

PRELIMINARY REPORT

Tropical Storm Hermine
17-20 September 1998

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a. Synoptic History

Hermine developed from a tropical wave which crossed Dakar, Senegal on 5 September and moved westward across the Atlantic. The wave was void of significant thunderstorm activity until it reached the Windward Islands where cloudiness and showers increased and there was a large 24-h pressure change on 12 September. The wave continued westward very close to the South American coast and then moved northwestward through the Northwest Caribbean Sea and the Yucatan Channel where a low pressure system developed. The system began to interact with an upper low in the Gulf of Mexico and another tropical wave which reached the area. During this period, a large and well-defined monsoon-type flow prevailed over Central America, the Northwestern Caribbean Sea and the Gulf of Mexico. It was not until 1200 UTC 17 September that the system acquired enough organization to be classified as a tropical depression.

The depression made a cyclonic loop over the central Gulf of Mexico while interacting with the upper-low located in the Bay of Campeche. The depression gradually became organized despite the unfavorable upper-level wind shear which prevailed in the area and reached tropical storm status at 1200 UTC 19 September. Hermine moved on a general northward track and made landfall as a weakening 35-knot tropical storm near Cocodrie, Louisiana at 0500 UTC 20 September.

Hermine's track is shown in Fig. 1. Table 1 is a listing, at six-hourly intervals, of the best-track position, estimated minimum central pressure and maximum 1-minute surface wind speed.

b. Meteorological Statistics

The best track pressure and wind curves as a function of time are shown in Figs. 2 and 3 and are primarily based on data from reconnaissance flights, WSR-88D data, surface observations and satellite intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the Air Force Weather Agency, (AFGWC in figures). Hermine produced rains of about .5 to 1 inches and there were no reports of tropical storm force winds near the area of landfall.

c. Casualty and Damage Statistics

There are no reports of casualty and damage from Hermine.

d. Forecast and Warning Critique

Due to the uncertainties in the forecast while the tropical cyclone was looping in the central Gulf of Mexico, it was necessary to issue tropical storm watches and warnings for a large portion of the Gulf coast. Tropical storm watches and warnings are summarized in Table 2.

Hermine was a tropical storm for about 24 hours. Therefore, the evaluation of the average forecast errors would not be meaningful.

Figure Captions:

Fig. 1. Best track positions for Tropical Storm Hermine, 17-20 September 1998.

Fig. 2. Best track one-minute surface wind speed curve for Tropical Storm Hermine.

Fig. 3. Best track minimum central pressure curve for Tropical Storm Hermine.

Table 1. Best track, Tropical Storm Hermine, 17- 20 September, 1998

| Date/Time (UTC) | Position | | Pressure (mb) | Wind Speed (kt) | Stage |
|--------------------|-----------|-----------|------------------|--------------------|---------------------------|
| | Lat. (°N) | Lon. (°W) | | | |
| 17/1200 | 26.9 | 90.3 | 1001 | 30 | tropical depression |
| 1800 | 26.8 | 91.6 | 1001 | 30 | “ |
| 18/0000 | 26.4 | 92.1 | 1000 | 30 | “ |
| 0600 | 25.7 | 92.5 | 999 | 30 | “ |
| 1200 | 26.0 | 92.5 | 999 | 30 | “ |
| 1800 | 25.9 | 92.3 | 1000 | 30 | “ |
| 19/0000 | 25.8 | 92.0 | 1001 | 30 | “ |
| 0600 | 26.4 | 91.4 | 1001 | 30 | “ |
| 1200 | 27.5 | 91.3 | 1001 | 35 | tropical storm |
| 1800 | 28.3 | 91.1 | 1000 | 40 | “ |
| 20/0000 | 29.0 | 90.9 | 999 | 40 | “ |
| 0600 | 29.2 | 90.9 | 1001 | 35 | “ |
| 1200 | 30.5 | 90.5 | 1002 | 30 | tropical depression |
| 1800 | 31.0 | 90.0 | 1003 | 20 | dissipating |
| 20/0000 | 29.0 | 90.9 | 999 | 40 | maximum intensity |
| 20/0500 | 29.1 | 90.9 | 1000 | 35 | Landfall near Cocodrie LA |
| | | | | | |

