

Brig "John Wesley," Captain John H. Hines.

| Date. | Time. | Lat. N. | Long. W. | Bar. | Wind. | Force. | Weather and remarks. |
|---------|------------|---------|----------|-------|----------|--------|-----------------------------------|
| Sept. 2 | 7:10 a. m. | 22.30 | 74.25 | 29.84 | ne by e. | 4 | Clear; sea smooth. |
| 3 | 7:08 a. m. | | | 29.81 | ese. | 10 | Rain and blowing; very heavy sea. |
| 4 | 7:11 a. m. | 25.24 | 74.15 | 29.91 | e. by s. | 5 | Fair; heavy cross swell. |

The following observations were reported by the same captain as taken at Greenwich date and time during the passage of this storm:

| Date. | Barometer. | Wind. | Remarks. |
|--------------|------------|-----------|---|
| Sept. 3. | | | |
| 12 noon..... | 29.84 | e. | A heavy bank at ese.; sky full of cirrus and cirrostratus, moving apparently to wnw. Vessel in Crooked Island passage; after getting through the passage found a high swell from ese. |
| 4 p. m. | 29.86 | | Wind very puffy, with sprinkling rain. |
| 5 " | 29.87 | ene. | Wind and rain increasing. |
| 6 " | 29.83 | | Blowing strong, with heavy rain and high sea; hove to. |
| 8 " | 29.81 | | Blowing very hard, with very heavy rain. |
| 10 " | 29.18 | e. | Blowing terrifically. |
| 12 midn't .. | 29.83 | ese. | Do. |
| Sept. 4. | | | |
| 2 a. m. | 28.94 | se. | Do. |
| 4 " | 29.14 | se. by s. | Moderating at times. |
| 6 " | 29.35 | se. by s. | Do. |
| 10 " | 29.46 | | Moderating and clearing, but very high sea. |
| 12 noon..... | 29.51 | ese. | All sails set; passed close to Rum Key. |

The s. s. City of San Antonio experienced, on September 4th, in latitude N. 26° 45', longitude W. 76° 50', a very heavy swell from ese., with squally weather, and e. by n. wind. During these squalls the wind increased to a heavy gale, with barometer falling slowly until 8 p. m.

The following reports, received through the courtesy of Rev. Benito Vines, S. J., show the track of this meteor over the island of Cuba. Very copious extracts are given in order to preserve a permanent record of its passage over this island.

Observations taken at Isabella de Sagua, September 4 and 5, 1882.

| Time. | Barometer. | Therm'er. | Wind. | Force. | Weather. |
|--------------|------------|-----------|-----------|-------------------|-------------------|
| Sept. 4. | | | | | |
| 12 m. | 29.92 | 73.4 | n. | brisk. | squally. |
| 4 p. m. | 29.80 | 72.5 | nne. | gale. | " |
| 5 " | 29.76 | 72.5 | nne. | " | " |
| 6 " | 29.72 | 72.5 | nne. | " | misty and cloudy. |
| 7 " | 29.69 | 71.6 | ne. | " | " " " |
| 8 " | 29.63 | 71.6 | ene. | " | " " " |
| 9 " | 29.60 | 70.7 | ene. | gale, with gusts. | raining. |
| 10 " | 29.69 | 70.7 | e. | " | " |
| 11 " | 29.71 | 69.8 | e 1/2 se. | " | " |
| 12 mid't .. | 29.71 | 69.8 | e 1/2 se. | gale. | " |
| Sept. 5. | | | | | |
| 1 a. m. | 29.71 | 69.8 | ese. | gale. | raining. |
| 2 " | 29.71 | 69.8 | ese. | " | " |
| 3 " | 29.72 | 68.0 | ese. | gale, with gusts. | " |
| 4 " | 29.74 | 68.0 | se 1/2 e. | " | " |
| 5 " | 29.76 | 68.0 | se 1/2 e. | " | " |
| 6 " | 29.78 | 68.0 | se 1/2 e. | " | " |
| 8 " | 29.84 | 68.0 | se. | fresh. | " |
| 10 " | 29.86 | 68.0 | se. | " | " |
| 1 p. m. | 29.86 | 68.0 | se. | " | " |
| 3 " | 29.86 | 68.0 | se. | " | " |
| 6 " | 29.92 | 69.8 | se. | " | cloudy. |

The centre of the hurricane passed south of this station during the evening of the 4th.

Observations taken at Cienfuegos on September 5, 1882.

| Time. | Bar. | Tem. | Wind. | Force. | State of weather. |
|---------------|-------|------|------------|--------|--|
| Sept. 4. | | | | | |
| 12 m. | 29.95 | 91 | ne. and n. | 0 | Light clouds moving rapidly. |
| 4 p. m. | 29.89 | 88 | n. | 0 | Swift light clouds. |
| 6 " | 29.85 | 86 | n. | 0 | " |
| 10 " | 29.84 | 82 | n. | 0 | Stars visible in zenith. |
| 12 midn't .. | 29.82 | 82 | n. | 2 | Large nimbus clouds between 1 and 2 quadrants. |
| Sept. 5. | | | | | |
| 2 a. m. | 29.76 | 80 | nw. | 3 | Heavy gusts of rain. |
| 3 " | 29.66 | 80 | nw. | 3 | " |
| 5 " | 29.59 | 78 | nw. | 4 | Hurricanes, gusts. |
| 9:30 " | 29.50 | 78 | wnw. | 4 | Violent gusts of wind and rain. Telegraph communication interrupted. |
| 10 " | 29.38 | 78 | wnw. | 4 | Hurricane. |
| 10:15 " | 29.31 | 78 | w. 1/4 nw. | 4 | The gloomy and cloudy weather obstructed the sight of the vessels in the bay. Vortex to n. and near. |

II.—The earliest information now in this office of the movement of this hurricane is from the meteorological observations taken at 10:00 a. m., local time, at Grand Turk island, when on the 2d of September the barometer was 29.79, wind ne., strong; and on September 3d the barometer was 29.76, wind sw., strong. The local report says, at Grand Turk island there was considerable wind and rain on Sunday, the 3d of September, which continued during the night up to daylight of the 4th. During the night there was experienced the heaviest thunder-storm on record since 1852. The shifting of the wind shows the passage of the storm to the south of Grand Turk island before the morning of the 3d.

The following reports extracted from the logs of the s.s. "Alene," and the brig "John Wesley," show that they crossed the path of the hurricane on the 3d and 4th, and in advance of its centre:

S. S. "Alene," Captain H. R. Hughes.

| Date. | Time. | Lat. N. | Long. W. | Bar. | Temp. | Wind. | Force. | Weather and remarks. |
|---------|-------------|---------|----------|-------|-------|-----------|--------|--|
| Sept. 3 | 7:11 a. m. | 19.39 | 74.17 | 30.00 | ... | ane. | 1 | Clear and fine; sea-swells ne. |
| 4 | 3:00 a. m. | | | | | | | Weather gloomy and threatening; wind backed to w., thence to southward and eastward. |
| 4 | 4:00 a. m. | | | 29.70 | | | | The gale at its height between these observations. Violent squalls from se., accompanied with heavy rain and hail; sea rising rapidly. |
| 4 | 6:00 a. m. | | | 29.65 | | | | |
| 4 | 7:10 a. m. | 23.11 | 74.25 | 29.95 | ... | se. | 7 | Overcast. |
| 4 | 7:30 a. m. | | | 29.75 | 78 | se. | 6 | |
| 4 | 8:00 a. m. | | | 29.80 | ... | ese. | 6 | |
| 4 | 9:00 a. m. | | | 29.85 | ... | ese. | 6 | |
| 4 | 9:50 a. m. | | | 29.90 | 79 | ese. | 5 | Sea subsiding. |
| 4 | 10:00 a. m. | | | 29.97 | 80 | se. by e. | 5 | |
| 4 | 11:30 a. m. | | | 29.98 | 80 | ese. | 5 | |
| 4 | 12:00 noon | | | 29.98 | 80 | ese. | 5 | |
| 4 | 1:30 p. m. | | | 29.98 | 80 | ese. | 5 | |
| 5 | 7:12 a. m. | 27.05 | 74.30 | 3.13 | ... | e. | 3 | Clear and fine; sea-swells ese. |

Observations taken at Cienfuegos on September 5, 1882—Continued.

| Time. | Bar. | Temp. | Wind. | Force. | State of weather. |
|-------------|-------|-------|----------------------|--------|---|
| 10:30 " | 29.27 | 78 | w. | 4 | |
| 10:45 " | 29.22 | 78 | w. | 4 | Greatest intensity. |
| 11 " | 29.18 | 78 | w. $\frac{1}{2}$ sw. | 4 | Blowing with great force. |
| 11:30 " | 29.13 | 78 | wsw | 4 | " " " |
| 11:45 " | 29.15 | 78 | sw. $\frac{1}{2}$ w. | 4 | Barometer rising. |
| 12 m. | 29.16 | 78 | sw. | 4 | Gloomy appearance, rain in torrents. |
| 12:30 p. m. | 29.14 | 78 | sw. | 4 | Gloomy appearance, rain in torrents. |
| 1 " | 29.27 | 78 | sw. | 4 | " " " |
| 1:30 " | 29.32 | 78 | s. $\frac{1}{2}$ sw. | 4 | " " " |
| 2 " | 29.44 | 78 | s. $\frac{1}{2}$ sw. | 4 | Less wind gusts and of shorter duration. |
| 2:30 " | 29.46 | 78 | s. $\frac{1}{2}$ sw. | 4 | A few small vessels stranded and otherwise damaged. |
| 3 " | 29.46 | 78 | s. | 4 | Gusts diminishing. |
| 3:30 " | 29.49 | 78 | s. | 4 | Rapid gusts. |
| 4 " | 29.55 | 78 | ese. | 4 | Heavy rain. |
| 4:30 " | 29.57 | 78 | ese. | 4 | " " " |
| 5 " | 29.69 | 78 | ese. | 4 | " " " |
| 5:30 " | 29.62 | 78 | se. | 4 | " " " |
| 6 " | 29.56 | 78 | se. | 4 | Rain and gusts. |
| 7 " | 29.70 | 78 | se. | 4 | Strong wind with lasting gusts. |
| 8 " | 29.78 | 78 | se. | 4 | " " " |
| 9 " | 29.79 | 78 | se. | 4 | Heavy rain and strong wind. |
| 10 " | 29.80 | 78 | se. | 3 | Gusts at intervals. |
| 11 " | 29.80 | 79 | se. | 3 | " " " |
| 12 midn't | 29.80 | 79 | se. | 3 | " " " |

The storm-centre moved to the north of Cienfuegos.

The following is an extract of a report furnished from Cardenas, September 6, 1882:

On Sunday, September 3d. at 6 p. m., the sky began to be covered with small clouds, moving rapidly along the horizon, with violent gusts of rain and slowly falling barometer.

September 4th. barometer stationary, with more frequent gusts of rain and wind.

September 5th, 6 a. m., repeated gusts of wind and rain; 11 a. m., increasing wind and rain; 2 p. m., wind veered to ene., with violent wind, heavy rain and falling barometer; 3 p. m., wind veered to e.; 6 p. m., wind shifted to e $\frac{1}{4}$ se.; 9 p. m., slowly rising barometer.

September 6th, at 1:00 a. m., the wind abated somewhat and veered to se., with continued rain; 4 a. m., wind se., decreasing steadily up to daybreak, when the puffs became still less frequent. The barometer, of which the mean height is 30.20 inches, had fallen to 29.80.

This house was badly damaged, though well protected, leaking everywhere. The garden was completely demolished, even the smallest plants having been carried away.

A few vessels in the harbor were injured, though not seriously; at 3 p. m., the barometer read 30.10, with rain at short intervals.

Observations taken at Matanzas on September 5, 1882.

| Time. | Baro'ter. | Temp. | Wind. | Force. | Weather. |
|-----------|-----------|-------|----------------------|--------|------------------|
| 8 a. m. | 29.97 | 82 | nne. | 3 | showery. |
| 10 " | 29.95 | 82 | ne. | 3 | " " |
| 12 m. | 29.91 | 82 | ne. | 3.4 | squally. |
| 1 p. m. | 29.89 | 82 | ne. | 3.4 | " " |
| 2 " | 29.55 | 82 | ne. | 3.4 | " " |
| 3 " | 29.82 | 81.5 | ne. | 3.4 | " " |
| 4 " | 29.77 | 81 | ne. $\frac{1}{2}$ e. | 4 | " " |
| 5 " | 29.74 | 80.5 | ene. | 5 | " " |
| 6 " | 29.74 | 80 | e. | 5 | " " |
| 7 " | 29.73 | 80 | ese. | 5 | " " |
| 8 " | 29.75 | 80 | se. | 5 | " " |
| 9 " | 29.78 | 79.5 | se. | 4 | " " |
| 10 " | 29.80 | 80 | se. $\frac{1}{2}$ e. | 4 | showery. |
| 11 " | 29.82 | 79 | se. $\frac{1}{2}$ e. | 4 | " " |
| 12 midn't | 29.86 | 79 | se. | 3.4 | squally. |
| 1 a. m. | 29.88 | 79 | se. | 3.4 | showery & rainy. |
| 2 " | 29.90 | 78.5 | se. | 3 | " " |
| 3 " | 29.93 | 80 | se. | 3 | " " |
| 4 " | 29.94 | 79.5 | se. | 2 | rainy. |
| 5 " | 29.95 | 79 | s. | 1 | " " |
| 6 " | 30.00 | 79 | ese. | 0 | " " |

In consequence of the heavy sea and wind the brig "Pepe", the schooner "Carlotta" and the fishing vessel "Leon Despierto" were beached; all were saved however with the exception of the schooner "Carlotta", which was grounded on rocks. The storm-centre evidently went south of Matanzas.

