

NATIONAL HURRICANE CENTER  
TROPICAL CYCLONE FORECAST VERIFICATION - 1978

The following tables contain verification statistics for the 1978 hurricane season. The track forecast errors, expressed in nautical miles are computed in the following way. The magnitude of the vector difference (measured along a great circle) between the forecast displacement for a given time period and the actual displacement taken from the "best track" is computed for each forecast. All forecasts for which a given storm maintains at least tropical storm intensity are verified. These results are then averaged and tabulated.

The errors in the initial positioning of storms are also listed. For a given forecast, this is simply the magnitude of the great circle distance between the operational initial position and the corresponding "best track" initial position.

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GENERAL SAMPLE - ALL STORMS, ALL FORECASTS

| FORECAST<br>TYPE  | FORECAST PERIOD     |             |              |             |             |             |
|---|---------------------|-------------|--------------|-------------|-------------|-------------|
|   | Initial<br>Position | 12hr        | 24hr         | 36hr        | 48hr        | 72hr        |
| (Displacement errors in nautical miles, number of cases in parentheses) |                     |             |              |             |             |             |
| OFFICIAL  | 19<br>(123)         | 61<br>(115) | 135<br>(101) | (0)         | 315<br>(59) | 408<br>(33) |
| NHC67   | 19<br>(93)          | 55<br>(91)  | 113<br>(77)  | 185<br>(63) | 277<br>(51) | 414<br>(35) |
| NHC72   | 19<br>(120)         | 60<br>(118) | 130<br>(100) | 203<br>(82) | 266<br>(67) | 407<br>(41) |
| HURRAN  | 20<br>(83)          | 55<br>(83)  | 119<br>(70)  | 195<br>(57) | 258<br>(44) | 344<br>(24) |
| CLIPER  | 19<br>(122)         | 57<br>(120) | 136<br>(102) | 224<br>(84) | 300<br>(68) | 398<br>(41) |
| NHC73   | 15<br>(43)          | 59<br>(42)  | 137<br>(36)  | 226<br>(30) | 301<br>(24) | 444<br>(17) |
| SANBAR  | 17<br>(52)          | 67<br>(51)  | 136<br>(43)  | 222<br>(36) | 303<br>(28) | 479<br>(19) |
| MFM   | 9<br>(10)           | 52<br>(10)  | 122<br>(10)  | 226<br>(9)  | 351<br>(8)  | --<br>--    |

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HOMOGENEOUS SAMPLE

(All except MFM)

| FORECAST TYPE | FORECAST PERIOD     |      |      |      |      |
|---------------|---------------------|------|------|------|------|
|               | Initial<br>Position | 12hr | 24hr | 48hr | 72hr |

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(Displacement errors in nautical miles, number of cases in parentheses)

|          |            |            |             |             |            |
|----------|------------|------------|-------------|-------------|------------|
| OFFICIAL | 15<br>(29) | 58<br>(27) | 119<br>(27) | 216<br>(13) | 246<br>(7) |
| NHC67    |            | 53         | 109         | 252         | 277        |
| NHC72    |            | 63         | 138         | 226         | 291        |
| HURRAN   |            | 58         | 120         | 276         | 345        |
| CLIPER   |            | 58         | 126         | 261         | 267        |
| NHC73    |            | 61         | 133         | 248         | 352        |
| SANBAR   |            | 72         | 139         | 275         | 385        |

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HOMOGENEOUS SAMPLE

| FORECAST TYPE | FORECAST PERIOD     |      |      |      |
|---------------|---------------------|------|------|------|
|               | Initial<br>Position | 12hr | 24hr | 48hr |