Table 2. Tropical Cyclone watch and warning summary for Tropical Storm Hermine

| Date/Time (UTC) | Action | Location |
|--------------------|---|---|
| 17/2100 | Tropical Storm watch issued | Sargent, Texas to Grand Isle, Louisiana |
| 18/0900 | Tropical Storm watch extended southward | From Sargent, to Matagorda, Texas |
| 18/1500 | Tropical Storm watch extended eastward | to Pascagoula Mississippi |
| 19/0300 | Tropical Storm watch discontinued | west of High island, Texas. |
| 19/1500 | Tropical Storm warning issued | from Morgan City, Louisiana eastward to Pensacola Florida |
| 19/1500 | Tropical Storm watch issued discontinued | from east of Pensacola to Destin, Florida |
| 19/1500 | Tropical Storm watch discontinued | west of Sabine Pass, Texas |
| 19/2100 | Tropical Storm warning extended westward | from west of Morgan City to Intracoastal City, Louisiana |
| 20/0300 | tropical Storm watch discontinued | west of Intracoastal City |
| 20/1200 | tropical storm warning and watch discontinued | all areas |

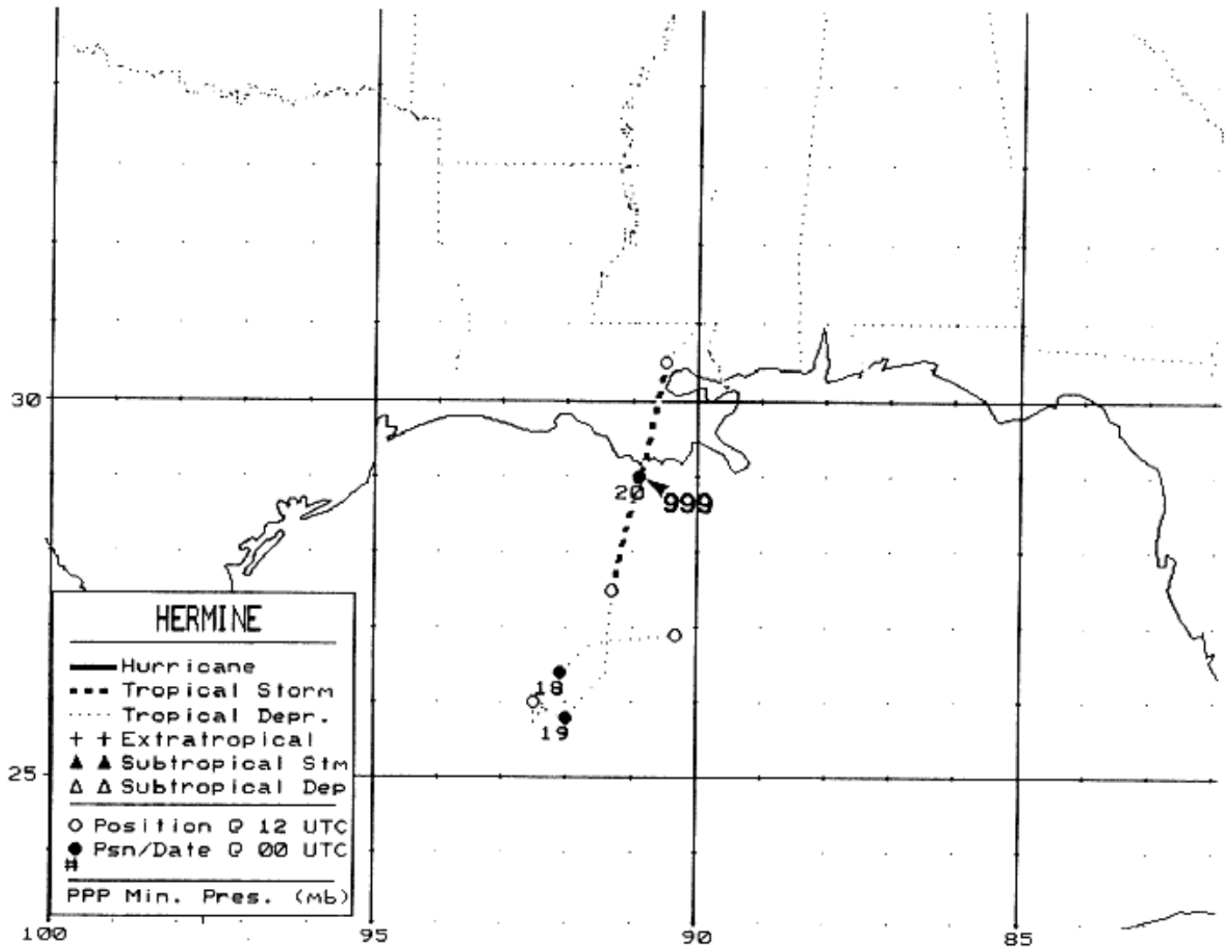


Fig. 1. Best track positions for Tropical Storm Hermine, 17-20 September 1998.