Observations taken at Belen, Havana, September 5 and 6, 1882.

| Time. | Baro'ter. | Therm'er. | Wind. | Vel. in miles perhour | Weather. |
|-------------|-----------|-----------|----------------------|-----------------------|---|
| Sept. 5th. | | | | | |
| 4 a. m. | 29.88 | 79.9 | nne. | 16.1 | Sudden gusts of wind and thunder. |
| 5 " | 29.90 | 82.0 | nne. | 15.7 | Thunder. |
| 6 " | 29.88 | 82 | nne. | 11.3 | Cloudy. |
| 6:38 " | 29.89 | 82.2 | nne. | 13.0 | Rain began 6.47 a. m. |
| 8 " | 29.89 | 82.6 | n. $\frac{1}{2}$ ne. | 11.2 | Thunder and lightning. |
| 9 " | 29.96 | 80.4 | ne. $\frac{1}{4}$ n. | 10.1 | Cloudy. |
| 10 " | 29.89 | 84.6 | nne. | 11.2 | Showery. |
| 11 " | 29.91 | 85.6 | n. | 13.4 | Cloudy. |
| 12 m. | 29.87 | 85.6 | nne. | 15.7 | Plain solar halo. |
| 1 p. m. | 29.84 | 85.6 | ne. $\frac{1}{4}$ n. | 19.0 | Clouds dense and low; max. vel. 44.7. |
| 2 " | 29.80 | 86.2 | n. $\frac{1}{4}$ ne. | 17.9 | Threatening, violent gusts; max. vel., 31.3. |
| 3 " | 29.82 | 83.2 | | | |
| 4 " | 29.75 | 83.3 | ne. $\frac{1}{4}$ e. | 17.9 | Cloudy and very dark; max. vel. 44.7. |
| 5 " | 29.76 | 82.6 | nne. | 22.4 | max. vel., 40.3. |
| 6 " | 29.73 | 82.4 | nne. | 24.6 | Wind gusts; max. vel., 53.7. |
| 7 " | 29.72 | 81.1 | ne. | 31.3 | Violent wind gusts; max. vel., 40.3. |
| 8 " | 29.70 | 80.1 | ne. $\frac{1}{4}$ n. | 26.8 | Rain and wind gusts; max. vel., 53.7. |
| 9 " | 29.70 | 78.4 | ne. $\frac{1}{4}$ e. | 24.6 | Violent wind gusts; max. vel., 53.7. |
| 10 " | 29.69 | 78.1 | ene. | 26.8 | Violent wind gust and very dark; max. vel., 69.3. |
| 10:30 " | 29.69 | | ne. $\frac{1}{4}$ e. | 24.6 | Max. vel., 58.2. |
| 11 " | 29.66 | | ene. | | Max. vel., 71.6. |
| 11:30 " | 29.64 | | | | |
| 12 mid't | 29.63 | | e. | 35.8 | Strong and constant wind gusts; max. vel., 58.2. |
| Sept. 6th. | | | | | |
| 12:30 a. m. | 29.62 | | e. $\frac{1}{4}$ ne. | 43.6 | Violent and constant wind gusts; max. vel., 67.1. |
| 1 " | 29.59 | | e. $\frac{1}{4}$ ne. | | |
| 1:30 " | 29.59 | | e. $\frac{1}{4}$ ne. | 46.2 | Short hurricanes; max. vel., 78.3. |
| 2 " | 29.61 | | e. $\frac{1}{4}$ ne. | 35.8 | Short hurricanes; max. vel., 85.0. |
| 2:30 " | 29.64 | | e. | 43.6 | Violent gusts; bar. rising; max. vel., 44.7. |
| 3 " | 29.65 | | e. $\frac{1}{4}$ se. | 35.8 | Successive gusts; max. vel., 53.7. |
| 5 " | 29.72 | 76.5 | e. $\frac{1}{4}$ se. | 31.3 | Violent gusts; max. vel., 44.7. |
| 5:30 " | 29.73 | | ese. | 26.8 | Violent gusts; max. vel., 43.2. |
| 6 " | 29.73 | 76.5 | se. | 24.6 | Light rain; max. vel., 26.8. |
| 6:35 " | 29.80 | 76.5 | se. | 24.6 | Raining; max. vel., 26.8. |
| 7 " | 29.80 | 76.3 | se. | 24.6 | Raining. |
| 7:30 " | 29.84 | | | 26.8 | Violent wind; max. vel., 26.8. |
| 8 " | 29.84 | 77.2 | se. | 15.7 | Violent winds. |
| 9 " | 29.87 | 76.5 | ese. | 1.0 | Violent winds. |
| 10 " | 29.89 | 76.5 | ese. | 20.1 | Rain and sudden gusts. |
| 11 " | 29.91 | 78.6 | se. $\frac{1}{4}$ s. | | Constant rain. |
| 12 m. | 29.89 | 78.1 | se. $\frac{1}{4}$ e. | 15.7 | Constant rain; max. vel., 20.0. |
| 1 p. m. | 29.90 | 77.4 | se. | 11.2 | Mist. |
| 2 " | 29.87 | 78.1 | se. $\frac{1}{4}$ e. | 10.1 | Mist. |

The vortex went south of Havana between 12:30 a. m. and 2 a. m. of the 6th.

Observations Taken on Board the "Gral Duran" at Batabano, September 5 and 6, 1882.

| Time. | Baro'ter. | Temp. | Wind. | Force. | Weather. |
|----------|-----------|-------|----------------------|--------|-------------------|
| Sept. 5. | | | | | |
| 6 p. m. | 30.15 | 77 | n. | 7 | threatening. |
| 7 " | 30.12 | 77 | nne. | 7 | heavy rain. |
| 8 " | 30.10 | 77 | ne. | 8 | " " |
| 9 " | 30.08 | 78.8 | ne. $\frac{1}{2}$ e. | 8 | very threatening. |
| 10 " | 30.06 | 78.5 | ene. | 8 | " " |
| 11 " | 30.02 | 78.5 | e. | 10 | " " |
| 12 mid't | 29.90 | 78.5 | ese. | 11 | gusts of rain. |
| Sept. 6. | | | | | |
| 1 a. m. | 29.85 | 78.8 | se. | 11 | crusts of rain. |
| 2 " | 29.88 | 78.8 | se. | 10 | heavy showers. |
| 3 " | 29.60 | 78.8 | se. | 10 | rain and thunder. |
| 4 " | 30.00 | 77 | se. | 9 | raining. |
| 5 " | 30.02 | 77 | se. | 8 | " " |
| 6 " | 30.05 | 77 | se. | 8 | " " |
| 7 " | 30.08 | 77 | se. | 7 | " " |

The centre of the storm passed south of the anchorage of Batabano.

Observations taken at Nueva Gerona, Pinos Island, during September 5 and 6, 1882, on board the s. s. "Nuevo Cubano."

| Time. | Bar. ane'toid | Wind. | Force. | Remarks. |
|------------|---------------|---------------------|----------|--|
| Sept. 5th. | | | | |
| a. m. | 30.24 | nw. | moderate | Sky threatening towards the 1st quadrant; heavy gusts of wind and rain at intervals. |
| 12 m. | 30.50 | nw. | fresh. | San e appearance. |
| 4 p. m. | | nw. | fresh. | Continued gusts of wind and rain. |
| 6 p. m. | 30.16 | ne. shifting to sw. | | Clear between 4 & 5th quadrants. |
| 8 p. m. | 30.04 | nw. | | Wind and rain gusts. |
| 9 p. m. | 29.96 | | | Wind and rain gusts of short duration. |

Observations taken at Nueva Gerona, Pinos Island, during September 5 and 6, 1882, on board the s.s. "Nuevo Cubano"—Continued.

| Time. | Bar. aneroid | Wind. | Force. | Remarks. |
|-----------------------|--------------|-------|--------|---|
| Sept. 6th. 2 a. m. | 29.84 | sw. | | From 9 p. m. to 2 a. m. the barometer fell steadily, attended by heavy wind and rain gusts; becoming very dark. Very violent squalls. |
| 2.30 a. m. | | sw. | | |
| 3.00 a. m. | 29.88 | | | |
| 3.30 a. m. | 29.92 | | | |
| 4.00 a. m. | 29.96 | | | |
| 4.30 a. m. | 30.00 | | | |

The vortex went north of the Isle of Pines.

Observations taken at Bahia Honda, September 5 and 6, 1882.

| Time. | Barometer. (aneroid.) | Therm'er. | Wind. | Force. | Weather. |
|---------------------|-----------------------|-----------|----------|--------|--------------|
| Sept. 5. 8 a. m. | 29.53 | 82.4 | n. | 6 | Threatening. |
| 12 m. | 29.37 | 78.8 | nne. | 8 | |
| 1 p. m. | 29.29 | 78.8 | ne. ¼ n. | 8 | |
| 2 " | 29.17 | 78.8 | ne. | 9 | |
| 4 " | 29.17 | 78.8 | ne. ¼ n. | 10 | |
| 4 " | 29.17 | 77.0 | ene. | 10 | |
| 5 " | 29.25 | 77.0 | e. | 10 | |
| 6 " | 29.29 | 78.8 | e. ¼ ne. | 10 | |
| 7 " | 29.37 | 78.8 | ese. | 9 | |
| 8 " | 29.41 | 78.8 | se. ¼ e. | 9 | |
| 9 " | 29.45 | 78.8 | se. ¼ e. | 9 | |
| 10 " | 29.49 | 78.8 | se. | 8 | |
| 12 mid't. | 29.53 | 78.8 | se. | 5 | |
| Sept. 6. 3 a. m. | 29.57 | 78.8 | se. | 6 | |
| 6 " | 29.65 | 78.8 | se. | 3 | |

This shows the storm-centre moved south of Bahia Honda, but it is thought the dates and hours as copied, are not accurate.

After leaving the island of Cuba, the hurricane began to recurve towards the north and was encountered by the s.s. "City of Alexandria," Capt L. F. Timmerman, which entered the vortex of the storm between 6 and 7 p. m., of the 6th.

The following is an extract of the ship's log, furnished by co-operation of the "New York Herald Weather Service:"

| Date and time. | | Lat. N. | Long. W. | Barometer. (Aneroid.) | Therm't. | Wind. | Force. | Remarks. |
|----------------|-------------|---------|----------|-----------------------|----------|----------|--------|---|
| Local. | Greenwich | | | | | | | |
| Sept. 6. | | 0 / | 0 / | | | | | |
| 12.00 m. | 5.45 p. m. | 22 20 | 84 2 | 29.85 | 84 | n. | 3 | Gloomy. |
| | | 2 30 | 56 0 | 29.40 | 84 | nnw. | 6 | Set of sea ne.; sho'ery & threatening; high ne. sea. |
| 2.00 p. m. | 7.45 " | 22 37 | 85 50 | 29.20 | 84 | nw. & n. | 9 | |
| 4.30 " | 10.15 " | 22 40 | 85 45 | 28.98 | 84 | nw. | 12 | Rain & squally; sea ne. and nw. |
| 5.30 " | 11.15 " | 22 42 | 85 40 | 28.98 | 84 | calm | 0 | Fair and gloomy; sea ne. and nw. air full of tired birds. |
| 7.00 " | 12.45 a. m. | 22 45 | 85 35 | 28.99 | 83 | s. & e. | 12 | Rain, squally and lightning; sea nw. |
| 10.00 " | 3.45 " | 22 50 | 85 14 | 30.40? | 82 | ese. | 9 | |
| 12.00 mid't | 5.45 " | 23 05 | 85 0 | 30.60? | 82 | ese. | 8 | Rain and squally; sea nw. and s. |
| Sept. 7. | | | | | | | | |
| 4.00 " | 9.45 " | 23 10 | 84 28 | 30.70? | 83 | s. & e. | 6 | Fair; sea nw. & s. |

The barometer in the last three observations is probably one inch too high.

The "City of Alexandria" on the 10th, 11th, and 12th, became again involved in this storm after it had recurved to the northeast and crossed its track in rear of the centre of the storm.

