

Preliminary Report  
Hurricane Tanya  
27 October-1 November 1995

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Tanya caused gale force winds over the Azores, while losing its tropical characteristics.

a. Synoptic History

Tanya originated from a tropical wave that, based on extrapolation, moved off the west coast of Africa in mid-October. This wave followed one that spawned Tropical Storm Sebastien, and was not easily identifiable as a cloud mass on satellite pictures until 20 October, when it neared 40°W longitude in the tropical Atlantic. The wave moved slowly westward for a few days. By 24 October, cloudiness associated with the wave merged with an area of convection to the east and northeast of Tropical Depression Sebastien. This weather was partly associated with an upper-level cyclone that was producing shearing winds over Sebastien, causing its demise. At 1800 UTC on the 25th, a low cloud swirl was evident in the vicinity of 22°N 60°W. However, this system was barely classifiable by the Dvorak technique since deep convection was not very close to the center. The low-cloud swirl became more pronounced on satellite images on the 26th. By 0000 UTC 27 October, surface observations indicated a definite closed surface circulation, and the tropical depression stage of Tanya is initiated at this time in the post-analysis best track (Table 1 and Fig. 1).

The movement of the tropical cyclone was controlled mainly by two factors: shortwaves in the midlatitude westerlies and the upper-level cyclone in Tanya's vicinity. Initially the cyclone moved northeastward, in response to an approaching shortwave trough. However, due to the effect of the upper cyclone, Tanya turned more eastward and slowed.

Because of the influence of the upper-level cyclone, the development of Tanya was not like that of a typical tropical cyclone in the deep tropics. On the 27th and 28th, the system had some subtropical characteristics, i.e. a large comma-shaped cloud band and strongest winds well removed from the center. Nonetheless, Tanya's winds increased to tropical storm force by 1200 UTC on the 27th and gradual strengthening continued thereafter. Convection developed closer to the center by 1800 UTC on the 28th, and on the following day the cloud pattern was more symmetrical about the center. Tanya reached hurricane strength around 1200 UTC on the 29th, when a small eye was observed in the middle of the central dense overcast.

While Tanya was strengthening into a hurricane, its motion was cyclonic along roughly a half-circular path, again due to the adjacent upper low. This movement continued into the 29th, when a strong eastward-moving mid-tropospheric trough over the western Atlantic, and associated cold front near Bermuda, began to influence the track of the hurricane. Tanya turned north-northeastward on the 30th, and east-northeastward later that same day. Early on the 31st, while still embedded in a narrow wedge of warmer air between cooler air masses over the western and eastern

Atlantic, the system acquired peak intensity of 75-knot winds with a 972 mb central pressure.

On the 1st of November, Tanya veered to the east and weakened to a tropical storm - headed in the general direction of the Azores. As the storm neared those islands, the movement became more northeasterly, taking the center just to the north of the Azores. Tanya was becoming extratropical as it passed near the Azores. The extratropical cyclone turned north-northeastward, then northward, and was absorbed into a larger low pressure system over the north Atlantic by 0600 3 November.

#### b. Meteorological Statistics

The post-analysis best track intensities are listed in Table 1 and displayed in Figs. 2 and 3, which show the estimated minimum central pressure and maximum one-minute wind speed, respectively, versus time. These intensity estimates were derived mainly from analyses of satellite images, using the Dvorak technique, performed by meteorologists at the Synoptic Analysis Branch (SAB), the Tropical Analysis and Forecast Branch (TAFB; formerly the Tropical Satellite Analysis and Forecast unit, TSAF, as in the figures), and at the Air Force Global Weather Central (AFGWC).

There were some surface observations from the Azores of sustained gale force winds. Lajes Air Base on Terceira measured sustained winds of 34 knots at 2255 UTC with gusts to 59 knots at 2343 UTC on the 1st. Santa Maria Island reported sustained winds of 39 knots at 2300 UTC on the 1st, with gusts to 50 knots at 0200 UTC on the 2nd. Lowest pressure observed in the Azores was 973.5 mb at Horta on the island of Faial.

Table 2 is a listing of ship reports of tropical storm force wind speeds associated with Tanya. One ship, with call sign **GBSA**, had the misfortune of being near the center of Tanya twice: on the 29th, when Tanya was a hurricane; and on the 2nd, when Tanya was an extratropical storm.

#### c. Casualty and Damage Statistics

Although strong winds likely had some impact on the Azores and ships that were affected by Tanya, no reports of casualties or damage have been received at the NHC.

