

Preliminary Report
Tropical Storm Sebastien
20 - 25 October 1995

Edward N. Rappaport
National Hurricane Center
4 December 1995

a. Synoptic History

Tropical Storm Sebastien originated from a tropical wave that moved westward across the Atlantic Ocean from the 13th through the 19th of October. Associated thunderstorms remained unorganized and mostly to the south of 15°N during that period. On the 20th, deep convection became more concentrated about 350 n mi to the east of Barbados. Dvorak technique T-numbers were first assigned on that date by meteorologists at the National Hurricane Center's Tropical Analysis and Forecast Branch (TAFB, formerly TSAF as in figures) and the NESDIS Synoptic Analysis Branch (SAB), and within 24 hours increased to 2.5. Based on their analyses, it is estimated that the system became a tropical depression at 1200 UTC on the 20th and a tropical storm at 0000 UTC on the 21st (Table 1, Fig. 1).

From the 20th to the 22nd, Sebastien was embedded within the outer part of the circulation associated with a large, deep low-pressure system centered just northeast of Puerto Rico. The associated steering currents moved Sebastien toward the northwest to north at about 15 knots during that period. Southwesterly vertical wind shear precluded significant development and, based on a ship observation (see Fig. 2), Sebastien reached its peak intensity of 55 knots, at 1800 UTC on the 22nd. At that time, its exposed low-level cloud center was located about 350 n mi to the northeast of the northern Leeward Islands.

Sebastien began moving with the low-level flow toward the southwest on the 23rd. This pushed Sebastien directly into the upper-level southwesterly winds, displacing the coldest cloud tops about 100 n mi to the east and northeast of the center. Sebastien weakened to a tropical depression during the evening of the 23rd while it moved under the upper-level cyclonic circulation. Its dissipating circulation of low clouds was near the U.S. Virgin Islands about 24 hours later, while some remnant deep convection persisted well to the east.

b. Meteorological Statistics

The "best track" intensities were obtained from the data presented in Figs. 2 and 3. Those figures show Sebastien's estimated central pressure and maximum one-minute wind speed, respectively, versus time.

Sebastien did not cause tropical storm conditions over land.

The basis for the estimated maximum wind speed of 55 knots is a 52 knot wind observed on the ship with call sign **ELSE5** while it was located 60 n mi northeast of the center at 1800 UTC on the

22nd. The maximum flight-level wind at 1500 feet came at about this time and was 50 knots. The only other reports of 34 knots or higher wind speeds came from the ship **Sea Wolf**. It had 36 and 38 knot winds at 1200 and 1400 UTC, respectively, on the 21st, 35 to 45 n mi to the east of the circulation center.

c. Casualty and Damage Statistics

No reports of casualties or damages were received by the NHC.

d. Forecast and Warning Critique

Sebastien was a tropical storm for less than 3 days, so a meaningful quantitative evaluation of forecast accuracy could not be made. However, it is noted that neither the objective guidance nor the official forecast accurately indicated the rapid initial motion or the subsequent southwestward turn. In fact, most of the guidance never showed a southwestward motion even though Sebastien headed in that direction for its final 48 hours.

A tropical storm watch for the U.S. and British Virgin Islands was issued at 0900 UTC on the 23rd and discontinued 24 hours later.

Table 1

Track of Tropical Storm Sebastien, 20 - 25 October 1995

Date/Time (UTC)	Position		Pressure (mb)	Wind speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
20/1200	13.8	53.8	1006	25	Tropical Depression
1800	14.8	54.5	1005	30	" "
21/0000	16.0	55.1	1004	35	Tropical Storm
0600	17.6	55.9	1004	35	" "
1200	19.0	56.3	1005	40	" "
1800	20.1	56.6	1007	40	" "
22/0000	21.2	56.7	1007	40	" "
0600	21.8	56.8	1006	40	" "
1200	22.0	57.7	1004	45	" "
1800	21.5	58.5	1001	55	" "
23/0000	20.9	59.5	1001	50	" "
0600	20.1	60.4	1002	45	" "
1200	19.4	61.0	1003	40	" "
1800	19.0	61.7	1004	35	" "
24/0000	18.6	62.3	1005	30	Tropical Depression
0600	18.3	63.0	1007	30	" "
1200	18.0	63.7	1007	30	" "
1800	17.7	64.3	1007	25	" "
25/0000	17.5	64.5	1008	20	Dissipating
22/1800	21.5	58.5	1001	55	Minimum Pressure
23/0000	20.9	59.5	1001	50	" "

Landfall:

