

The Signal Service observer at Sebastian, Fla., reports:

At 12.30 a. m. of the 23d instant, while returning from a repair trip thirty miles south of station, a beautiful meteor of more than ordinary brilliancy was seen. It appeared to be about one-fourth the size of the moon. Appearing in the western horizon, about forty-five degrees from the zenith, it moved in a northerly direction first parallel with the earth then describing part of an elliptical curve, was dissipated apparently within twenty-five degrees of the horizon on a line running north and south, traversing about ninety degrees of space. The meteor was sufficiently large to cast a shadow upon the cabin of the boat; following it was a train of dazzling light, apparently some twenty feet in length, which lasted six or eight seconds. The color at first was a bright red changing to orange. The smoky cloud which was subsequently formed finally disappeared in a perpendicular direction, or at right angles to the primitive line of the meteor. The night was cloudless, with a very light southerly wind. This meteor was so luminous that it attracted the attention of persons whose backs were turned to it. It was by far the most brilliant of the numerous meteors observed by me on previous occasions.

Meteors were also observed as follows: 1st, 3d and 6th, Duke, Fla. 8th, Auburn, Ala.; Kalamazoo, Mich.; Utica, N. Y., and Clebourne, Tex. 9th, Provincetown, Mass., and Stateburg, S. C. 10th, Washington, D. C.; Baltimore, Md., and McMinnville, Oregon. 12th, Lava, N. Mex. 13th, Beverly

and Clayton, N. J. 15th, Kalamazoo, Mich. 17th, Pittsburg, Pa. 19th, Egg Harbor City, N. J.; Stateburg, S. C. 20th, Utica, N. Y. 22d, Fort McDermit, Nev.; Albany, Oregon. 23d, Cairo, Ill. 25th, Cairo, Ill.; Elk Falls, Kans. 26th, Cleburne, Tex. 27th, Humphrey, N. Y. 29th, Beloxi, Miss.

MIRAGE.

Moorhead, Minn.: a very distinct and well-defined mirage, showing villages, streams, railways, lakes, and distant hills, was observed in nearly all directions, especially in the south-east, during almost the entire day on the 1st. A similar phenomena was also observed in the southeast at 3 p. m. on the 27th. Mirage was also observed at Webster, Dak., on the 1st, 2d, 6th, 10th to 14th, 17th, 25th, 27th, 28th, 30th, and at Traverse City, Mich., on the 2d.

SAND STORMS.

Fresno, Cal., 2d, 3d, 6th, 11th, 16th, 19th, 24th, 26th, 27th. Yuma, Ariz., 3d, 17th. Fort Sully, Dak., 4th. Willcox, Ariz., 6th, 7th, 18th, 28th. Whipple Barracks, Ariz., 17th to 19th. Fort Bowie, Ariz., 18th.

VERIFICATIONS.

INDICATIONS FOR 33 HOURS IN ADVANCE.

The percentages of verifications of the tri-daily indications for June, 1888, as determined from comparison of succeeding telegraphic reports, are given in the table below.

The predictions for all districts east of the Rocky Mountains for June, 1888, were made by Professor Cleveland Abbe, and those for the Pacific coast districts were made at San Francisco, Cal., by 2d Lieutenant J. E. Maxfield, Signal Corps; the verifications for all districts were determined by Junior Professor C. F. Marvin.

Percentages of indications verified, June, 1888.