#### d. Forecast and Warning Critique

At 12, 24, 36, 48, and 72 hours, the mean official forecast errors for Tanya were 65, 121, 166, 237, and 357 n mi, respectively. These are 20 to 30 per cent larger than the most recent ten-year average errors. This is not too surprising, since Tanya was a relatively high-latitude tropical cyclone, and track forecasts for such systems are typically not as good as those for cyclones in the deep tropics. The average official forecast error was comparable to, or lower than, the average error of any of the available objective track prediction models.

Beginning at 0300 UTC 1 November, a statement was included in the advisories that tropical storm conditions were expected to spread over the Azores within 24 hours. This turned out to be roughly correct, since sustained winds of at least 34 knots occurred at these islands around 0000 UTC on the 2nd. However, Tanya is estimated to have lost tropical characteristics by that time.

Table 1. Preliminary best track, Hurricane Tanya  
27 October-1 November, 1995.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
27/0000	24.6	59.2	1004	30	Tropical Depression
0600	25.3	58.6	1002	30	" "
1200	26.2	57.9	1001	35	Tropical Storm
1800	27.1	57.1	998	40	" "
28/0000	27.2	56.6	997	45	" "
0600	27.3	56.2	996	45	" "
1200	27.2	55.7	995	50	" "
1800	27.5	54.7	992	55	" "
29/0000	28.4	54.2	990	60	" "
0600	29.6	54.2	987	60	" "
1200	30.5	54.9	983	65	Hurricane
1800	31.2	55.3	982	70	"
30/0000	31.8	54.8	980	70	"
0600	32.6	54.2	980	70	"
1200	33.1	53.4	979	70	"
1800	33.8	51.8	977	75	"
31/0000	34.6	50.1	975	75	"
0600	35.4	48.3	972	75	"
1200	36.2	45.8	973	75	"
1800	37.1	43.2	973	75	"
01/0000	37.8	40.4	974	70	"
0600	37.7	37.9	974	65	"
1200	37.4	35.4	974	60	Tropical Storm
1800	37.7	31.8	972	55	" "
02/0000	39.2	28.2	970	55	Extratropical
0600	41.8	25.7	971	55	"
1200	44.5	24.0	974	50	"
1800	47.5	23.0	976	45	"
03/0000	50.5	24.0	977	40	"
0600					Absorbed by Larger Extratropical Cyclone
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31/0600	35.4	48.3	972	75	Minimum Pressure (as a tropical cyclone)

TABLE 2. Ship encounters of 34 knots or higher associated with Hurricane Tanya.

**Tropical Cyclone Winds  
(ship encounters of 34 knots or higher)**

Tropical Cyclone	Ship Call Sign	Date Mo/Da	Time UTC	Position		Wind (kt) Dir/Speed	Pressure (mb)
				LatN	LonW		
TANYA	VRUC4	10/28	0300	28.9	52.6	100/38	1015.0
	VRUC4	10/28	0900	28.6	51.5	110/44	1014.0
	VRUC4	10/28	1200	28.3	51.1	130/37	1016.0
	GBSA	10/29	0900	30.0	55.5	020/60	991.2
	GBSA	10/29	1200	30.4	54.8	220/45	985.5
	GBSA	10/29	1500	30.8	54.1	160/52	995.3
	GBSA	10/29	1800	31.1	53.2	130/42	998.1
	9H003	10/30	2100	32.5	47.1	170/40	1013.0
	WMLH	10/31	0000	39.4	64.0	300/35	1020.0
	9H003	10/31	0000	31.9	47.4	160/40	1012.0
	C6MD6	11/01	1200	34.8	34.3	250/50	995.3
	ELSE4	11/01	1200	34.5	32.5	250/35	998.5
	FNZP	11/01	1200	37.4	35.0	160/40	976.2
	FNOU	11/01	1200	34.1	38.5	290/45	1003.3
	4QVV	11/01	1200	35.5	33.1	220/40	993.7
	C6KB3	11/01	1200	33.1	42.0	310/35	1011.0
	ELSE4	11/01	1800	33.8	32.9	270/45	999.5
	FNOU	11/01	1800	35.3	37.0	280/40	999.2
	Y5ET	11/01	1800	36.2	28.9	210/35	992.5
	SHIP	11/01	1800	34.3	27.9	210/35	997.5
P3TQ6	11/01	1800	33.7	26.5	210/40	998.5	