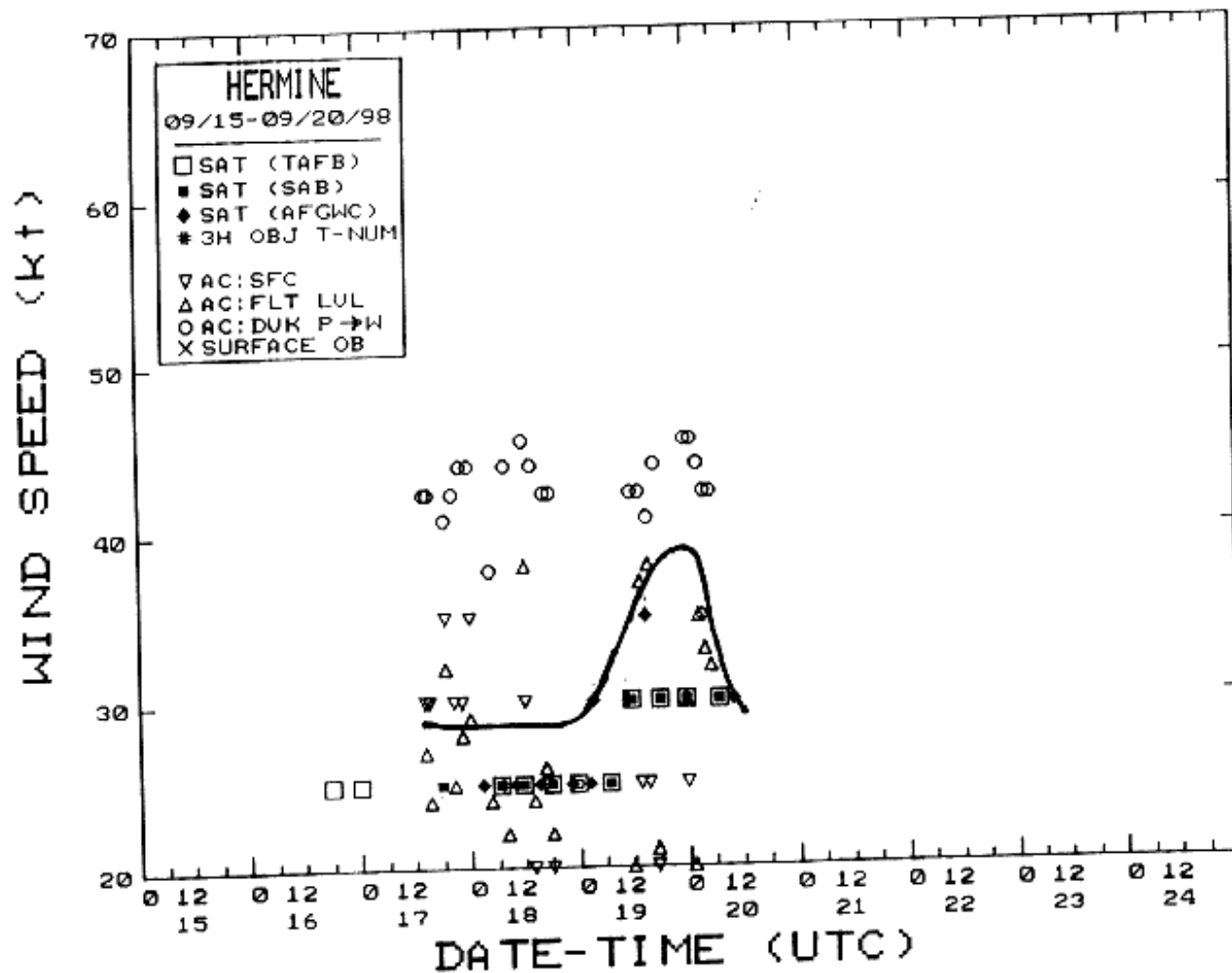


Fig. 2. Best track one-minute surface wind speed curve for Tropical Storm Hermine.