The following extract of the log of the s. s. "City of Puebla," Captain John Deaken, furnished by co-operation of the "New York Herald Weather Service," shows that the cyclone was felt by this vessel.

| Date. | Lat. N. | Long. W. | Bar. | Temp. | Wind. | Velocity in knots. | Weather & remarks. |
|----------------|---------|----------|-------|-------|-------|--------------------|-----------------------------------|
| Sept. 5. | | | 29.79 | 86 | ne. | 18 | Passing showers; increasing wind. |
| " 5. | | | 29.62 | | nne. | 30 | Blowing heavy. |
| " 6. | 22 45 | 86 11 | 29.60 | 85 | une. | 30 | Squally; wind backing to nw. |
| " 6. | | | 29.50 | 85 | nnw. | 30 | |
| " 6. midnight. | | | 29.49 | | | | |
| " 7. | 21 21 | 89 38 | 29.65 | 82 | wsw. | 6 | Cloudy; wind off the coast—sea s. |
| " 8. | 21 21 | 89 38 | 29.70 | 86 | ssw. | 6 | Hazy; black clouds to the n. |
| " 9. | 19 54 | 90 45 | 29.76 | 86 | w. | 6 | Cloudy. |

NOTE—The hours of observation are not given.

Between the 8th and 9th of September, this storm was encountered by the s. s. "Rio Grande," between latitude N. 25° 33' and 25° 44', and longitude W. 85° 45' and 87° 20'. Captain A. C. Burrows, of that steamer, gives the following description, "On the 7th September, while stopping at Key West, I was informed that a cyclone had passed south side of Cuba, travelling nw. on 5th, with this warning I proceeded in a wnw. direction until midnight of the 8th, when appearances of the wind and weather and action of barometer induced the belief on my part that the storm was recurving and inclining to a nne. or n. course. The wind was then blowing an ordinary gale, with confused sea from s. to w. Direction of wind sse. The ship's head was then put se., and engines worked slowly, to just keep ship in position, and the situation remained unchanged for twenty-one hours, when, with violent rains and heavy puffs, the wind gradually, but quickly, worked round to sw.—w. and wnw., and the glass began to rise, weather becoming fine."

The following extract of the log of s. s. "Chalmette," Captain Frederick Read, shows that this vessel encountered the cyclone September 7th and 8th:

| Date. | Time | Lat. | Long. | Bar. | Tem. | Wind | Force | Weather and Remarks. |
|----------|-------|-------|-------|-------|------|------|-------|-----------------------------|
| Sept. 6. | 3. m. | 29 47 | 89 53 | 30.07 | 78 | e. | 2 | clear. |
| " 7. | 8.23 | 27 05 | 86 20 | 29.95 | 81 | ese. | 3 | cloudy; h'vy sse. sea-swell |
| " 8. | 6.37 | 24 22 | 82 47 | 29.99 | 83 | se. | 2 | fair; mod. sw. sea-swell |

Capt. F. Read makes the following remarks in regard to this storm: "Having been in close quarters with the terrible cyclone of the 8th and 9th instant, off the Passes, I will give an account of our experience on a direct line from the Passes to Tortugas. Crossed the bar at 5:12 p. m. (Greenwich time) the 6th instant, had fine weather, and light breezes from the ese., with smooth sea until 11 p. m., when I noticed a long swell heaving from the ese., which soon increased, so that by 4 a. m., of the 7th, the ship would occasionally pitch bows under. The wind at this time had also increased and was blowing a fresh gale from ese., the glass at 29.70, and soon commenced to rise slowly, the sea gradually hauling southerly and to the ssw., without diminishing, the wind still ese. strong. This showed us to be on the northern quadrant of a storm, and I knew there was much more wind to the s. and w. of us. It continued until 4 p. m., when both sea and wind gradually moderated with clearing weather, the glass at 29.90. By 8 a. m., of the 8th, when 40 miles nw. of Tortugas, had run entirely out of it, having then but a fresh breeze from se., and a moderate sea swell from sw.

From Tortugas, north, had light variable weather with considerable rain; at 10:50 p. m. of the 11th instant, five miles east of Egg harbor, a light air from sw., and quite a heavy swell heaving in from se., a hazy sky and something that appeared like a fog bank all around the horizon, the glass at 29.50. The wind very suddenly came out from north, and in one hour was blowing a strong gale from nne., with heavy sea and raining almost continually until 5 a. m. (Greenwich time) of the 12th, the wind gradually veering to the nnw. At daylight, when four miles off Long Branch, the wind and sea moderated, the glass at 29.70, with clearing weather."

The Chalmette evidently crossed in front of the hurricane

as it was recurring to the northeast, and again encountered the same storm in its northern trajectory, and crossing its path in rear of the centre of the storm.

Captain James Wallace, s. s. "Burswell," who encountered this cyclone in latitude N. 26° 00', W. 85° 40', on the 9th instant, gives the following description: "At 1:30 (Greenwich time), or 7:40 a. m., local time, gale increased from south, sky very dirty, high cross sea from s. and wsw. eased engines and brought ship's head to the ssw. At 6 p. m. (Greenwich time), a fierce storm of wind and rain, with a high confused sea, ship flooded with seas fore and aft, and rain coming down in a whole sheet. At 8 p. m. of the 9th, wind hauled to sw. and more moderate, a high sea from wnw. At 13 hours, (Greenwich time) moderate gale at sw., a high sea from the wnw., ship lying head to it with engines eased. At 18 hours, wind wsw., force 4, kept ship on her course to the nw. At 24 hours (Greenwich time), of the 9th, wind w., a strong high sea from the north, with fine clear weather; lowest reading of barometer at 8 hours, 29.68."

The following is an extract of observations taken on board of this vessel:

| Date. | Time. | Lat. | Long. | Bar. | Temp. | Wind. | Force. | Weather. |
|---------|------------|-------|-------|-------|-------|-------|--------|--|
| Sept. 8 | 6.35 a. m. | 24 25 | 83 05 | 29.96 | 87 | sse. | 3 | Fine weather, strong sea-swell. |
| " | 9 6.25 " | 25 51 | 85 34 | 29.70 | 87 | s. | 7 | Dull and threatening strong sea-swell from sw. |
| " | 10 6.20 " | 26 26 | 86 45 | 29.78 | 83 | w. | 4 | Fine and clear, strong sea-swell from n. |

The following extract from the log of the s. s. "Lone Star," Captain R. B. Quick, furnished by co-operation of the "New York Herald Weather Service," shows the presence of this storm in latitude 28° 15' N., longitude 88° 05' W., on the 9th instant: September 9th, latitude 28° 15' N., longitude 88° 05' W., barometer 29.38, temperature 82, wind ese, hard gale, heavy cross sea from se. to e., and hard rain. Captain Quick, also took hourly observations during the passage of this storm, made the following report direct to this office: The s. s. "Lone Star," from New York for New Orleans encountered the cyclone of September 9th, in latitude 28° 15', longitude 88° 05', about sixty-five miles se. by e. from Port Eads. The storm-centre passed directly over the ship. From 7:00 a. m. to 4:00 p. m. (local time), the barometer readings, &c., were noted hourly as follows:

| Time. | Barometer. | Temp. | Wind. | Weather. |
|---------|------------|-------|-------|----------|
| 7 a. m. | 29.40 | 82° | ese. | rain. |
| 8 " | 29.30 | 82 | ese. | " |
| 9 " | 29.20 | | e. | " |
| 10 " | 29.00 | | e. | " |
| 11 " | 28.80 | | e. | " |
| 12 m. | 28.50 | | ne. | " |

Shortly after noon the wind died away and blew in gusts from ne. to n. and nnw., the rain had ceased and although the clouds were heavy and dense, the sun would occasionally burst through. There was a fog or mist that confined the area of vision to about three or four miles from the ship. In this calm-centre were many hundreds of land birds of great varieties, which sought rest on the rigging in great numbers.

| Time. | Barometer. | Wind. | Weather. |
|------------|------------|-------|----------|
| 1 p. m. | 28.40 | n. | Misty. |
| 1.30 p. m. | 28.38 | nw. | Rain. |
| 2 p. m. | 28.38 | nw. | |
| 3 p. m. | 28.60 | nw. | |
| 4 p. m. | 28.80 | nw. | |

From 4:00 p. m., the wind moderated and the sky cleared with fast rising barometer. At midnight moderate gale, passing clouds, barometer 29.70. The wind blew with great violence from ese. and e., but nothing to be compared with the fury of the nw. blast from 1:30 to 3:00 p. m. It was almost

impossible to draw breath, the ship being covered in a perfect sheet of foam, it being impossible to see ten yards distant.

NOTE.—The barometer from which readings are taken stands about .02 inch high as compared with daily printed Signal Service reports.

The following is an extract from observations taken at the navy yard, Pensacola, Florida, showing the presence of this storm on the 9th and 10th instants:

| Date. | Barometer. | Temperature. | Wind. | Velocity (miles) | Weather. |
|--------------|------------|--------------|------------|------------------|-----------------------|
| Sept. 9..... | 30.06 | 75° | ne. and e. | 7 | Cloudy and lightning. |
| 10..... | 29.44 | 68 | nnw. | 2- | Cloudy and rainy. |
| 11..... | 30.05 | 73 | w. and n. | 2 | Fair |

Lieutenant John B. Collins, U. S. N., Navy-yard, Pensacola, gives the following details: At 4:08 a. m., of the 9th, the barometer was 30.06, wind ne. and e., velocity 7, sky overcast, clouds coming from ne., with lightning to the south. During the day the wind shifted to ne., accompanied by light squalls of wind and rain. At 0.08 p. m., the barometer was 30.05, wind ne., velocity 23, with heavy squalls of wind and rain. At 8.08 p. m., the barometer had fallen to 29.85, wind ne., velocity 31, with very heavy squalls of wind and rain. At midnight the barometer reached the lowest point, 29.44, the wind ne., velocity 31; during the succeeding hour the wind backed to n. and e. At 4:08 a. m., of the 10th, the barometer was still at 29.44, wind nnw., velocity 26; the squalls of wind and rain had slightly moderated. At 0.08 p. m., the barometer had risen to 29.70, wind nw., velocity 8, and the rain had ceased. During the day the wind backed to wsw., followed by clear weather. Between midnight and 2:00 a. m., of the 10th, the centre of the cyclone appears to have approached nearest to this station.

NOTE.—Time and dates given are Greenwich. Barometer not corrected.

On the 8th, the circulation of winds in the Gulf of Mexico showed the approach of a tropical hurricane, and at the morning observation of the 9th it was apparent that the storm-centre was not far distant from Port Eads, where, during the day, the barometer fell to 29.39, and a maximum velocity of wind 92 miles, ne., was reported. The vortex of the hurricane passed at midnight east of Pensacola, but quite near to it; lowest barometer 29.35. On the 10th, the storm, increasing in size, but diminishing in energy, moved in a northeasterly track over Alabama, Georgia, and South Carolina. The minimum pressures reported from stations of observations were, Montgomery 29.56; Atlanta 29.37; Augusta 29.49; Savannah 29.56; Charleston 29.60; Charlotte 29.55. On land the maximum winds recorded were, Atlanta 41, ne.; Augusta 32, e.; Charlotte 28, se. On the 11th, the storm, which still continued to exhibit great energy, moved in a northeasterly path across North Carolina, as charted, and entered the Atlantic ocean; from this day, until it disappeared beyond the limits of the charts of this bureau, the centre of the storm was at sea. The cautionary signals displayed for this storm, were justified by the following maximum velocities: Key West, 28, e.; Port Eads, 92, e.; Mobile, 27, n.; Pensacola, 50, n.; Cedar Keys, 54, s.; Jacksonville, 36, sw.; Savannah, 36, s.; Charleston, 36, s.; Smithville, 40, sw.; Wilmington, 27, w.; Macon, 36, sw.; Hatteras, 42, sw., and off-shore 30, w.; Kittyhawk, 35, s., and off-shore, 32, n.; Cape Henry, 35, nw.; Chincoteague, 31, e., and off-shore, 27, nw.; Delaware Breakwater, 32, e., and off-shore, 56, n.; Cape May, 29, e., and off-shore, 44, n.; Atlantic City, 31, n.; Barnegat, 48, ne.; Sandy Hook, 47, ne.; New York, 31, ne.; New Haven, 30, ne.; Block Island, 54, e., and off-shore, 32, n.; Newport, 26, n.; Provincetown, 34, ne., and off-shore, 25, nw.; Boston, 26, ne.; Portland, 28, n., and off-shore, 26, nw.; Oswego, 26, ne.; Erie, 26, ne.; Sandusky, 40, ne.; Toledo, 28, ne.

