

Preliminary Report
Tropical Storm Jerry
22-28 August 1995

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Jerry spread heavy rains over portions of the southeastern United States.

a. Synoptic History

Satellite images indicate that an area of cloudiness, associated with a tropical wave that left western Africa on 9 August, propagated westward across the tropical Atlantic from the 9th to the 15th of August. Even though convection increased when the wave neared the Lesser Antilles on the 15th, there were no large surface pressure falls noted in those islands. When the wave moved over the eastern and central Caribbean Sea, rawinsonde data from San Juan and Santo Domingo revealed that the system was fairly strong at mid- to lower-tropospheric levels, as evidenced by 30- to 40-knot wind reports east of the wave axis at 850 and 700 mb.

By the 19th, satellite pictures and surface data gave some evidence of a low-level circulation centered near 18°N 75°W at 1200 UTC. No further development occurred during the next couple of days as the system moved west-northwestward to northwestward, interacting with the mountainous land mass of eastern Cuba. On the 22nd, cloudiness and convection became better organized near the western Bahamas, and surface reports indicate that a tropical depression formed from this system a short distance southwest of Andros Island at 1800 UTC 22 August (as shown in the post-analysis best track in Table 1 and Fig. 1). Upper-level winds were partially favorable for development, since anticyclonic outflow prevailed over the eastern half of the depression while outflow was inhibited to the west and northwest.

As the depression moved north-northwestward toward southeast Florida, slow strengthening took place. Based on measurements from a NOAA plane, it is estimated that the system strengthened to a tropical storm around 1200 UTC on the 23rd. Tropical Storm Jerry made landfall later that same day near Jupiter, Florida as a 35-knot storm. Jerry moved northwest to west-northwest across the Florida peninsula, weakening back to a tropical depression by 1800 UTC on the 24th while nearing the upper west coast of Florida. The forward motion slowed, and after the center drifted a short distance out over the waters of the Gulf of Mexico, Jerry turned toward the north and moved inland again over northern Florida and across the Georgia/Florida border on 25 August.

The weak depression moved slowly northward to north-northwestward over Georgia on the 26th and 27th. Later on the 27th, Jerry turned eastward toward South Carolina. By 0000 UTC on

the 28th, the circulation of Jerry became elongated in a northeast-southwest oriented trough, and six hours later it was impossible to distinguish a circulation center. However, the trough persisted near the Carolinas during the next couple of days and two discrete low pressure centers appeared. The first moved eastward from the coast of North Carolina into the Atlantic without significant development. The second became evident just offshore of the Georgia/South Carolina border early on the 29th. This weak surface low moved southward and southwestward, across the Florida peninsula on 30-31 August, and died a slow death over the southeast Gulf of Mexico during the first few days of September. There was, and still is, confusion concerning which, if any, of these two lows was derived from the original circulation of Jerry.

b. Meteorological Statistics

The post-analysis best track intensities for Jerry 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 from analyses of satellite images, using the Dvorak technique, performed by meteorologists at the Synoptic Analysis Branch (SAB) and 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), along with aerial reconnaissance data and surface observations.

The highest flight-level wind measurement from aerial reconnaissance of Jerry was 45 knots at an altitude of 1500 feet, taken from a NOAA plane at 1621 UTC 23 August. Sustained winds of 35 knots and a gust to 43 knots were observed at Lake Worth Inlet, Florida (close to the landfall point) at 2100 UTC 23 August. Patrick Air Force Base reported sustained winds of 37 knots gusting to 50 knots at 0640 UTC 24 August. Sustained winds of 37 knots with a gust to 55 knots, at an elevation of 54 feet above ground level, were recorded at Cape Canaveral at 1420 UTC 24 August.

The only known ship report of tropical storm force winds associated with Jerry was from the vessel **Atlantic Erie**: winds 120°/34 knots, and pressure 1012.0 mb, at 28.7°N 78.4°W on 0600 UTC 24 August. This was about 155 n mi to the east-northeast of the storm center.

A waterspout was observed over Tampa Bay east of the St. Petersburg Pier at 1840 UTC on the 23rd. A small, brief tornado was observed 10 n mi west of Zephyrhills in Pasco County, FL at 1647 UTC on the 24th. No damage was reported. Another, presumably minor, tornado was observed 6 n mi west of Ruskin in Hillsborough County, FL at 1547 UTC on the 25th.