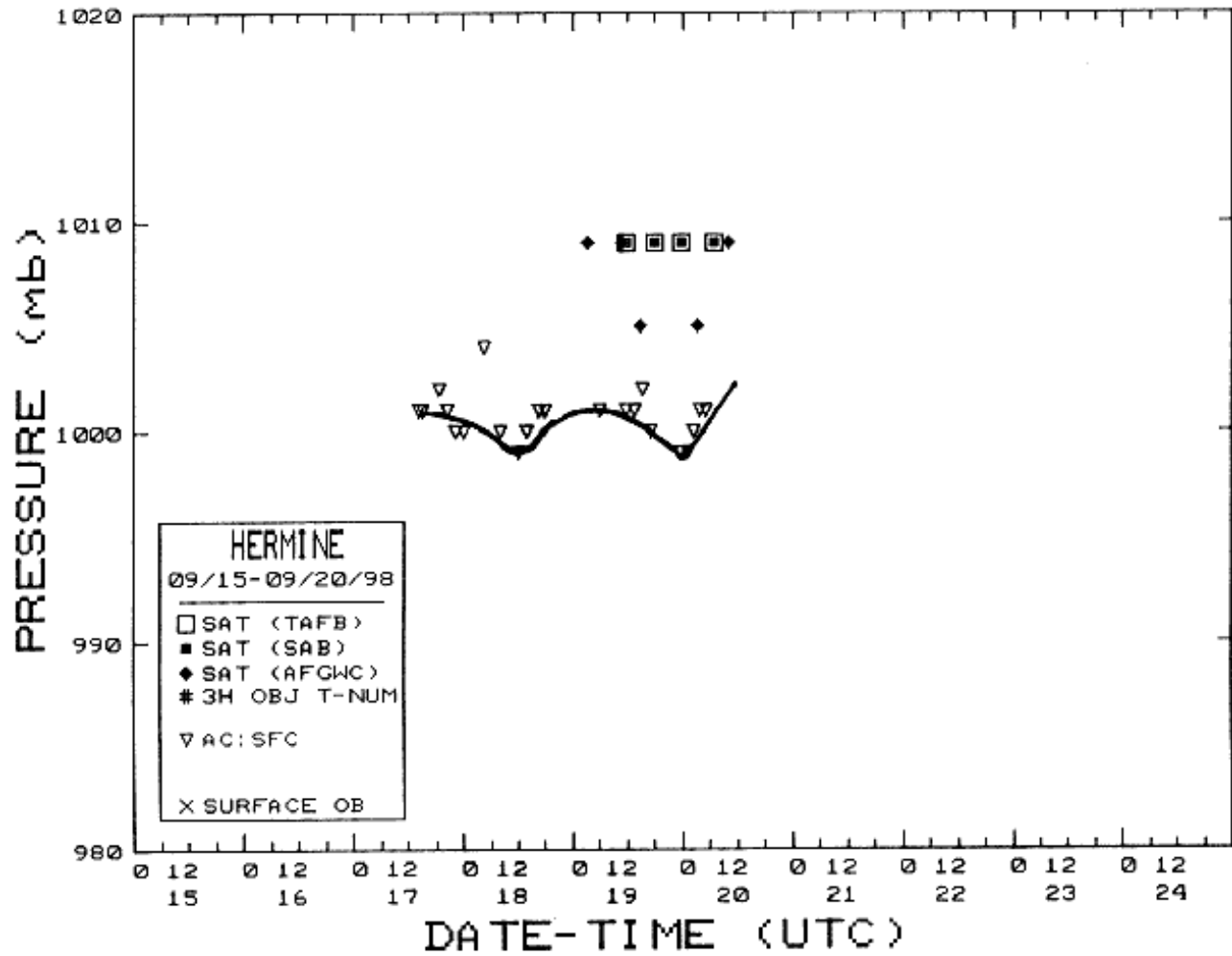


Fig. 3. Best track minimum central pressure curve for Tropical Storm Hermine.