The following extract from the report of the Signal Service observer at Port Eads exhibits the violence of the storm in that

vicinity. "The concrete blocks of the jetty walls were turned in all imaginable positions by the wind and the action of the Gulf waves. The railway by which the concrete was distributed is nearly entirely destroyed. The British s. s. "Haytian," Captain Peter, from Colon, with transit cargo for Europe, encountered the storm on the 9th instant, eighty-eight miles south of South Pass, hove to and rode out of the storm. Arrived September 10th, 2:30 p. m. Had heavy list to starboard on account of shifting of coal in bunker compartment of forehold. Bark "Windward," from Ship Island, with lumber for Europe, reported with fore and main masts gone. French s. s. "Clapeyron," Captain Guello, from Saint Thomas, reported having encountered the storm at 6:00 a. m., September 9th, sixteen miles off the South Pass bar. Damage—all boats broken, steering gear out of order, water-ballast tanks leaking, and bridge injured. Heavy list to starboard on account of shifting of coal. Lowest barometer 29.01. Rescued the crew of the American ship "Orient" about eighty miles south of this Pass, and saw another wreck, bottom up, with length of keel about one hundred and fifty feet. The "Orient" is a total wreck, entirely dismantled, upper decks amidships down to second deck gone, boats washed away, clean breach of sea through her cabin. Wreck of foremast, foretop-mast, and gallant-mast a mass of broken spars along deck and sides, also a portion of her mainmast. Cargo, lumber; value, \$50,000.

British schooner "Ringdove," Captain E. Ward, bound from Ruatan to Mobile, cargo, green fruits and cocoanuts, encountered storm on 9th instant in latitude N. 26° 0', longitude W. 87° 12'. Wind and rain from the south. Had to cut away mainmast to keep from foundering, leaking badly, and bananas nearly all rotted.

British schooner "Royalist," Captain E. Moore, bound from New Orleans to the Islands, had to put back on account of damage received. Rigging badly torn; one-half cargo of flour, wet; threw overboard one hundred barrels of rosin; four feet of water in hold.

Ship "Annie Gowdey," Captain Dent, from Pensacola for Belfast, with lumber, put into New Orleans for repairs. Fore and main-top-masts and mizzen-top-gallant-masts cut away to save ship and cargo, which carried away lower mast-heads, poop-rail, ship's bells, jib-boom and everything attached, and stove in starboard boat. Deck, butts, water-way and covering-board seams badly strained, main rail broken, six feet two inches of water in hold. Hurricane from se. to nw., barometer at 12 midnight, 29.00; 3 a. m., 28.80; 6 a. m., 28.40; noon, 28.80.

Norwegian bark "Cato," Captain Kroger, from Rio Janeiro, with coffee, encountered storm eighty miles southeast of South Pass. Threw overboard four hundred sacks of coffee. Bulwarks stove in and vessel leaking, four feet of water in hold, some sails and reel-house blown away, lowest barometer, 28.01.

The following newspaper extracts give a description of the damage produced by this storm on land:

Havana, Cuba, 6th: The recent storm here extended over the greater part of the Island, doing the most damage at Villa Clara and Cienfuegos. The American bark "Idaho" and the British schooner "Sorata" were driven ashore at Cienfuegos.

Tuskegee, Alabama, 9th: A heavy wind and rain storm visited this place last night. About 1,000 trees were blown down in the city. The storm was general in the country, and the damage to crops is estimated at \$50,000.

Marvyn, Alabama, 9th: A destructive gale visited us on Saturday night, and resulted in very serious damage to the crops, and also destroyed a great deal of timber, blew down fences, &c.

Savannah, Georgia, 10th: The fury of the cyclone swept Savannah at three o'clock this morning. The velocity of the wind was forty-two miles per hour. The damage to the city is slight.

A double team near Beaufort was crushed by a falling tree; two men being killed and one injured. Reports from Ogeechee, Georgia, state that considerable damage was done to the crops by the storm.

Athens, Georgia, 10th: This town seems to have been an especial sufferer from the storm. The train on the Athens branch Sunday, was stopped seven times to cut away heavy trees which had fallen across the track. Along the street from the depot to the town, trees and timber were strewn, while some of the material for the extension road trestle was washed away. Over thirty five oak trees on the College Campus were uprooted or blown over, while many private groves are said to have been ruined, and fences demolished. The damage is estimated at \$5,000. Advices from Warrenton indicate that great damage has been done along the Macon and Augusta road, fences blown down, trees uprooted, houses damaged and bridges swept away.

Atlanta, 10th: The storm prevailed here with terrible force, accompanied by heavy rain. Trees, fences, out-buildings and a few small houses were blown down, and tin roofs torn off.

Columbus, Georgia, 9th: A heavy rain and wind storm visited this section Saturday night and continued more or less during Sunday. Shade trees in the city were blown down by hundreds, and much damage has been done to cotton and corn, fences and forest timbers.

Macon, Georgia, 9th: Reports from all points in this section show that great damage was done to the cotton crop by the rain and wind storm of Saturday night.

Talbotton, Georgia, 9th: The most destructive rain and wind storm that has visited this county since 1856 occurred on Saturday night. The cotton and corn have been beaten down and lie upon the ground in the water. It is almost impossible to estimate the amount of damage done.

Pensacola, Florida, 9th: The storm was the severest ever known. The wind reached a maximum velocity of 55 miles per hour. The quarantine boat "Gov. Bloxham" capsized while en route from the quarantine station, and two men were drowned. The British bark "Roda" also capsized. Several vessels went ashore near the quarantine station and on Santa Rosa island. The interior wall of the new opera house was blown down, causing a damage of \$1,500.

Jacksonville, Florida, 10th: Considerable damage is reported from middle and east Florida. The cotton crop is much damaged, in some places one-half the crop being ruined. At Quincy, many houses, fences, trees, etc., were prostrated, and five persons were killed.

Cedar Keys, Florida, 9th: The cyclone reached this section between 9:00 and 10:00 p. m., accompanied by torrents of rain and vivid lightning. The water rose until nearly all the business portion of the town was submerged. The tide was at least two feet higher than in the famous storm of 1873. The piazza of the custom-house was torn off and floated away. Stores were flooded and logs by the thousands were piled up in every direction, intermingled with boats, boxes, barrels, etc., being borne along by the water. The loss is estimated at about \$100,000. Cedar sticks to the value of \$18,000 were washed away from Fabers' factory and their wharf entirely demolished. The Eagle Pencil Company were also heavy losers in this way, although both companies will undoubtedly recover much of their property. The mill men and cross-tie shippers have their logs and ties scattered in every direction. The railroad is destroyed for a distance of nearly four miles, and the trestle, three-quarters of a mile in length, has completely disappeared, iron and all.

Greenville, South Carolina, 10th: A terrific gale from the northeast continued from 1 a. m., to 3 p. m., Sunday, accompanied by heavy rain. The wind at one time reached nearly fifty miles per hour. Many trees were uprooted and fences blown down, but no accidents occurred. The storm was the severest since 1852.

Ridgeville, South Carolina, 10th: The cyclone struck this town with tremendous force, blowing down stores, barns, and fences, uprooting trees, and filling the streets with timbers of every description.

Pendleton, South Carolina, 9th and 10th: A terrific wind and rain storm passed over during Saturday night and Sunday.

Many trees were blown down, bottom corn flooded and thrown down generally; upland corn was very much blown over, and the cotton plant also to a great extent levelled.

Charleston, South Carolina, 10th: The schooner "Florence Shay" experienced a severe gale on Sunday, continuing for eighteen hours, during which the vessel lost foresail, forejib, jibstay, &c.

Spartanburg, South Carolina, 9th: Between Columbia and Union great damage was done to corn by yesterday's storm. The stalks are prostrated to the ground. Between Union and Spartanburg there is less damage, but the storm caused considerable loss everywhere.

Georgetown, South Carolina, 10th: Seven houses are reported blown away by the gale at Staple Lake, on the Pedee river.

New Orleans, Louisiana, 9th: At quarantine, the ground was submerged, and the people took refuge in the second story of the Government warehouse. Water from the Gulf was driven over many lower coast rice-fields, and the crops, where not gathered, are entirely destroyed. The amount of damage is estimated at \$200,000.

Lynchburg, Virginia, 11th: The rains yesterday and last night caused a great rise in the James river and its tributary streams, overflowing the lowlands and damaging the crops and destroying property. Five hundred feet of trestle, used in extending the dam across the river, was washed away. The Richmond and Alleghany railroad bridge, across the Tye river, was washed away and other damage done along the line.

Boston, Massachusetts, 11th and 12th: The storm of last night was very severe. The rain came down in torrents, and the lightning was very vivid. The steamer "Harlem," on her way to New York, ran upon Great Ledge, off Wood's Holl, and was leaking badly. The schooner "Freeman," was struck by lightning. The brig "James Miller" lost her deck load and boat, had sails split, and sustained other damage.

Yarmouth, Massachusetts, 12th: The schooner "Mary Shields," with a load of lumber, encountered the storm near Cape Cod, and attempted to make Provincetown harbor, but lost jib and had mainsail split, the wind and sea increasing, she drifted ashore and grounded on the bars southeast of Chatham lights.

Eastport, Maine, 14th and 15th: The storm here was the fiercest that has visited this section for many months, and was accompanied by heavy rain. A small schooner loaded with lumber parted her chains, went ashore, and became a total wreck. The lumber was strewn in all directions. The chimney of the express office was blown down, and a number of fences wrecked. The schooner "Elihu Burritt," lying at anchor on the Wolves Bank, dragged her anchor, and to prevent going ashore the cable was cut, losing sixty fathoms of cable and the anchor.

Calais, Maine, 14th: Many shade trees were blown down, chimneys wrecked, and a few buildings suffered considerable damage. Schooner "Jed F. Duran," laden with coal, sank in Passamaquoddy bay. Loss on vessel, \$5,000.

Portland, Maine, September 14th: The storm was the severest since last winter, the wind attaining a velocity of 36 miles per hour. Trees and chimneys were blown down, and awnings considerably damaged.

The following telegrams sent or received, arranged chronologically, show the work of this service in furnishing timely storm warnings in advance of this hurricane. The first dispatch was as follows: "Washington, September 5. Observer, Key West; 10:00 a. m. Up signals. Barometer falling rapidly at Havana, and appearances indicate a tropical storm southeast of that station. HAZEN."

At the same time the following warning was sent to the observers at Indianola, Galveston, New Orleans, Mobile, Cedar Keys, Pensacola, and Port Eads: "Signals are ordered up at Key West. Barometer falling rapidly at Havana, and appearances indicate a tropical storm southeast of that station. HAZEN."

At 12:50 p. m., September 5th, the notice below was sent to

the observers at Jacksonville, Savannah, Charleston, and also to the press: "Appearances indicate a cyclone southeast of Havana. Its position and course cannot be defined at present. HAZEN."

At 2:45 p. m., the following report was received from the observer of the Signal Service at Jamaica: "Montego Bay, 6:00 a. m., September 5, 1882. A storm center is to the westward of this island, moving in a northwesterly direction. The wind here is southerly, blowing fifteen miles per hour, and light rain is now falling."

After receipt of the Jamaica telegram, warnings were sent at 5:35 p. m. to the observers at Charleston, Savannah, Jacksonville, Indianola, Galveston, New Orleans, Port Eads, Cedar Keys, Pensacola, Mobile, and Key West: The tropical storm reported this morning as southeast of Havana is reported this afternoon as west of Jamaica, moving to the northwest. HAZEN.

On the morning of September 6th, a special warning was sent to the Maritime Association, New York, the press, and observers of Philadelphia, Baltimore, Norfolk, Cape Henry, Kittyhawk, Pensacola, New Orleans, Indianola, Brownsville, Delaware Breakwater, Hatteras, Key West, Cedar Keys, Punta Rassa, Mobile, Port Eads, and Galveston: The cyclone referred to in special notice of yesterday is now south of Cuba, moving in a northwesterly direction into the Gulf. Vessels leaving Gulf ports will encounter dangerous winds within the next two or three days. HAZEN.

September 7th, observer at Key West, 9:10 a. m.: Signals down. Cyclone reported south of Cuba has apparently moved in a northwest direction into the Gulf. HAZEN.

This information was also telegraphed to the observers at Indianola, Galveston, New Orleans, Mobile, Cedar Keys, Port Eads, and Pensacola.

September 8th, observers at New Orleans, Port Eads, Mobile, and Pensacola, 9:40 a. m.: Up signals. Appearances indicate a cyclone south of New Orleans, approaching the Gulf coast. HAZEN.

This note accompanying the direction to display warnings was also sent to observers at Cedar Keys, Key West, Indianola, and Galveston.

The telegrams will follow in order as sent.

September 8th, 11:45 a. m., Maritime Association, New York: The indications are that a cyclone, probably the one reported September 5, as south of Cuba, is approaching the Gulf coast near New Orleans. HAZEN.

September 9th, observer at Cedar Keys, 9:30 a. m.: Up signals. Cyclone central near Port Eads, moving in a northeast direction. HAZEN.