Jerry caused very heavy rainfall over Florida, Georgia, South Carolina and North Carolina. Rainfall totals of up to 10 to 15 inches were reported over the southwest and west-central coastal sections of Florida from the Naples/Ft. Myers area northward to

Tampa, with one total of 16.80 inches at Golden Gate (east of Naples). Rainfall totals over southeast Florida were generally 3 to 8 inches, although locally heavier rainfall in the 9 to 10 inch range occurred in Martin and St. Lucie counties. Rainfall amounts of at least 8 inches occurred over eastern Georgia. Rainfall totals exceeded 12 inches over portions of western South Carolina. Rainfall amounts reached 8 to 9 inches over parts of North Carolina, with local totals of 15 to 17 inches over portions of north-central North Carolina.

Storm tides were generally 1 to 2 feet above normal along the southeast and central east coast of Florida, and 1 to 1.5 feet above normal along the west coast of Florida, due to Jerry.

c. Casualty and Damage Statistics

Flooding caused three deaths in South Carolina and three deaths in North Carolina.

In Florida, freshwater flooding near the west coast was responsible for most of the damage from Jerry. Three-hundred forty buildings were damaged in Collier County, Florida, with 12 uninhabitable. Flooding was particularly severe in Lee and Charlotte counties. Property damage in Florida totalled \$1.5 million and damage to agriculture was estimated to be \$19 million. Damage figures due to flooding over the remainder of the southeast U.S. are incomplete. The governor of North Carolina estimated \$6 million in uninsured losses in the Raleigh area. This makes a total damage estimate for Jerry of \$26.5 million, although additional (unknown) flood damage likely took place in Georgia and South Carolina.

d. Forecast and Warning Critique

Jerry was a tropical storm for only 24 hours, so there are no relevant forecast error statistics for this system. During the initial depression stage, the NHC advisories did not predict the cyclone to strengthen to a tropical storm. When Jerry did become a minimal storm, nearing the coast of southeast Florida, even though a tropical storm warning was posted for the east coast from Flagler Beach southward to Deerfield Beach, the advisories emphasized that the primary concern was heavy rainfall.

Table 2 gives a chronology of the watches and warnings for Jerry. The day after the storm made landfall (the 24th) a tropical storm warning was issued for the Gulf coast of Florida from the Anclote Keys to Pensacola, since Jerry was expected to emerge over the Gulf and to restrengthen. The latter tropical storm warning turned out to be unnecessary, since Tropical Depression Jerry soon moved back inland over north Florida without redevelopment. All warnings were discontinued at 1500 UTC 25 August.

Table 1. Post-analysis best track, Tropical Storm Jerry, 22-28 August, 1995.

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
22/1800	23.7	78.7	1010	20	Tropical Depression
23/0000	24.2	78.9	1009	25	" "
0600	25.2	79.2	1008	30	" "
1200	26.4	79.7	1008	35	Tropical Storm
1800	27.0	80.2	1006	35	" "
24/0000	27.3	80.5	1005	35	" "
0600	27.7	81.1	1005	35	" "
1200	28.4	81.8	1004	35	" "
1800	28.8	82.6	1002	30	Tropical Depression
25/0000	29.0	82.9	1002	30	" "
0600	29.2	83.3	1002	30	" "
1200	29.8	83.3	1004	25	" "
1800	30.4	83.2	1005	25	" "
26/0000	30.7	83.4	1005	25	" "
0600	31.3	83.7	1005	20	" "
1200	31.8	83.9	1005	20	" "
1800	32.4	84.0	1006	20	" "
27/0000	33.0	84.0	1006	20	" "
0600	33.5	83.9	1006	20	" "
1200	33.8	83.6	1006	20	" "
1800	33.9	83.0	1006	20	" "
28/0000	33.8	82.4	1006	20	" "
0600					Merged with trough

24/1800	28.8	82.6	1002	30	Minimum Pressure
23/1800	27.0	80.2	1006	35	Landfall near Jupiter, Florida

Table 2. Watch and warning summary, Tropical Storm Jerry.

Date/Time (UTC) /Action	Location
23/1800 Tropical Storm Warning Issued	Florida East Coast from south of Flagler Beach southward to Deerfield Beach
23/2100 Tropical Storm Watch Issued	Florida Gulf Coast from Anclote Keys to Panama City
24/0900 Tropical Storm Warning Issued	Florida Gulf Coast from Anclote Keys to Panama City
24/1500 Tropical Storm Watch Issued	Florida Panhandle west of Panama City to Pensacola
Tropical Storm Warning Discontin.	Florida East Coast from south of Flagler Beach southward to Deerfield Beach
24/2100 Tropical Storm Warning replacing Tropical Storm Watch	Florida Panhandle west of Panama City to Pensacola
25/1500 Tropical Storm Warning Discontin.	Florida Gulf Coast from Anclote Keys to Pensacola