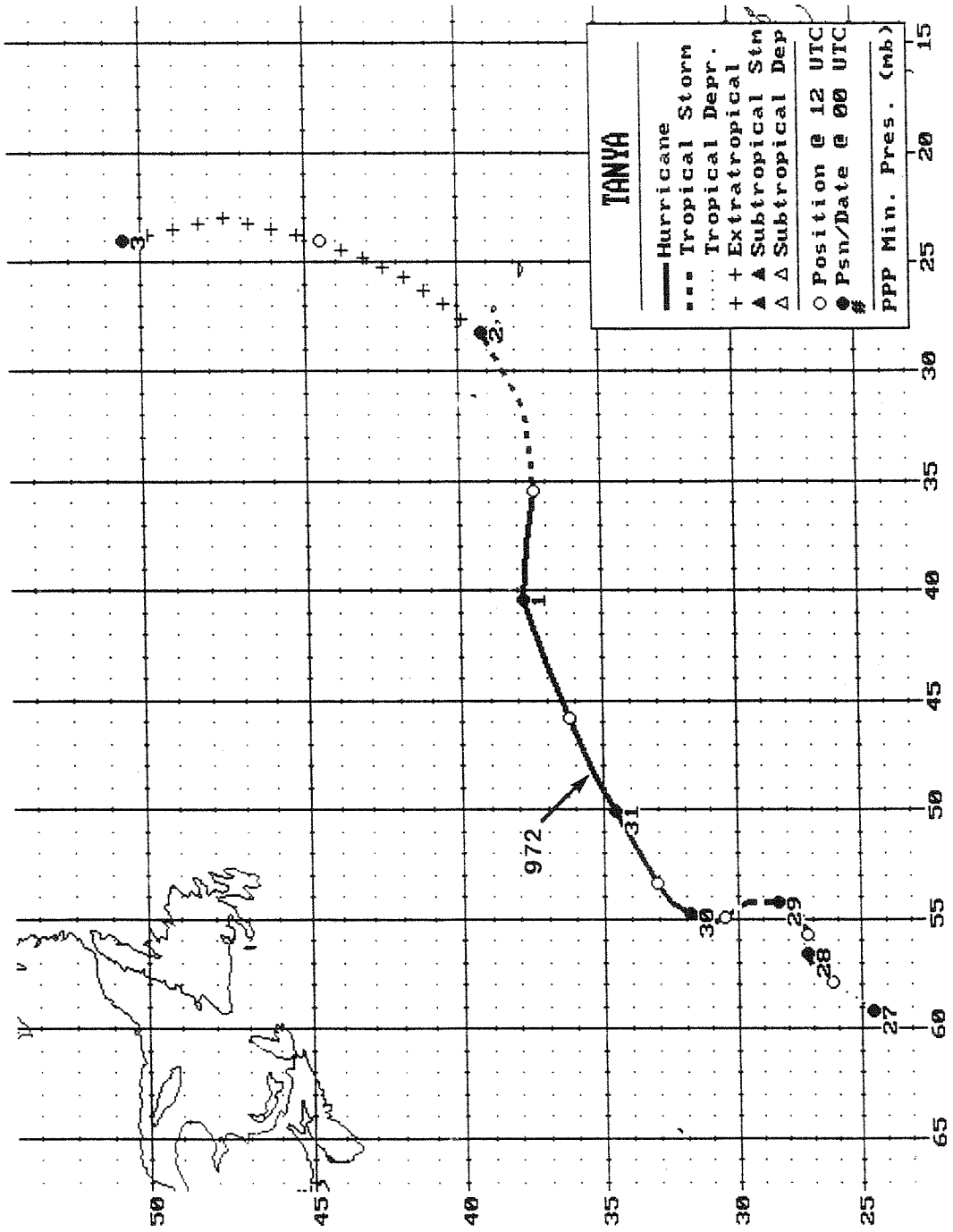


Figure 1. Post-analysis best track of Hurricane Tanya, 1995.