September 9th, observers at Indianola, Galveston, New Orleans, Port Eads, Mobile, Key West, and Pensacola: Cyclone central near Port Eads, moving in a northeast direction. HAZEN.

September 9th, Maritime Exchange, New York, observers at Baltimore, Norfolk, Philadelphia, Cape Henry, Kittyhawk, Hatteras, Sandy Hook, Barnegat, Atlantic City, Delaware Breakwater, Chincoteague, Wilmington, Smithville, Fort Macon, Savannah, Charleston, Jacksonville, Cedar Keys, and Key West: The Gulf cyclone has recurved and is now central off the mouth of the Mississippi. Its course cannot be defined at present, but it will probably move northeastward. The shipping on the south Atlantic coast is warned that dangerous winds may be anticipated to-night and to-morrow. HAZEN.

September 9th, observers at Jacksonville, Savannah, and adjacent ports, 5:20 p. m.: Up signals. Cyclone central south of Pensacola, apparently moving in a course a little north of east. HAZEN.

September 9th, observer at New York: Signals are ordered for Jacksonville, Savannah, and adjacent ports. Cyclone central south of Pensacola apparently moving in a course a little north of east. HAZEN.

September 9th, observers at Charleston, Smithville, Wilmington, Fort Macon, Hatteras, 6:10 p. m.: Up signals. Cy-

clone central south of Pensacola, apparently moving in a northeast direction. HAZEN.

September 9th, observer at New York: Signals are ordered up at Charleston, Smithville, Wilmington, Fort Macon, Hatteras. Cyclone central south of Pensacola, apparently moving in a northeast direction. HAZEN.

September 10th, observers at Kittyhawk, Cape Henry, Norfolk, Fort Monroe, Chincoteague, Delaware Breakwater, Cape May, Atlantic City, Barnegat, Sandy Hook, Crisfield, 12:25 a. m.: Up signals. Cyclone central near Pensacola, moving in a northeast direction. Dangerous winds are anticipated on the Atlantic coast south of New York to-night and to-morrow. HAZEN.

September 10th, observer at New York, 12:25 a. m.: Up signals. Cyclone now central near Pensacola, moving in a northeast direction. Dangerous winds are anticipated on the Atlantic coast south of New York to-night and to-morrow. HAZEN.

September 10th, 12:47 a. m., observers at Eastport, Portland, Boston and adjacent ports, Provincetown, Newport, Block Island, New London, New Haven, Professor Baird, Wood's Holl; Commander Greene, U. S. Navy, Portsmouth, New Hampshire; Maritime Association, New York: The Gulf cyclone has moved in a northeasterly course, and is now central south of Pensacola. Dangerous winds are anticipated on the Atlantic coast south of New York to-night and to-morrow, and on the New England coast to-morrow night. HAZEN.

September 10th, observers at New Haven, New London, Block Island, Newport, Provincetown, Point Judith, Boston and adjacent ports, 9:40 a. m.: Up signals. Cyclone central southeast of Atlanta, moving in a northeasterly course. Storm very severe. HAZEN.

September 10th, Professor Carpmael, Toronto, 9:50 a. m.: A severe cyclone is central southeast of Atlanta, Georgia, moving in a northeasterly course. Dangerous winds may be anticipated by to-night on the lakes. HAZEN.

September 10th, observers at Indianola, Galveston, New Orleans, Port Eads, Mobile, Pensacola, 10:30 a. m.: Hoist off-shore signals. Cyclone central southeast of Atlanta, moving in a northeasterly direction. HAZEN.

September 10th, observer at Baltimore, 12:05 p. m.: Up signals. Cyclone central southeast of Atlanta, moving in a northeasterly direction. HAZEN.

September 10th, observers at Oswego and adjacent ports, Rochester, Buffalo, Erie, Cleveland and adjacent ports, Sandusky, Toledo, Detroit and adjacent ports, Port Huron, Alpena, Mackinac City, Grand Haven and adjacent ports, Chicago, Milwaukee and adjacent ports: Cyclone central south of Atlanta, moving in a northeasterly course. Dangerous winds may be anticipated in the lake region to-night. HAZEN.

The note accompanying above telegram was also sent to Escanaba, Marquette, and Duluth.

September 10th, observers at Jacksonville, Savannah and adjacent ports, 5:40 p. m.: Hoist off-shore signals. Cyclone continues to move slowly in a northeasterly direction, and is now central in northern Georgia. HAZEN.

September 10th, 6:00 p. m., observers at Oswego and adjacent ports, Rochester, Buffalo, Erie, Sandusky, Cleveland, Toledo, Detroit, Alpena, Port Huron, Mackinac City, Chicago, Grand Haven, Milwaukee and adjacent ports, Escanaba: The cyclone continues to move slowly in a northeasterly direction, and is now central in northern Georgia. Dangerous winds may be anticipated, especially in the lower lake region, to-night and to-morrow. HAZEN.

September 10th, observers at Eastport, Portland, Boston, and adjacent ports, Provincetown, Newport, Block Island, New London, New Haven, and New York: The cyclone continues to move slowly in a northeasterly direction, and is now central in northern Georgia. Dangerous easterly winds will prevail on the middle Atlantic coast to-night, and may be anticipated on the coast of New England to-night or to-morrow. HAZEN.

September 11th, observers at Indianola, Galveston, New Orleans, and Port Eads, 12:35 a. m.: Signals down. HAZEN.

This information was also sent to the other Gulf ports.

September 11th, 12:45 a. m., Commander S. D. Greene, U. S. steamer "Despatch," Bar Harbor, Maine: The indications are increasing cloudiness and rain, increasing easterly winds, probably dangerous winds by to-night, and falling barometer. Cyclone continues to move slowly in a northeast direction and is now central near Charlotte, North Carolina. HAZEN.

September 11, observers at Cedar Keys, Jacksonville, Savannah, and adjacent ports, Charleston, 9:20 a. m.: Signals down. Storm-centre north of Charlotte, North Carolina. HAZEN.

This information was also telegraphed to observers at Indianola, Galveston, New Orleans, Port Eads, Mobile, Key West, and Pensacola.

September 11th, observers at Mobile, and Pensacola, 9:55 a. m.: Signals down. HAZEN.

September 11th, observers at Portland, Eastport, and adjacent ports, 10:20 a. m.: Up signals. Cyclone central near Charlotte, North Carolina, moving slowly in a northeasterly course. Strong easterly gales anticipated on the New England coast to-day and to-morrow. HAZEN.

This information was also telegraphed to the observer at New York.

September 11th, observers at Smithville, Wilmington, Fort Macon, Hatteras, Kittyhawk, Cape Henry, 5:05 p. m.: Hoist off-shore signals. Cyclone central northeast of Norfolk, moving in a northeast direction. HAZEN.

September 11th, observers at Grand Haven and adjacent ports, Chicago, Milwaukee and adjacent ports, Escanaba, 6:00 p. m.: Signals down. HAZEN.

September 11th, 6:10 p. m., observers at Eastport, Portland and adjacent ports, Boston and adjacent ports, Provincetown: Storm is now central south of Norfolk, moving northeast, unusually severe easterly gales will prevail on the New England coast to-night and to-morrow. HAZEN.

September 12th, observers at Hatteras, Kittyhawk, Cape Henry, 12:05 a. m.: Signals down. HAZEN.

September 12th, observers at Chincoteague, Delaware Breakwater, Cape May, Atlantic City, Barnegat, 12:20 a. m.: Hoist off-shore signals. cyclone now central near Atlantic City, moving in a northeasterly course. HAZEN.

September 12th, observers at Buffalo, Erie, Cleveland and adjacent ports, Sandusky, Toledo, Detroit and adjacent ports, Port Huron, Alpena, Mackinac City, 12:47 a. m.: Signals down. HAZEN.

September 12th, Professor Carpmael, Toronto, 1:00 a. m.: Cyclone central near Atlantic City, moving in a northeasterly course. HAZEN.

September 12th, Commander Greene, U. S. Navy, steamer Despatch, Bar Harbor, Maine: The cyclone is now central near Atlantic City, moving in a northeasterly course. It has been and is very severe on the New Jersey coast. Very severe northeasterly gales will be experienced on the New England coast to-day. HAZEN.

September 12th, observers at New York, New Haven, New London, Block Island, Newport, Provincetown, Boston, Portland and adjacent ports, 9:30 a. m.: Hoist off-shore signals. Storm is now central south of Nova Scotia. HAZEN.

September 12th, observers at Rochester, Oswego and adjacent ports, 10:00 a. m.: Signals down. HAZEN.

September 12th, observers at Wilmington, Smithville, and Fort Macon, 10:02 a. m.: Signals down. HAZEN.

September 12th, observers at Baltimore, Norfolk, 11:55 a. m.: Signals down. HAZEN.

September 12th, observers at Chincoteague, Delaware Breakwater, Cape May, Atlantic City, Barnegat, Sandy Hook, 5:40 p. m.: Signals down. HAZEN.

September 12th, observers at New York, New Haven, New London, Block Island, Newport, Provincetown, Boston and adjacent ports, 5:40 p. m.: Signals down. HAZEN.

September 13, observers at Portland, Eastport and adjacent ports, 12:05 a. m.: Signals down. HAZEN.

As soon as the storm was over, General Hazen telegraphed to all the observers at the Gulf and Atlantic ports, to collect statistics of the values of the vessels and their cargoes that were detained from sailing, by the cautionary signals, warning them of dangerous weather. What losses resulted from the storm are not yet known, but captains who were caught in it say, that it was the worst weather they had ever experienced.

It has been found impossible to secure full and even adequate returns of the vessels detained. The observers at New York, Baltimore, and Philadelphia make no returns, having been unable to secure statistics. The reason given is, that at these ports the harbors are so long, and there are so many safe anchorages toward the sea, that on the approach of a storm all vessels that are ready to sail go to these anchorages, and wait for the clearing off-shore wind. Boston's returns are also inadequate, and it is probable that more good was done coasters than ocean going vessels, the masters of the latter taking more risks owing to the greater size of their ships.

Statistics enough have been obtained, however, to give some idea of the very large amount of property that was prevented from going to sea in the cyclone, or that ran into harbor after seeing the signals. The total amount of the figures sent by the observers is \$6,460,586. It is estimated at the signal office that at least \$13,000,000 of property and many persons remained safely in harbor on account of the warnings given by the signal office, and that the saving in this one storm pays the expenses of the service for at least ten years.

1882
1881
1880
1879
1878

The sum of
20.70 (754.4), or
Janu.

VI.—The earliest information relative to this hurricane came from scattering vessel reports. From these it appeared that an atmospheric disturbance was present in the Caribbean sea, from the 5th to the 7th, but the data are too meagre to admit of a definite location of the centre.

From reports at hand the cyclone does not appear to have exhibited much energy until the 8th, when it was central south of Cuba. On that day the bark "Tamora," off the south coast of Cuba, experienced a hurricane, in which she lost several spars and nearly all her sails. On the same day the bark "Sadie" was abandoned, during the hurricane, about thirty miles northwest of Grand Cayman Island.

The centre passed to the westward of Jamaica, at too great a distance to exert any influence over the island, beyond a slight fall in pressure, and rainy weather. From the 6th to the 8th, there was a steady decrease of pressure at Havana, Cuba, with cloudy, rainy weather, and with moderate easterly winds.

It was not till the morning of the 8th that definite information was received at this office relative to the cyclone. It was determined that the centre was then to the southeast of Havana, near Grand Cayman Island.

The following telegram was at once sent to the stations in the Gulf states, and signals were ordered:

"A cyclone is now central south of Havana, moving toward the Gulf. Dangerous storms in the Gulf within next three days. Not safe for vessels to leave port until further notice."

On the 8th, the diameter of the cyclone greatly increased, and its presence was felt over the whole Island of Cuba and westward to the coast of Yucatan and the Gulf of Mexico.

By the morning of the 9th, the centre was passing over the western part of Cuba, and the destruction to life and property was very great.

At Pinar del Rio, Cuba, about one hundred and ten miles sw. of Havana, Cuba, its violence was first felt at 2 p. m. of the 8th, when the wind increased to a hurricane force, accompanied by torrents of rain. At 7.15 p. m. there was a sudden calm, which lasted about fifteen minutes, the barometer being stationary at 29.79. The storm vortex was then directly over Pinar del Rio. After the vortex had passed, the wind regained its violence for a few minutes, then fell slowly until 5 a. m. of the 9th, when it shifted to southwest, and the weather cleared. Reports show that the greatest destruction occurred in the Vuelta Abajo (the western tobacco region of the island.) The town of Pinar del Rio was almost destroyed. At Consolacion del Sur, Cuba, 75 per cent of the houses were demolished, and at Majaqua Galvez, Pilotos, Ceja de Luna Vinales, Cuba, and other places, the damage was equally great. Thirty-six bodies were found in the vicinity of Consolacion del Sur, and many persons are missing.