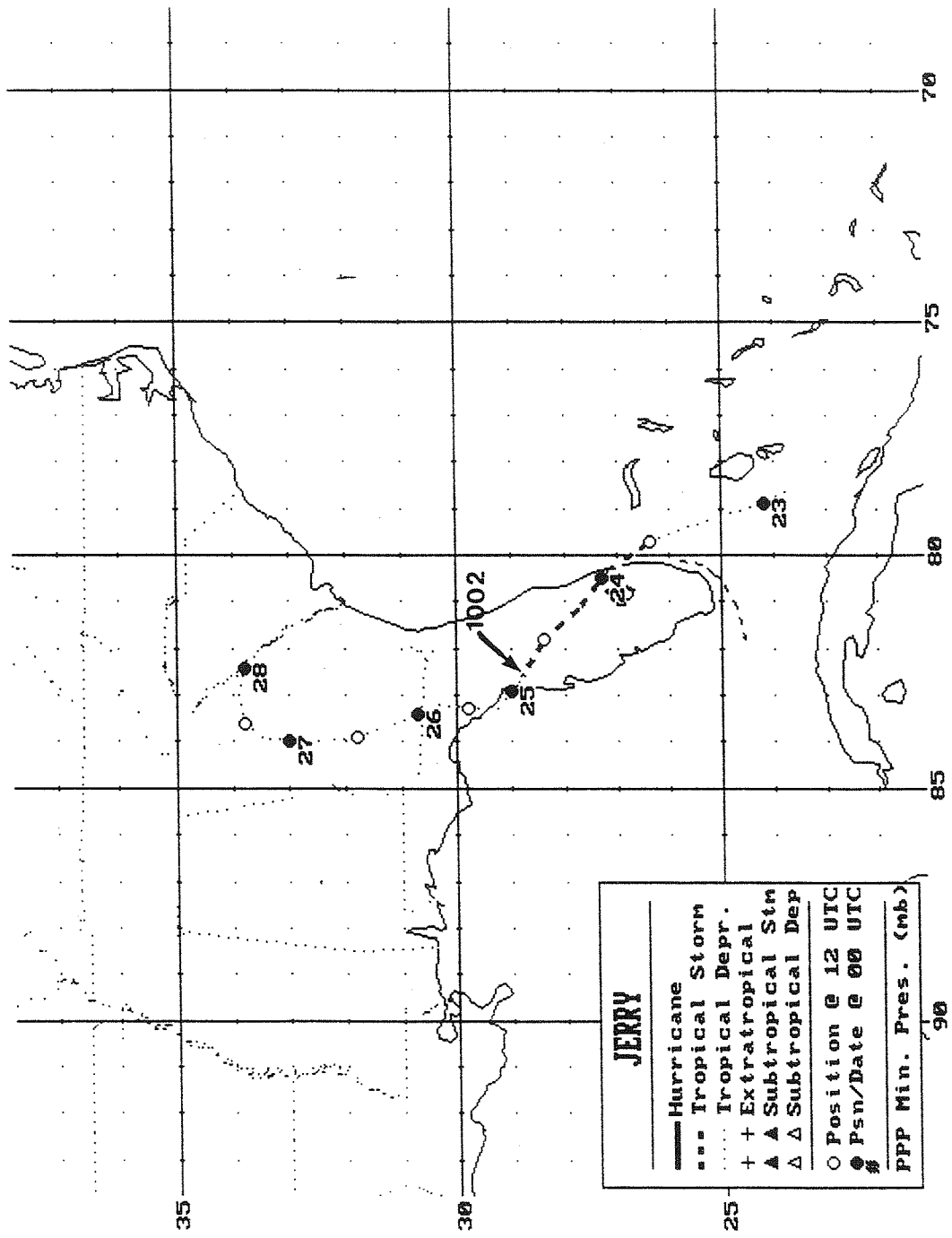


Figure 1. Post-analysis best track of Tropical Storm Jerry, 22-28 August, 1995.