Anguilla
24/0700

1006 30 Tropical Depression

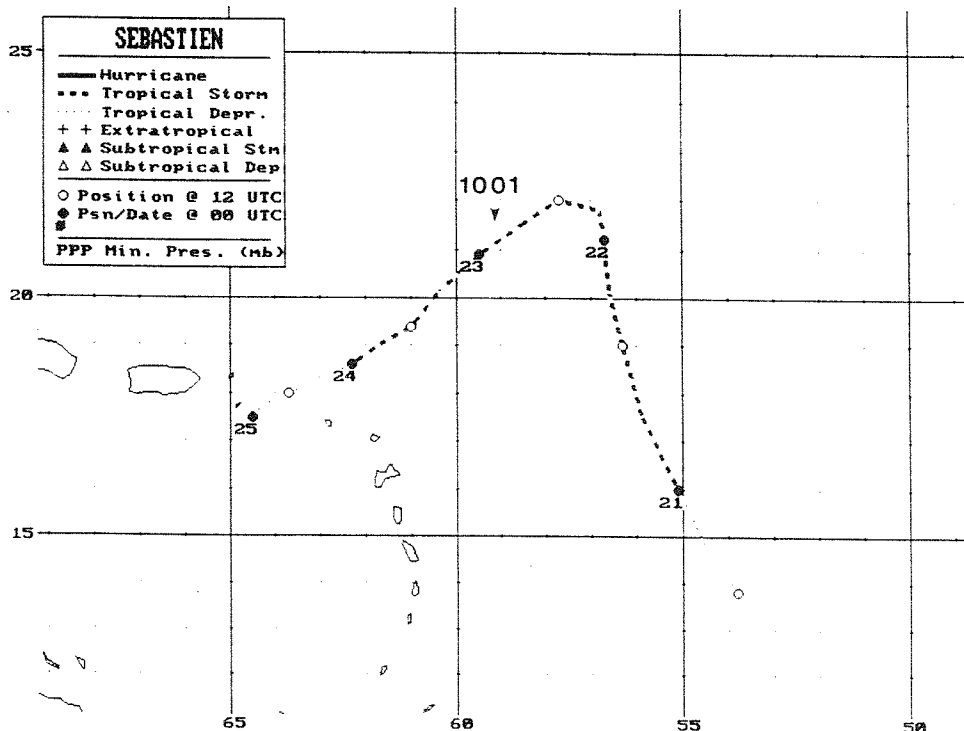


Figure 1. Track of Tropical Storm Sebastien.

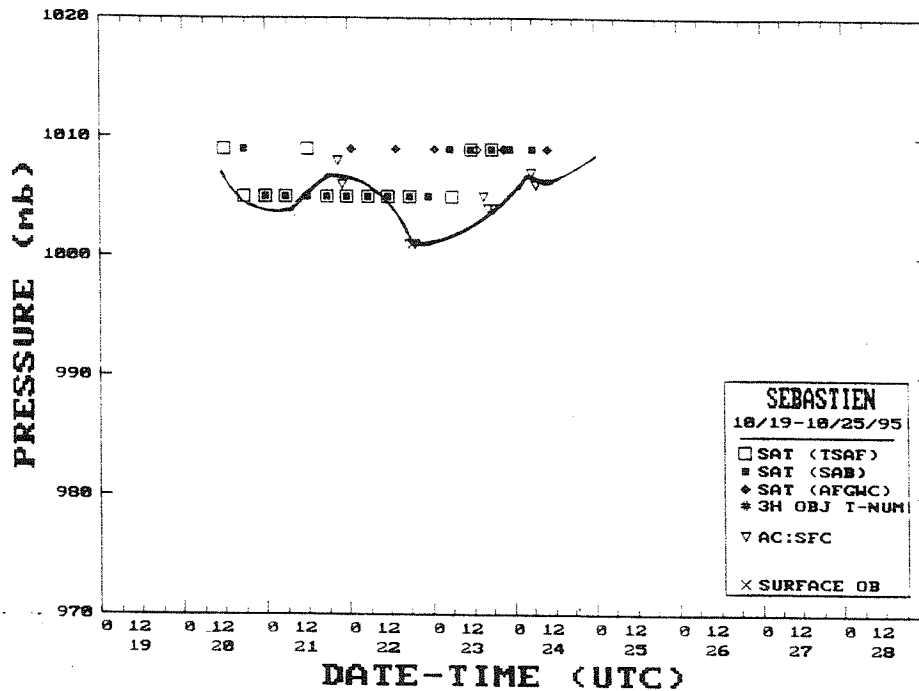


Figure 2. Central pressure curve for Tropical Storm Sebastien, October 1995.

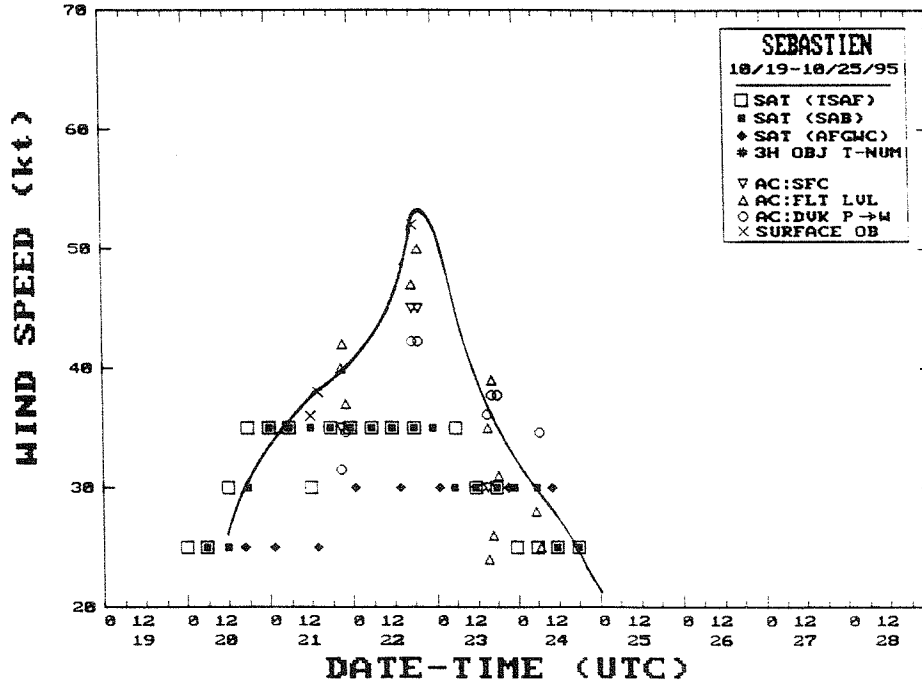


Figure 3. Maximum one-minute wind speed curve for Tropical Storm Sebastien, October 1995. Not all aircraft observations are samples of the maximum wind speed. X indicates surface observation.