At San Juan and Martinez, Cuba, 1,500 warehouses and dwellings were destroyed; in the Hacienda del Valle, Cuba, three hundred houses were ruined. Most of the houses in the township of San Luis, Cuba, were swept away, and thousands of cattle were drowned. In the district of Guane, Cuba, it is estimated that 2,000 houses and tobacco storage buildings were laid in ruins. Mr. C. Hasselbrink, the Signal Service observer at Havana, reported that, during the heavier squalls and gusts from 1 to 2 a. m. of the 9th, a curious phenomenon was observed; the noise of the wind was excessive, and sounded as if everything would be torn down, but no great force was felt; doors and windows were scarcely shaken, and not a branch of a tree was broken; the wind must have been strong at a high elevation.

The following reports, furnished by the Rev. Benito Vines, S. J., Belen College, Havana, are given.

Meteorological observations relative to the hurricane of October 8, 1882, taken at the plantation "Casualidad," (Traironas,) situated about six miles south of Pinar del Rio, Cuba:

| Day. | Hour. | Barometer (aneroid). | Thermometer. | Wind. | Force. | Remarks. |
|-----------|-------------|----------------------|--------------|-----------|--------|--|
| Oct. 6... | 10.00 p. m. | 29.88 | 72.5 | nne. | 5 | Misty. |
| 7... | 6.00 a. m. | 29.82 | 69.8 | ne. | 5 | Misty; threatening. |
| 7... | 11.00 a. m. | 29.80 | 73.4 | ne. | 5 | Squally; very sullen and gloomy. |
| 7... | 3.00 p. m. | 29.72 | 71.6 | ne. | 5 | Do. |
| 7... | 10.00 p. m. | 29.72 | 69.8 | ene. | 8 | Squally; horizon covered. |
| 7... | Midnight. | 29.71 | 69.8 | ene. | 8 | Squally; violent gusts from the 1st quadrant. |
| 8... | 4.00 a. m. | 29.65 | 68.0 | e. | 9 | Steady squalls; violent gusts from ne. |
| 8... | 10.00 a. m. | 29.61 | ..... | ese. | 10 | Heavy showers; violent gusts from ne. |
| 8... | 12.00 m. | 29.54 | ..... | e. | 10 | Do. |
| 8... | 2.00 p. m. | 29.37 | ..... | se. | 10 | Do. |
| 8... | 3.30 p. m. | 29.18 | 68.4 | se. | 10 | Great damage; the sky assumed a leaden color, and the gusts became less strong from ne. |
| 8... | 5.00 p. m. | 29.13 | 68.0 | se. | 10 | Trees fell like leaves; stronger gusts from ne.; heavy showers. |
| 8... | 6.30 p. m. | 29.02 | 68.0 | se. | 10 | Trees fell like leaves; increased damage. |
| 8... | 7.15 p. m. | 28.79 | 68.0 | se. | 10 | Gusts raged with the greatest intensity from ene.; the force of the wind is indescribable; this looked like the end of the world; from 7.15 to 7.30 p. m., more or less calm, (vortex); lightning without thunder; everything illuminated. |
| 8... | 7.30 p. m. | 28.79 | 68.0 | se. | 10 | Terrible gusts, without precipitation. |
| 8... | 10.00 p. m. | 29.13 | 68.0 | se. | 9 | Dry. |
| 8... | Midnight. | 29.21 | 68.0 | se. 1/4 s | 9 | Do. |
| 9... | 1.00 a. m. | 29.40 | 68.0 | se. 1/4 s | 8 | Dry; clearing; the stars visible. |
| 9... | 3.00 a. m. | 29.51 | 68.0 | ssw. | 7 | At intervals misty. |
| 9... | 4.30 a. m. | 29.54 | 68.0 | ssw. | 6 | Do. |
| 9... | 5.00 a. m. | 29.58 | 68.0 | sw. | 5 | Clear. |
| 9... | 11.00 p. m. | 29.84 | 71.6 | sw. | 2 | Do. |

Extract of observations taken by Captain José Leonard, of the steamer "Cristobal Colon," in the Colona river, Cuba, during the 7th, 8th, and 9th of October, 1882:

| Day. | Time. | Barometer. | Thermometer. | Wind. | Force. | Remarks. |
|-----------|-------------|------------|--------------|------------|--------|--|
| Oct. 7... | 6.00 a. m. | 29.98 | 75.8 | ese. to e. | 5 | One-half covered; darkening in sse. |
| 7... | Noon..... | 29.98 | 84.2 | ese. to e. | ..... | Steamer cast anchor at the anchorage of Batabano. |
| 7... | 3.00 p. m. | 29.92 | 84.2 | e. | 5 | Cirrus clouds, diverging; dark in se. |
| 7... | 5.00 p. m. | 29.92 | 84.2 | e. | 5 | This was the regular hour for departure, and steamer sailed from the river Colona. |
| 7... | 7.00 p. m. | 29.92 | 82.4 | e. | 5 | Clear in w. and nw., rest of horizon dark. |
| 7... | 11.40 p. m. | ..... | ..... | e. | 5 | Light squall with light rain, the force of the wind increased; after the squall passed, the wind relaxed, but the obscurity increased. |
| 8... | 4.30 a. m. | 29.88 | 78.8 | e. | 5 | Threatening and raining near the horizon. |
| 8... | 6.00 a. m. | 29.86 | 78.8 | e. | 5 | At the mouth of the Colona river, wind became fresh from the e., with drizzling rain. At the Colon pier we encountered strong wind; cyclone making sign of approach. |
| 8... | Noon..... | 29.84 | 78.8 | e. to ene. | 5 | Sky covered with a veil of cirrus, stratus, and nimbus; weather misty. |
| 8... | 3.00 p. m. | 29.82 | 69.8 | e. to ene. | 5 | Raining in torrents. |
| 8... | 4.00 p. m. | 29.80 | 77.0 | e. | ..... | Continued heavy squalls. |
| 8... | 5.00 p. m. | 29.76 | 77.0 | e. to ese. | ..... | Very h'y gusts. |
| 8... | 6.00 p. m. | ..... | ..... | se. | ..... | Very h'y squall. |
| 8... | 10.00 p. m. | 29.72 | ..... | ..... | ..... | Irresistible squalls. |
| 8... | Midnight. | 29.65 | ..... | s. | ..... | Gusts. |
| 9... | 1.00 a. m. | 29.61 | ..... | s. | ..... | Wind decreasing in strength at intervals. |
| 9... | 2.00 a. m. | 29.59 | ..... | s. to sw. | ..... | Lightning seen and distant thunder heard; the sea fell and wind became variable from s. to sw. |
| 9... | 6.00 a. m. | 29.61 | 78.8 | sw. | 2 | Cirrus and nimbus clouds. |
| 9... | 8.00 a. m. | 29.69 | 80.6 | sw. | 2 | Weather improving. |
| 9... | Noon..... | 29.78 | 82.4 | sw. | 2 | Light cirrus; horizon misty. |
| 9... | 3.00 p. m. | 29.82 | 84.2 | sw. | 2 | Wind variable. |
| 9... | 6.00 p. m. | 29.86 | 82.4 | sw. | 2 | Lightly covered. |

Captain Leonard says: "Not having an anemometer to measure the velocity of the wind, I think I may estimate it, without exaggeration, to have been 12 in force (Beaufort scale)."

DISTRICT OF SAN CAYETANO, PROVINCE OF HAVANA, CUBA.

Record of observations taken during the hurricane felt at this port on October 8 and 9:

| Date. | Time. | Barometer (aneroid). | Thermometer. | Wind. | Force. |
|-------------|-----------|----------------------|--------------|-------|--------|
| Oct. 8..... | 1 p. m. | 29.72 | 77.0 | e. | 2 |
| 8..... | 2 p. m. | 29.69 | 77.0 | e. | 2 |
| 8..... | 3 p. m. | 29.61 | 77.0 | e. | 2 |
| 8..... | 4 p. m. | 29.51 | 77.0 | e. | 2 |
| 8..... | 5 p. m. | 29.57 | 78.5 | e. | 3 |
| 8..... | 6 p. m. | 29.50 | 78.8 | e. | 3 |
| 8..... | 7 p. m. | 29.48 | 78.8 | e. | 4 |
| 8..... | 8 p. m. | 29.41 | 78.8 | e. | 4 |
| 8..... | 9 p. m. | 29.33 | 78.8 | se. | 4 |
| 8..... | 10 p. m. | 29.17 | 78.8 | se. | 4 |
| 8..... | 11 p. m. | 29.06 | 78.8 | se. | 4 |
| 8..... | Midnight. | 28.98 | 78.8 | sse. | 4 |
| 9..... | 1 a. m. | 29.06 | 80.6 | s. | 4 |
| 9..... | 2 a. m. | 29.25 | 80.6 | ssw. | 4 |
| 9..... | 3 a. m. | 29.29 | 80.6 | ssw. | 4 |
| 9..... | 4 a. m. | 29.33 | 80.6 | ssw. | 4 |
| 9..... | 5 a. m. | 29.33 | 80.6 | ssw. | 4 |
| 9..... | 6 a. m. | 29.31 | 80.6 | sw. | 4 |
| 9..... | 7 a. m. | 29.41 | 80.6 | sw. | 4 |
| 9..... | 8 a. m. | 29.45 | 80.6 | sw. | 4 |
| 9..... | 9 a. m. | 29.49 | 80.6 | sw. | 4 |
| 9..... | 10 a. m. | 29.53 | 80.6 | sw. | 4 |
| 9..... | 11 a. m. | 29.53 | 80.6 | sw. | 4 |
| 9..... | Noon..... | 29.57 | 80.6 | sw. | 4 |
| 9..... | 1 p. m. | 29.61 | 82.4 | sw. | 4 |
| 9..... | 2 p. m. | 29.65 | 82.4 | sw. | 4 |
| 9..... | 3 p. m. | 29.69 | 82.4 | sw. | 4 |
| 9..... | 4 p. m. | 29.72 | 82.4 | sw. | 4 |
| 9..... | 5 p. m. | 29.76 | 82.4 | sw. | 4 |
| 9..... | 6 p. m. | 29.76 | 82.4 | sw. | 4 |
| 9..... | 7 p. m. | 29.80 | 82.4 | sw. | 4 |
| 9..... | 8 p. m. | 29.80 | 82.4 | sw. | 4 |
| 9..... | 9 p. m. | 29.84 | 82.4 | sw. | 4 |
| 9..... | 10 p. m. | 29.88 | 82.4 | sw. | 4 |
| 9..... | 11 p. m. | 29.92 | 82.4 | sw. | 4 |
| 9..... | Midnight. | 29.92 | 82.4 | sw. | 4 |

According to information received, much damage was done in the districts of Vinales, Ceja Ana de Luna, and Ceja del Rio. Many tobacco warehouses and large tracts of country were flooded, and a great number of trees were uprooted.

Observations taken at Belen College, Havana, Cuba, October 7, 8, and 9, 1882.