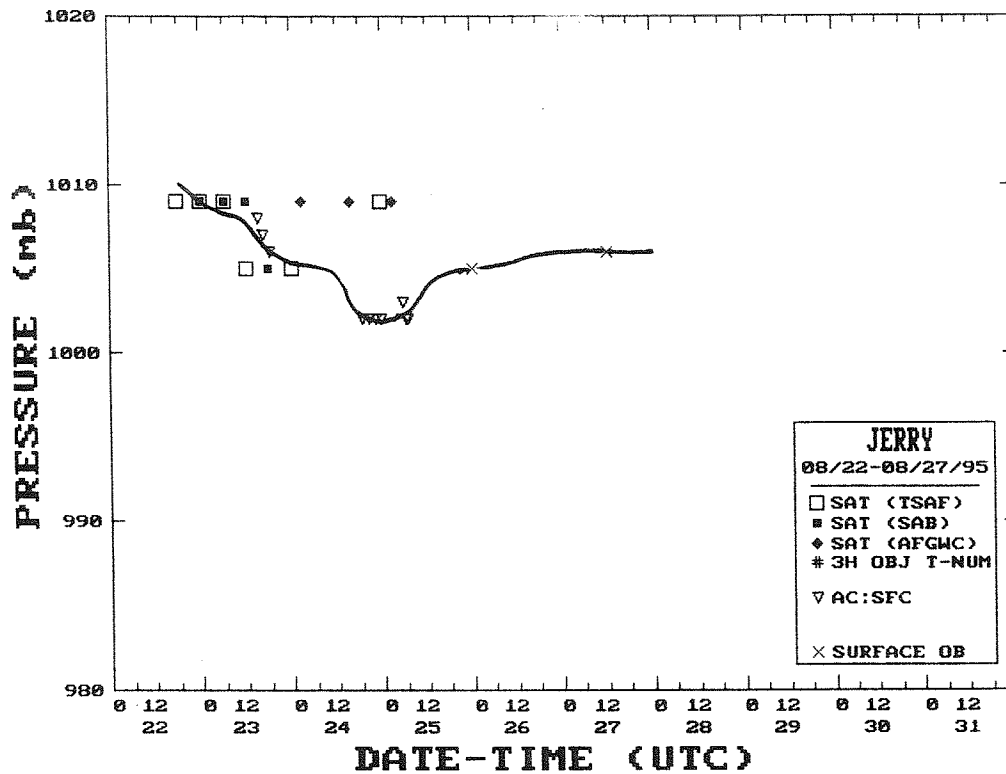


Figure 2. Minimum central pressure curve for Tropical Storm Jerry, 1995.

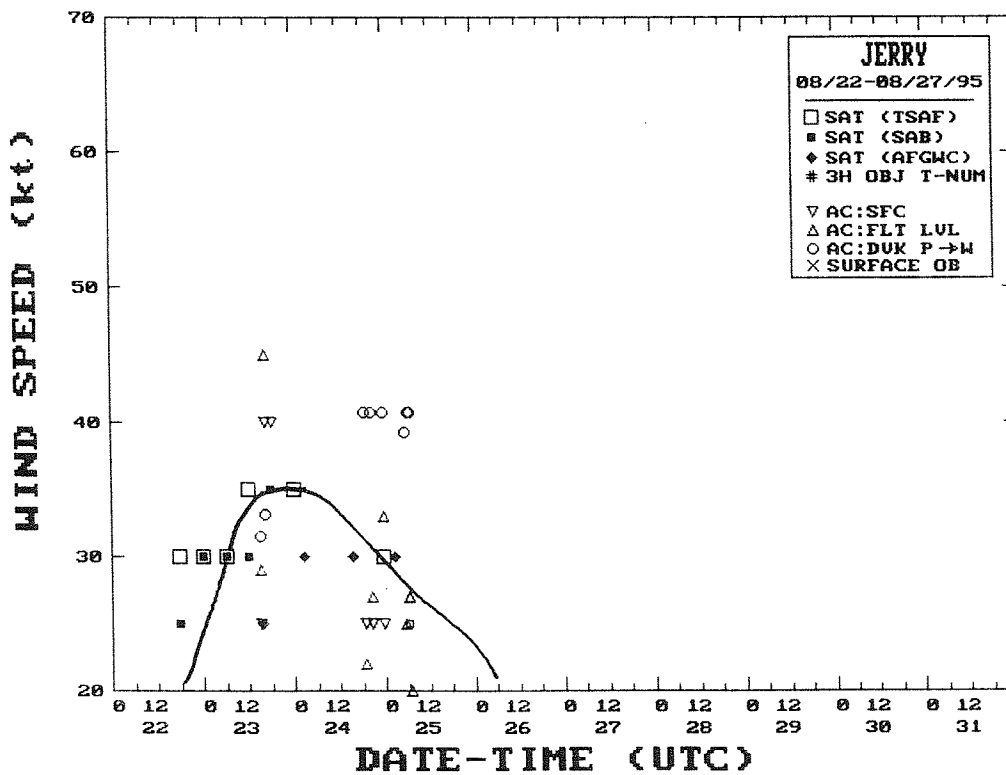


Figure 3. Maximum one-minute wind speed curve for Tropical Storm Jerry, 1995.