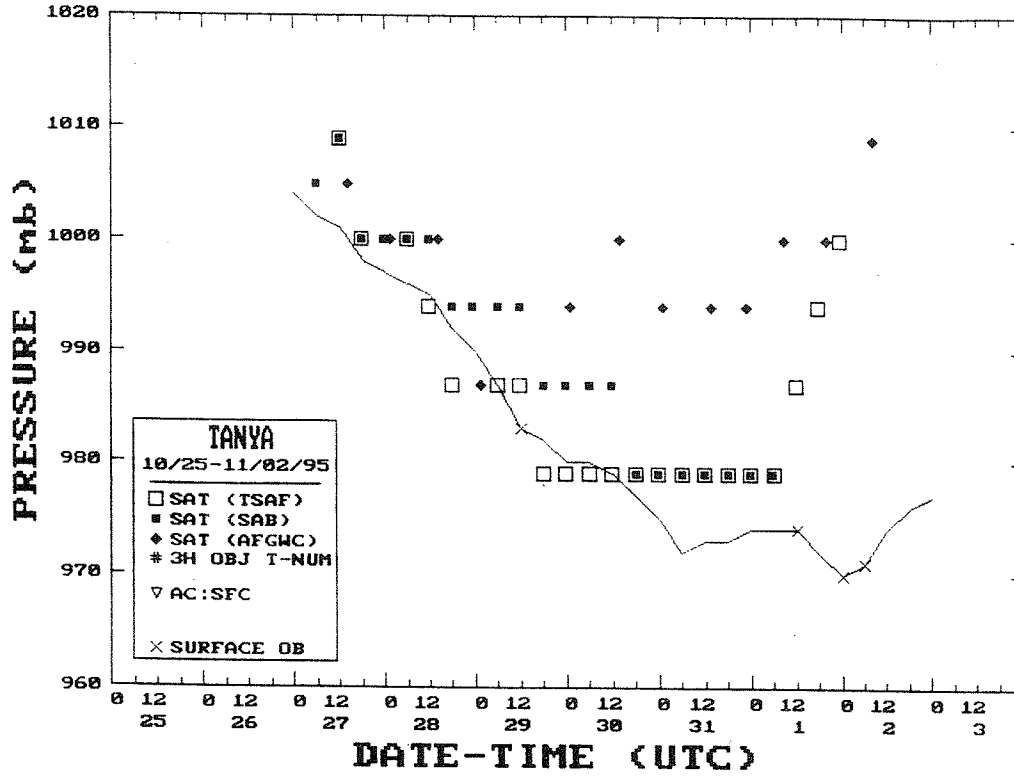


Figure 2. Minimum central pressure curve for Hurricane Tanya, 1995.

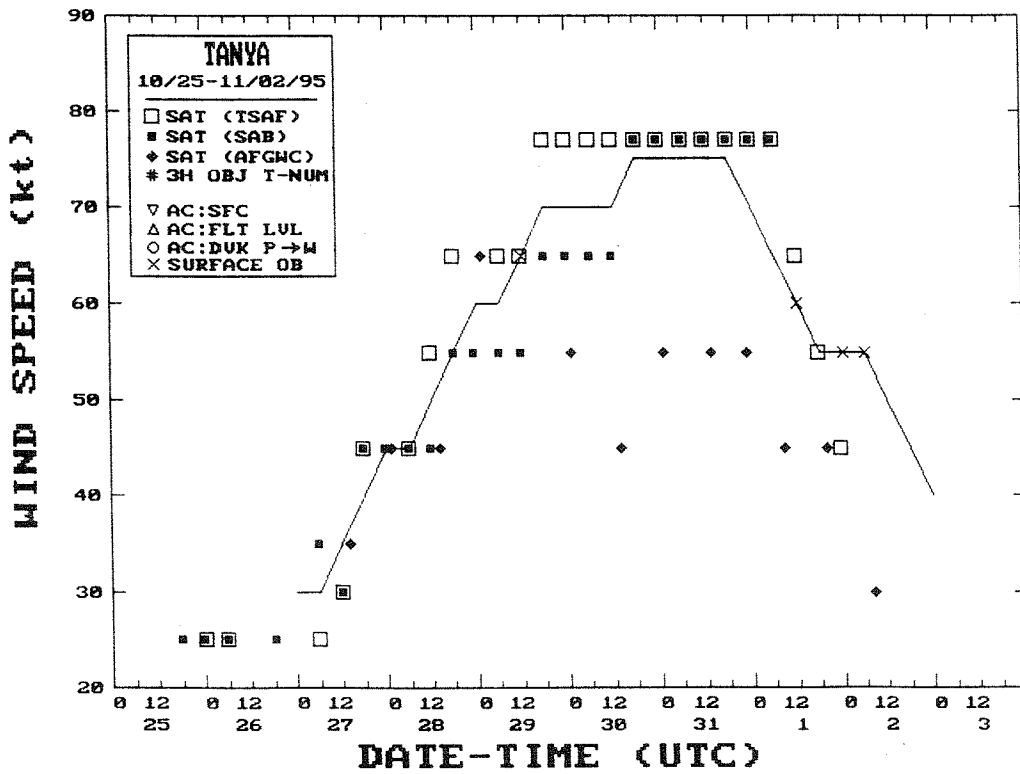


Figure 3. Maximum one-minute wind speed curve for Hurricane Tanya, 1995.