| Date. | Time. | Barometer. | Thermometer. | Wind. | Velocity in miles per hour. | Remarks. |
|-----------|-------------|------------|--------------|------------|-----------------------------|---|
| Oct. 7... | 4.00 a. m. | 29.88 | 74.5 | e. | 6.7 | Cirro-cumulus, cirrus, and stratus; a band stretching from nne. to sww., 4. |
| 7... | 5.00 a. m. | 29.90 | 74.5 | e. | 7.5 | Cirro-stratus, stratus, and cumulus, 4. |
| 7... | 6.00 a. m. | 29.94 | 75.7 | ese. | 7.5 | White cirro-cumulus, and other low and gray cumulus and stratus, 9. |
| 7... | 6.38 a. m. | 29.91 | 76.1 | ese. | 9.4 | Cirro-cumulus, stratus, and cumulus, 8. |
| 7... | 7.00 a. m. | 29.92 | 75.7 | e. | 5.6 | Cirro-stratus, cirro-cumulus, and stratus, 9. |
| 7... | 8.00 a. m. | 29.93 | 77.2 | e. 1/4 se. | 5.6 | Cirro-cumulus, cirro-stratus, and cumulus in the n., 5. |
| 7... | 9.00 a. m. | 29.93 | 80.1 | ese. | 10.1 | Cirro-cumulus to stratus; rapid cumulus, 7. |
| 7... | 10.00 a. m. | 29.93 | 82.8 | se. 3/4 e. | 19.0 | Rapid cirro-cumulus and cumulus, 9; gusts of 22 miles. |
| 7... | 11.00 a. m. | 29.92 | 84.3 | se. | 15.7 | Cirro-cumulus and cumulus, 9. |
| 7... | Noon. | 29.90 | 84.7 | ese. | 17.9 | Almost covered with cirro-cumulus and cumulus, 10. |
| 7... | 1.00 p. m. | 29.87 | 86.2 | e. 1/4 se. | 11.2 | Low and rapid cumulo-stratus, 10; gusts of 18 miles. |
| 7... | 2.00 p. m. | 29.85 | 84.6 | se. 3/4 e. | 17.9 | Cumulus and cirro-cumulus, low cumulo-stratus from ssw., 10. |
| 7... | 3.00 p. m. | 29.85 | 84.6 | se. 3/4 e. | 11.2 | Low cumulo-stratus, 10; gusts of 17 miles. |
| 7... | 4.00 p. m. | 29.84 | 83.8 | ese. | 10.0 | Misty at 3.30 p. m.; cirro-cumulus, cirrus and cirro-stratus, rapid cumulus from sw., 10. |
| 7... | 5.00 p. m. | 29.85 | 82.2 | e. | 11.2 | Low cumulo-stratus, cirro-cumulus. |
| 7... | 6.00 p. m. | 29.86 | 80.2 | e. | 8.9 | At sunset, fragments of rainbow, the sky reddish. |
| 7... | 7.00 p. m. | 29.87 | 81.1 | e. 1/4 se. | 8.9 | Covered, gloomy, 10. |
| 7... | 8.00 p. m. | 29.85 | 78.8 | e. 3/4 ne. | 6.7 | Covered, nimbus, 10. |
| 7... | 9.00 p. m. | 29.87 | 78.3 | e. 1/4 se. | 4.5 | Stratus and cirrus, 10. |
| 7... | 10.00 p. m. | 29.86 | 77.9 | e. | 8.9 | Stratus turning into cumulus and stratus; very cloudy, 10. |
| 8... | 4.00 a. m. | 29.79 | 77.2 | e. 1/4 se. | 7.8 | Covered, cumulo-stratus to stratus, 10; Do. |
| 8... | 5.00 a. m. | 29.79 | 77.2 | ene. | 7.8 | Covered, nimbus, light mist, rapid cumulus in nne, 10. |
| 8... | 6.00 a. m. | 29.81 | 77.4 | ese. | 8.9 | Covered, rapid cumulus in n., 10. |
| 8... | 6.38 a. m. | 29.81 | 77.2 | e. | 9.4 | Covered, misty, with constant cumulus in n. and nw., 10. |
| 8... | 7.00 a. m. | 29.82 | 77.4 | ese. | 10.0 | |

Observations taken at Belen College, Havana, Cuba, October 7, 8, and 9, 1882—Continued.

| Date. | Time. | Barometer. | Thermometer. | Wind. | Velocity in miles per hour. | Remarks. |
|-------|-------------|------------|--------------|------------|-----------------------------|---|
| 8... | 8.00 a. m. | 29.80 | 77.4 | ese. | 14.5 | Covered, misty, with constant cumulus in n. and nw., 10. |
| 8... | 9.00 a. m. | 29.81 | 77.0 | ese. | 12.3 | Covered, misty, 10. |
| 8... | 10.00 a. m. | 29.84 | 77.7 | e. 1/4 se. | 8.8 | Covered, squally; cumulus rose in se., 10. |
| 8... | 11.00 a. m. | 29.81 | 78.3 | ese. | 14.5 | Covered, squally; gusts of 22 miles per hour. |
| 8... | Noon. | 29.79 | 78.4 | e. 1/4 se. | 22.3 | Covered, squally; gusts of 24 miles per hour. |
| 8... | 1.00 p. m. | 29.74 | 79.0 | e. 1/4 se. | 11.2 | Covered, squally; gusts of 18 miles per hour. |
| 8... | 2.00 p. m. | 29.72 | 78.8 | e. | 20.1 | Covered. |
| 8... | 3.00 p. m. | 29.71 | 78.9 | ese. | 20.1 | Stratus from se.; rain in se.; light squall. |
| 8... | 4.00 p. m. | 29.69 | 77.5 | e. | 17.9 | Covered, swift cumulo-stratus low in s. and se.; squally. |
| 8... | 5.00 p. m. | 29.71 | 77.7 | e. 1/4 se. | 17.9 | Stratus, rain in s. to se. |
| 8... | 6.00 p. m. | 29.71 | 77.7 | e. 1/4 se. | 17.9 | Light squalls, steady cirro-cumulus; gusts of 29 miles per hour. |
| 8... | 7.00 p. m. | 29.69 | 75.7 | e. | 13.4 | Heavy squalls at 7.16 p. m.; lightning in se.; gusts of 31 miles per hour. |
| 8... | 8.00 p. m. | 29.71 | 76.5 | e. 1/4 ne. | 17.9 | Covered, nimbus; continuous squalls at 8.30; heavy squall, 22 miles. |
| 8... | 9.00 p. m. | 29.72 | 77.2 | e. 1/4 se. | 21.3 | Continuous squalls, lightning in sw. |
| 8... | 10.00 p. m. | 29.71 | 76.3 | e. | 15.7 | Heavy squalls, steady nimbus at 9.39 p. m. |
| 8... | 10.30 p. m. | 29.71 | ..... | se. 1/4 e. | 23.5 | At 10.15 and 10.45 p. m. heavy squalls; gusts of 49 miles per hour. |
| 8... | 11.00 p. m. | 29.71 | ..... | se. | 31.3 | Violent wind gusts from ese. and e. at 11.15, without rain. |
| 8... | 11.30 p. m. | 29.70 | ..... | ese. | 16.8 | 11.34 p. m., light rain began. |
| 8... | Midnight. | 29.69 | ..... | ese. | 17.9 | Misty; heavy wind gusts at 12.10 a. m.; lightning in s. and sw. |
| 9... | 12.30 a. m. | 29.66 | ..... | se. | 16.8 | Light cumulus without rain. |
| 9... | 1.00 a. m. | 29.67 | 75.1 | se. 1/4 e. | 24.6 | Rapid cumulus; sudden squalls of wind and rain; lightning at 1.26 a. m.; gusts of 40 miles. |
| 9... | 1.30 a. m. | 29.65 | ..... | se. 1/4 s. | 23.5 | Cirro-cumulus moving rapidly; lightning in sse; gusts of 33 miles. |
| 9... | 2.00 a. m. | 29.64 | ..... | sse. | 25.7 | Rapid stratus and cumulus, lightning in e., misty; at 2.15 a. m.; gusts of 49 miles. |
| 9... | 2.30 a. m. | 29.64 | 79.2 | sse. | 17.9 | Lightning in e.; gusts of 40 miles. |
| 9... | 3.30 a. m. | 29.63 | ..... | sse. | 23.5 | Heavy squall, 44 miles. |
| 9... | 4.00 a. m. | 29.65 | 79.9 | sse. | 22.4 | Squally, strong, sudden gusts of wind; low cumulus. |
| 9... | 4.30 a. m. | 29.65 | ..... | sse. | 28.0 | Sudden gusts from se. and ese.; the whole horizon very gloomy. |
| 9... | 5.00 a. m. | 29.64 | ..... | sse. | 26.8 | Rapid cumulus and stratus; at 5.20 a. m. the wind changed to sw.; gusts of 35 miles. |
| 9... | 5.30 a. m. | 29.68 | 79.2 | s. 1/4 se. | 20.1 | Low cumulo-stratus. |
| 9... | 6.00 a. m. | 29.69 | 78.2 | se. 1/4 s. | 24.6 | The aspect bad in sw. and wsw. |
| 9... | 6.38 a. m. | 29.70 | 80.8 | sse. | 23.7 | Wind veering to e.; rain began 6.38 a. m. |
| 9... | 7.00 a. m. | 29.71 | 78.8 | s. | 22.4 | Raining in ssw. |
| 9... | 8.00 a. m. | 29.74 | 79.5 | s. | 22.4 | Covered; nimbus; wind squally, shifting from sw. and w.; misty. |
| 9... | 9.00 a. m. | 29.75 | 79.9 | s. | 23.5 | Rapid cumulus; 9.32, a. m.; squalls of 31 miles velocity. |
| 9... | 10.00 a. m. | 29.76 | 80.8 | s. | 24.6 | 10.33, a. m.; heavy squalls of short duration, 33 miles. |
| 9... | 11.00 a. m. | 29.76 | 82.2 | s. | 24.6 | Rapid and low cumulo-stratus and high cumulus. |
| 9... | Noon. | 29.76 | 82.9 | s. | 20.1 | Upper clouds moving very rapidly. |
| 9... | 1.00 p. m. | 29.76 | 83.5 | s. | 24.5 | 12.08 p. m., squally, with sudden gusts of 31 miles. |
| 9... | 2.00 p. m. | 29.74 | 83.5 | s. | 22.4 | Very rapid and low cumulus, dense cirro-cumulus. |
| 9... | 3.00 p. m. | 29.75 | 82.9 | s. | 22.4 | Cumulo-stratus to stratus; stratus and cumulo-stratus low in the sw. |
| 9... | 4.00 p. m. | 29.76 | 82.2 | s. | 17.9 | Cirro-stratus, cumulus and cumulo-stratus. |
| 9... | 5.00 p. m. | 29.78 | 81.1 | s. | 13.4 | Cumulus, cumulo-stratus and dense cirro-cumulus from nw. |
| 9... | 6.00 p. m. | 29.80 | 80.1 | s. | 14.5 | Low and rapid cirro-stratus; cumulus; sunset reddish. |
| 9... | 7.00 p. m. | 29.82 | 80.1 | s. | 12.3 | Stratus and lightning in the nw. |
| 9... | 8.00 p. m. | 29.85 | 79.5 | s. 1/4 sw. | 6.7 | At 7.45 p. m., squally and misty, wind s. and sw., very gloomy. |
| 9... | 9.00 p. m. | 29.86 | 79.2 | s. 1/4 sw. | 6.8 | Cumulus and stratus. |
| 9... | 10.00 p. m. | 29.86 | 79.0 | s. 1/4 sw. | 5.9 | Do. |

At 9.30 a. m. of the 9th, a southeast gale and heavy rain were felt at Key West, where signals were flying. Cautionary signals were immediately ordered at all stations from New York City south, and the observers were warned of the approach of the dangerous storm.

The following special warning was sent at 12 m. to the secretary of the Maritime Exchange, New York City: "East to south gales continue in southern Florida. Cyclone central in east Gulf, southeast of Pensacola, moving northward."

The gale continued all day, at Key West, on the 9th and 10th. On the 10th, the storm was felt at Jacksonville, the wind reaching a velocity of forty-four miles an hour. Signals had been displayed at this place for thirty hours before the storm appeared. The centre of the cyclone at 7 a. m. was south and west of Cedar Keys.

The gale began at Cedar Keys about 4 a. m. of the 10th, though the approach of the cyclone was felt on the 9th; the wind, accompanied by rain, blew briskly from the ne. The wind, on the morning of the 10th, veered from ne. to e., steadily and gradually shifting during the day to se. and s., increasing in force until it attained a velocity of fifty-six miles. This greatly alarmed the residents, who feared that the tide would again inundate the streets and repeat the damage done by the September cyclone. During the night of the 10th, the water reached its highest point, flooding all the lower part of the town, washing away great quantities of logs, timbers, etc. The gale ended about 9 a. m. on the 11th, the wind veering to nw. The centre passed over the northern part of Florida, and by the morning of the 11th, was in southeastern Georgia.

At 1 a. m. of the 11th, the following telegram was sent to the Maritime Association, New York City: "Cyclone has moved to northern Florida, having lost much of its energy, but the indications are that it will move northeastward along the Atlantic coast, accompanied by dangerous easterly winds off the coast."

At 10 a. m., same date, the following was sent to the association: "The cyclone has increased in energy. It is now central in northern Florida. Southeast gales are reported near Jacksonville. Barometer 29.55. It is not safe for vessels to sail for southern ports."

At 5.30 p. m., the following was sent to the observers at Boston, New York City, Philadelphia, Baltimore, and Norfolk: "Communicate with captains of vessels and shipmasters. Give warning it is not safe to leave port. Cyclone is central near Savannah, moving slowly northeast. Violent gales are reported on the south Atlantic coast."

On the afternoon of the 11th, the centre of the cyclone was near Savannah. Signals had been displayed there for sixteen hours before the storm appeared. The wind blew at Charleston, forty miles and at Savannah, thirty-eight miles per hour.

The storm continued up the Atlantic coast, following the trend of the shore, and finally passed off to the east of Cape Hatteras on the 12th. Signals were displayed at all ports as far north as Boston, and at all these places a very severe northeast gale blew, the velocity of the wind ranging from twelve to forty-two miles an hour.

