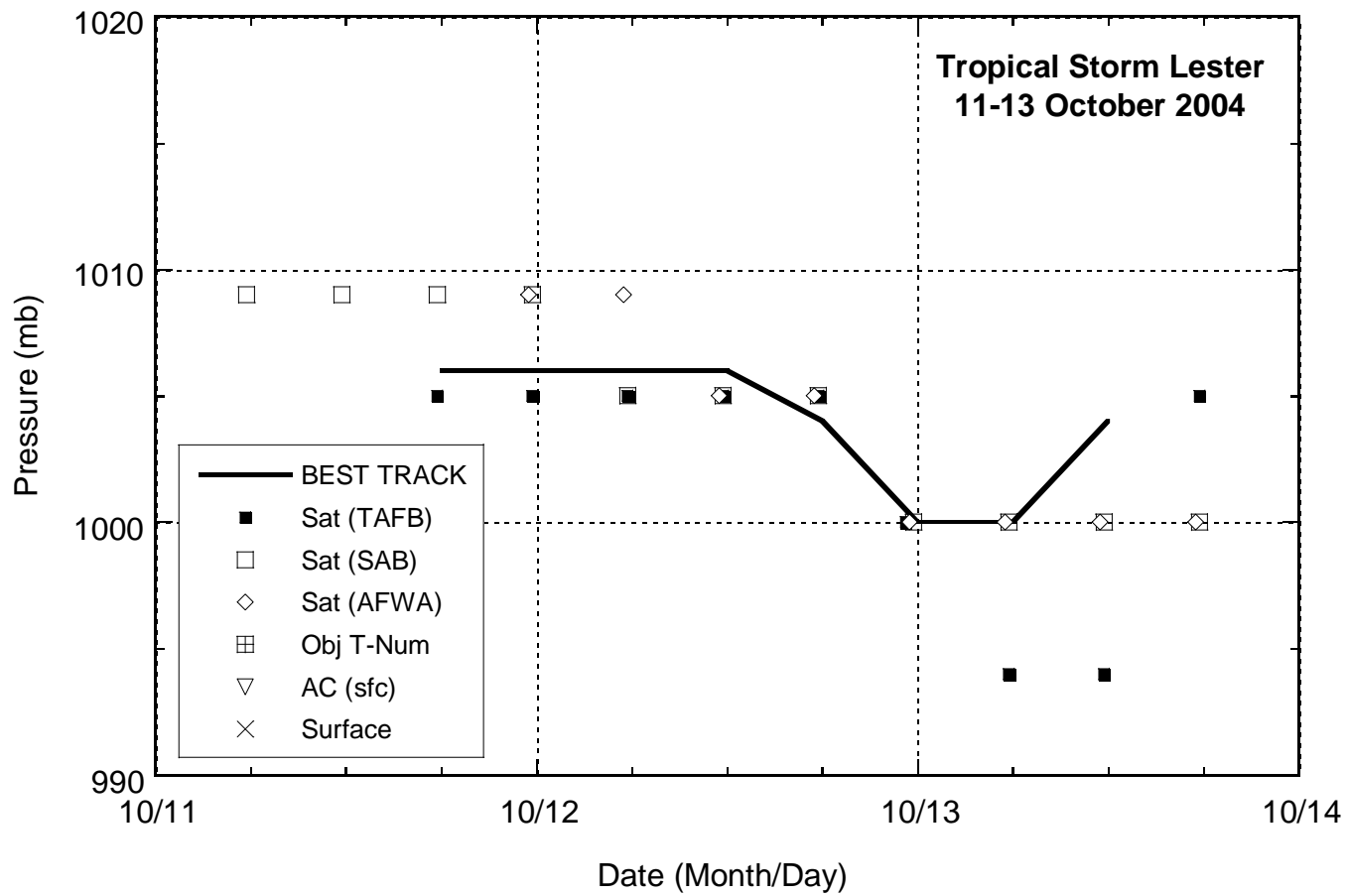


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Lester, 11-13 October 2004.