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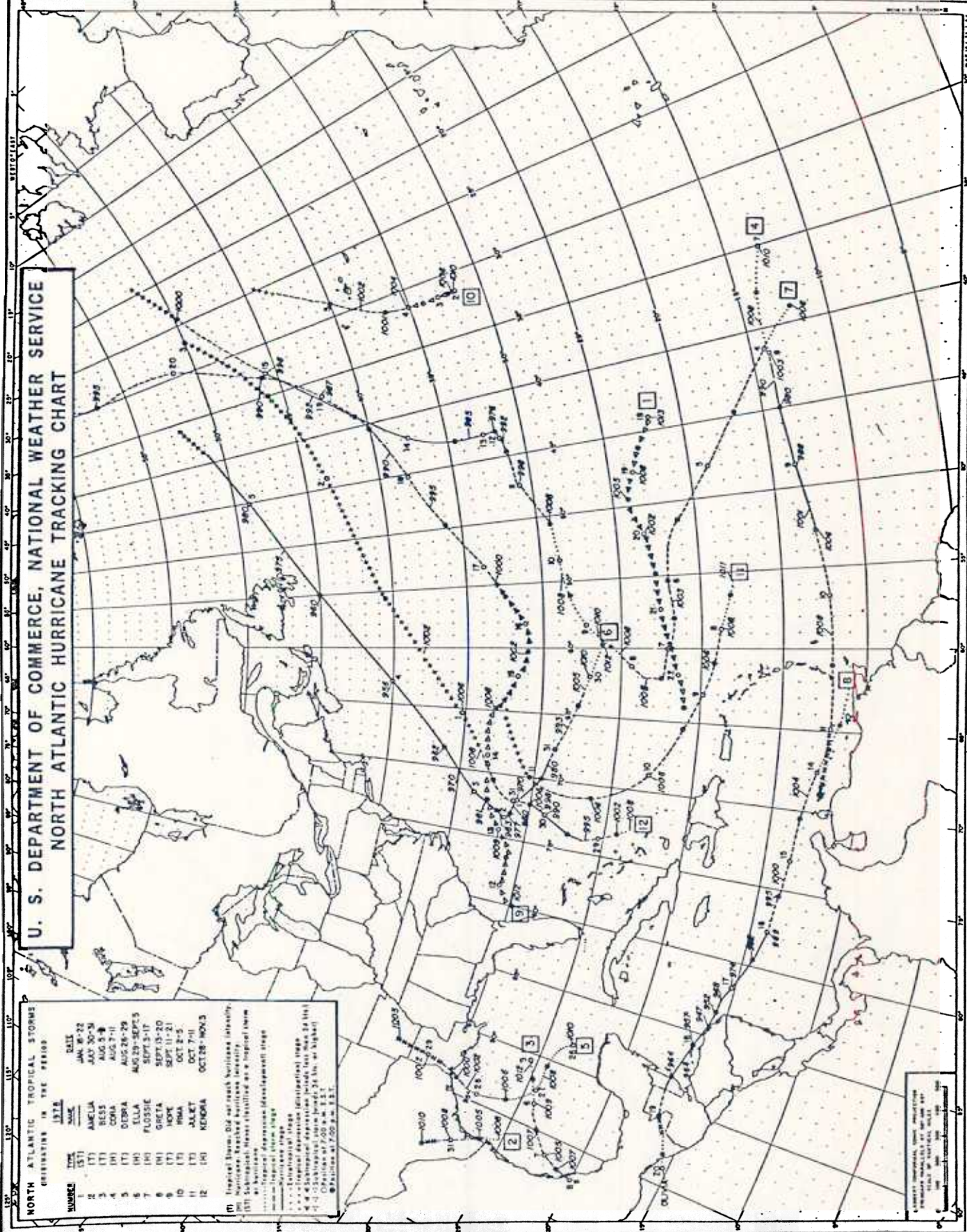
(Displacement errors in nautical miles, number of cases in parentheses)

|          |           |            |             |            |
|----------|-----------|------------|-------------|------------|
| OFFICIAL | 9<br>(10) | 44<br>(10) | 110<br>(10) | 366<br>(8) |
| NHC73    |           | 41         | 103         | 303        |
| SANBAR   |           | 59         | 141         | 410        |
| MFM      |           | 52         | 122         | 351        |

**U. S. DEPARTMENT OF COMMERCE, NATIONAL WEATHER SERVICE  
NORTH ATLANTIC HURRICANE TRACKING CHART**

| NUMBER | TYPE | NAME    | DATE          |
|--------|------|---------|---------------|
| 1      | (ST) | AMELIA  | JAN 20-23     |
| 2      | (T)  | BESS    | AUG 5-8       |
| 3      | (H)  | CONA    | AUG 7-11      |
| 4      | (T)  | OTBPA   | AUG 28-29     |
| 5      | (H)  | ELLA    | AUG 29-SEPT 5 |
| 6      | (H)  | FLOSSIE | SEPT 5-17     |
| 7      | (H)  | GRETA   | SEPT 13-20    |
| 8      | (T)  | HOPK    | SEPT 11-21    |
| 9      | (T)  | HMA     | OCT 2-5       |
| 10     | (T)  | ALKT    | OCT 7-11      |
| 11     | (T)  | KENNA   | OCT 28-NOV 3  |
| 12     | (H)  |         |               |

(H) Tropical Storm, (ST) or track hurricane intensity.  
 (T) Tropical Depression (intensity 34 kts).  
 (H) Subtropical storm (intensity 34 kts).  
 (S) Subtropical storm (intensity 25 kts) at highest  
 at hurricane.  
 --- Tropical Depression (development) stage  
 --- Tropical Storm  
 --- Subtropical Storm  
 --- Tropical Storm  
 --- Tropical Depression (development) stage  
 --- Tropical Depression (intensity 34 kts)  
 --- Subtropical storm (intensity 34 kts)  
 --- Subtropical storm (intensity 25 kts) at highest  
 --- Position at 7:00 a.m. S.T.



SCALE: HURRICANE WINDS, INTENSITY  
 TROPICAL DEPRESSIONS, 34 KTS.  
 0 100 200 300 400 500 600 700 800 900 1000  
 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200  
 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200