The following is a brief synopsis of reports received from stations in the United States lying within or near the track of the cyclone:

Key West.—From 4.30 to 10 a. m. of the 9th, the barometer rose slightly, and from 10 to 12.30 p. m. fell .05 inch; after 12.30 it rose steadily. The storm began at 4 a. m. and ended at 10.30 p. m. The wind veered from se. to s. between 1 and 1.30 p. m. The schooner "O. M. Remington," from Ruatan, Bay Islands, Honduras, to Philadelphia, arrived at Key West on the night of the 9th, and reported having encountered the cyclone in latitude N. 23° 30' and longitude W. 84°, on the night of the 7th. She experienced high east winds and had her jibboom, bowsprit and sails carried away. The vessel was badly strained and leaking. The brig "Emily T. Sheldon," from New York to Galveston, encountered the storm on the morning of the 8th, in latitude 23° 40' N., and longitude 82° 30' W. She experienced high se. to sw. winds, and lost her mainmast and sails. The Norwegian bark "Plimsoll" experienced high easterly winds, on the morning of the 8th, in latitude 23° 40' N., and longitude 83° 40' W. At noon came a calm, lasting for three hours, when the wind changed to w. and blew with great violence for two hours. It then backed to sw. and moderated. The vessel had her sails and bulwarks blown away and her topmast broken during the gale.

Punta Rassa.—The barometer fell steadily on the 9th, until 6 p. m., when it read 29.65, after which it rose. Brisk easterly winds prevailed till about 7.30 p. m., when the wind veered to se. and continued with increasing force up to midnight; it then shifted to s., reaching the maximum velocity of forty-two miles at 11.35 p. m. After midnight the wind veered to sw.

and blew with diminished force. The barometer rose slowly during the 10th.

Cedar Keys.—The storm raged with violence, accompanied by very heavy rains, on the 10th. The telegraph line was blown down and the railroad trestle was washed away, causing delay of trains. The storm continued until the morning of the 11th. The maximum velocity recorded was fifty-two miles.

Charleston.—Rainy and stormy during the whole day of the 11th. There was very heavy rain with high ne. gale. Fences, chimneys and trees were blown down. The schooner "Maggie J. Lawrence" encountered the storm when she was about fifteen miles from Charleston; she lost all her sails.

Cape Lookout.—At 10 a. m. of the 11th, the wind backed to ne. and increased in velocity, blowing with terrible force during the day, while rain continued without cessation.

The following table has been prepared showing the property detained in port by the signals:

Property detained in port during October cyclone.

| Port. | Number and description of vessels. | Value of vessel. | Value of cargo. | Total value. |
|---------------------|------------------------------------|------------------|-----------------|--------------|
| Provincetown, Mass. | 200 schooners | | | \$1,600,000 |
| New London, Conn. | 3 coast survey schooners | | | |
| | 1 United States steamer | | | |
| | 1 steam-tug and 4 barges | | 60,000 | |
| | 1 steam-tug and 3 barges | | 35,000 | |
| | 1 steam-tug and 2 barges | | 25,000 | |
| | 1 steam-tug and 2 barges | | 20,000 | |
| | 1 steam-tug | | 10,000 | |
| | 1 steam-tug | | 15,000 | |
| | 1 steam-tug and 4 barges | | 60,000 | |
| | 2 barges (a) | | | |
| | 3 brigs (a) | | | |
| | 5 schooners (a) | | | |
| | Schooner | | 20,000 | |
| | Schooner | | 20,000 | |
| | Schooner | | 35,000 | |
| | Schooner smack | | 1,500 | |
| | Schooner smack | | 2,000 | |
| | Schooner smack | | 1,500 | |
| | Schooner smack | | 1,500 | |
| | Schooner smack | | 2,000 | |
| | Schooner smack | | 2,000 | |
| | Schooner smack | | 2,000 | |
| | Schooner smack | | 10,000 | |
| | Steam yacht | | 40,000 | |
| | Schooner yacht | | 20,000 | |
| | Schooner yacht | | 15,000 | |
| | Schooner yacht | | 25,000 | |
| | Schooner yacht | | 15,000 | |
| | Sloop yacht | | 12,000 | |
| New Haven, Conn. | 9 steamers and 40 sailing vessels | | | 420,000 |
| Wilmington, N. C. | Schooner | \$16,000 | \$3,800 | 19,800 |
| Smithville, N. C. | Bark | 20,000 | 19,000 | 39,000 |
| | Bark | 16,000 | 7,000 | 23,000 |
| | Steamer | 12,000 | 50,000 | 62,000 |
| | Brig | 6,000 | 9,000 | 15,000 |
| | Brig | 8,000 | 7,000 | 15,000 |
| Savannah, Ga. | Steamship | 265,000 | 190,000 | 455,000 |
| | Bark | 25,000 | 4,500 | 29,500 |
| | Brig | 20,000 | 3,500 | 23,500 |
| | Schooner | 15,000 | 4,200 | 19,200 |
| | Bark | 16,000 | 4,500 | 20,500 |
| | Brig | 16,000 | 10,000 | 26,000 |
| | Schooner | 10,000 | 1,063 | 11,063 |
| Norfolk, Va., b. | Three-masted schooner | | | 40,000 |
| | Three-masted schooner | | | 40,000 |
| | Two-masted schooner | | | 5,000 |
| | Fishing steamer | | | 8,000 |
| Charleston, S. C. | Schooner | 12,000 | 4,900 | 16,900 |
| | Schooner | 16,000 | 6,700 | 22,700 |
| Newport, R. I. | Schooner | 10,000 | 3,000 | 13,000 |
| | Schooner | 12,000 | 1,500 | 13,500 |
| | Schooner | 12,000 | | 12,000 |
| | Schooner | 5,000 | | 5,000 |
| | Schooner | 5,000 | | 5,000 |
| | Steamer | 11,000 | | 11,000 |
| | Schooner yacht | 75,000 | | 75,000 |
| | Schooner yacht | 75,000 | | 75,000 |
| Block Island, R. I. | 60 fishing smacks | | | 15,000 |
| Key West, Fla. | Steamer | 155,000 | 150,000 | 275,000 |
| Cedar Keys, Fla. | Steamer | 26,000 | | 55,000 |
| | Brig | 12,000 | 2,500 | 14,500 |
| | Schooner | 18,000 | 2,500 | 20,500 |
| Jacksonville, Fla. | Schooner | 20,000 | 4,000 | 24,000 |
| | Schooner | 12,000 | 2,800 | 14,800 |
| | Schooner | 15,000 | 4,000 | 19,000 |
| | Schooner | 25,000 | 4,200 | 29,200 |
| | Schooner | 15,000 | 6,140 | 21,140 |
| | Schooner | 20,000 | 4,800 | 24,800 |
| | Schooner | 15,000 | 2,900 | 17,900 |
| | Schooner | 12,000 | 2,400 | 14,400 |
| | Schooner | 15,000 | 4,800 | 19,800 |
| | Schooner | 12,000 | 4,000 | 16,000 |
| | Schooner | 20,000 | 4,800 | 24,800 |
| | Schooner | 25,000 | 5,000 | 30,000 |
| | Schooner | 18,000 | 3,400 | 18,400 |
| | Schooner | 25,000 | 4,600 | 29,600 |
| | Schooner | 30,000 | 5,500 | 55,500 |
| | Schooner | 20,000 | 5,800 | 25,800 |
| | Schooner | 20,000 | 4,800 | 24,800 |

Property detained in port during October cyclone—Continued.

| Port. | Number and description of vessels. | Value of vessel. | Value of cargo. | Total value. |
|---------------------------|------------------------------------|------------------|-----------------|--------------|
| Fort George Island, Fla. | Schooner | 30,000 | 4,800 | 34,800 |
| (Continued.) | Schooner | 30,000 | 4,800 | 34,800 |
| | Schooner | 3,000 | 2,000 | 5,000 |
| Fernandina, Fla. | Schooner | 25,000 | 5,000 | 30,000 |
| | Schooner | 20,000 | 4,000 | 24,000 |
| Baltimore, Md., c. | 1 brig | | | 35,000 |
| | 1 brig | | | 35,500 |
| | 1 brig | | | 55,000 |
| | 1 brig | | | 60,000 |
| Delaware Breakwater, Del. | 1 steamer | 60,000 | 17,100 | 77,000 |
| | 1 ship | 50,000 | Ballast | 50,000 |
| | 3 barks | 90,000 | 125,000 | 215,000 |
| | 1 brig | 20,000 | 15,000 | 35,000 |
| | 50 schooners | 600,000 | 100,000 | 700,000 |
| | 12 schooners | 120,000 | 92,000 | 152,000 |
| | 10 schooners | 115,000 | Ballast | 115,000 |
| | 1 schooner | 17,000 | 10,000 | 27,000 |
| Cape Lookout, N. C. | 3 sloop yachts | | | 6,000 |
| | 1 smack | | | 1,500 |
| | 2 schooners | | | 3,000 |
| | 1 weir net | | | 2,500 |
| | 1 steamer | | | 3,000 |
| | Fishing outfit | | | 500 |
| Total | | | | 6,051,393 |

a Anchored in lower harbor; value could not be ascertained.
 b A large number of vessels were detained at Hampton Roads, of which the observer was unable to obtain names, cargoes, or values. Other vessels detained at the port sailed before the receipt of instructions to gather statistics.
 c A large number of vessels were detained in lower harbor.

The report of the observer at New York is very interesting, although it was impossible for him to obtain statistics of the value of the property detained from going into the cyclone. One brig, two barks, and one hundred and forty schooners anchored at Hell Gate. These were mostly coasters, but \$900,000 is a very low estimate of their value, without considering their cargoes. The larger vessels anchored in "the narrows," and it is estimated that, besides several steamers, there were two hundred ships, barks, and brigs, and one hundred and fifty schooners, all worth at least from \$8,000,000 to \$10,000,000. The observer, who had the assistance of the secretary of the New York Maritime Association, estimates that many millions of property was saved from jeopardy by observing the warnings. The experience of the September cyclone impelled ship-masters to pay unusual heed to the signals. The storm, outside the harbor, was of great severity. The captains of the Long Island Sound steamers report it "the severest on record;" they were compelled to seek harbor. Three coastwise steamers that put to sea were obliged to return to port, and the only sailing vessel, a brig, that sailed in disregard of the signals, between the 11th and 13th, was forced back. When the storm was over, and the signals were lowered, so many vessels left the harbor together that people went to see them sail. The beautiful and unusual sight was described in the daily newspapers; the "Telegram" stating that fifteen steamers and two hundred sailing vessels passed through "the narrows" on the 14th.

This cyclone undoubtedly formed in the Caribbean sea, south of Grand Cayman Island, and recurved over the western part of Cuba. It has been traced, as far as possible, after leaving the coast of America, over the Atlantic by the following reports, furnished through the co-operation of the marine observers of the Signal Service, and of the "New York Herald" weather service: 14th, s. s. "City of Alexandria," in N. 35° 36', W. 75° 13', wind nnw., force 6, overcast, light rain. 15th, bark "Julia H.," in N. 38° 6', W. 65° 23', wind se., force 10. On the 13th, 14th, and 15th, numerous vessels, near N. 45° W. 45°, reported strong nw. and nw. gales and rain. The brig "Teresina," which left Philadelphia for Oporto on October 3, reported: 16th, heavy nne. to ne. gale, several sails carried away, bulwarks stove, and vessel much damaged. 17th, s. s. "Bohemian," in N. 48° 48', W. 46° 08', nw. gale, very high sea; s. s. "Britannic," in N. 48° 25', W. 40° 34', strong nw. wind to fresh gale. On the 18th, the storm-centre was probably between W. 35° and W. 25°. The s. s. "Gallia," in N. 50° 16', W. 24° 8', reported, on the 17th, lowest barometer, reading 28.75, wind veered to squalls from s. to e., ne. and nw., and blew a perfect gale for several hours. On the 18th

the same vessel, in N. $49^{\circ} 06'$, W. $30^{\circ} 39'$, encountered nw. gale, force 9. On the same day, the s. s. "Arizona," near N. 50° , W. $30'$, reported barometer 29.15; wind suddenly shifted from s. by w., force 3, to n. by w., force 9, with high cross sea, one sea coming from the west, and another from the north. The gale lasted about fourteen hours, with very hard squalls.

Captain C. Ludwig, commanding the s. s. "Westphalia," furnishes the following: 17th, in N. $50^{\circ} 57'$, W. $24^{\circ} 50'$, barometer 29.19, falling; the wind went slowly but steadily to south, and, between noon and 4 p. m., it passed through east to north, slowly increasing, and accompanied by heavy rains. At 4 p. m., the barometer read 28.78, and between 5 and 6 p. m. the gale broke suddenly out from the nw., force 11; at the same time the sea-swell rose from moderate to very heavy. The gale continued, with very high sea and rain, and totally clouded sky, until 10 p. m. After that hour the sky began to clear, while the wind increased to force 10, at 11 p. m. At midnight, the barometer began to rise, but very heavy squalls of force 11, continued, without rain, until 4 a. m. of the 18th. The s. s. "Colima," in N. $52^{\circ} 12'$, W. $28^{\circ} 11'$, reported: 9.30 p. m., barometer 28.74, wind n. $\frac{1}{2}$ e., force 11, with heavy rain; at 10 p. m., wind ne. by n., force 12, raining, barometer 28.55. On the 19th, 4 a. m., barometer 28.46, wind nw.; force 10.