States.	States.
Maine..... 67.70	Kentucky..... 79.03
New Hampshire..... 63.50	Ohio..... 79.13
Vermont..... 63.93	West Virginia..... 80.87
Massachusetts..... 67.07	Indiana..... 76.27
Rhode Island..... 68.43	Illinois..... 78.57
Connecticut..... 72.00	Lower Michigan..... 74.07
Eastern New York..... 77.33	Upper Michigan..... 68.40
Western New York..... 78.40	Wisconsin..... 72.73
Eastern Pennsylvania..... 77.17	Minnesota..... 75.90
Western Pennsylvania..... 77.40	Iowa..... 74.90
New Jersey..... 79.77	Kansas..... 73.07
Delaware..... 78.57	Nebraska..... 72.03
Maryland..... 74.37	Missouri..... 79.77
District of Columbia..... 72.93	Colorado..... 67.43
Virginia..... 74.37	Eastern Dakota..... 68.20
North Carolina..... 76.87	Southern California*..... 86.16
South Carolina..... 73.43	Northern California*..... 83.27
Georgia..... 73.07	Oregon*..... 81.97
Eastern Florida..... 77.73	Washington Territory*..... 82.33
Western Florida..... 77.90	By elements:
Alabama..... 78.67	Weather..... 81.25
Mississippi..... 80.87	Wind..... 76.90
Louisiana..... 82.47	Temperature..... 66.51
Texas..... 81.27	General average..... 74.92
Arkansas..... 80.07	
Tennessee..... 76.23	

* In determining the general average percentage for the different elements, the Pacific coast states have not been included.

CAUTIONARY SIGNALS.

Of the total number of cautionary and storm signals ordered during June, 1888, it was practicable to determine the justification or failure of eleven; justified, four, or 36.36 per cent. Of the above, ten were ordered for cautionary signals; number justified, four, or 40.00 per cent. One storm signal was ordered, and was not justified. Total number of direction signals ordered, eleven; justified, ten, or 90.90 per cent. Number of signals ordered for easterly winds, nine; all, or

100 per cent., of which were justified. Number of signals ordered for westerly winds, two; justified, one, or 50.00 per cent. Number of storms without signals, fifteen. Number of signals ordered late, *i. e.*, after the justifying velocity had begun, three, or 27.27 per cent.

LOCAL VERIFICATIONS.

The following extracts from the published reports of the state weather services for June, 1888, show the percentages of verification of weather and temperature signals for the various states:

Michigan.—Weather signals are now displayed in one hundred and forty towns in the state, and upon the baggage-cars of twenty-six trains of eight of the principal railroads of the state.

The indications and cold-wave warnings are issued by the Chief Signal Officer and distributed to the different stations through the central office. The indications are issued at 1 a. m., daily, from the Chief Signal Office, Washington, and are for the twenty-four hours from 7 a. m. to 7 a. m.

The percentage of verification of these indications for June is as follows (the verification is taken from reports of displaymen furnished this office monthly): temperature, 82.2 per cent; weather, 81.5 per cent.; temperature and weather, 81.9 per cent.

Weather signals are displayed on the baggage cars of the following railroads: C. & G. T. R'y; D., G. H., & M. R'y; D. D. G. T. R'y; M. C., main line and branches; C. & W. M. R'y; G. R. & I. R'y; P. H. & N. W. R'y; and the P. O. & P. A. R'y.

The signals are carried on the first trains leaving terminal points in the morning, and the indications of the weather are for twenty-four hours from 7 a. m. of the day of display.

The signals on the trains are read from front to rear.

When two weather signals are displayed, as the white square followed by blue square, it indicates "fair weather followed by rain or snow."

The black triangle in front of the blue or white square indicates higher temperature. If last in the display it indicates lower temperature. If not displayed, stationary temperature is indicated.

Minnesota.—The verification of weather signals were: 77 per cent. for weather, and 86 per cent. for temperature.

Nebraska.—The percentages of correct weather predictions for the state were: temperature, 93.2; weather, 80.8; mean, 87.0.

Ohio.—The percentage of verification of weather signals received from the Signal Office in Washington, and distributed to forty display stations, was 80 for weather, and 84 for temperature. No cold wave signals were ordered during the month.

South Carolina.—The percentages of verifications of the weather and temperature predictions for the state were: weather, 68.0; temperature, 88.2.

Tennessee.—The percentages of verifications of weather and temperature predictions sent daily from the Signal Office at Washington to the various stations in the state were for the state: weather, 91.3 per cent.; temperature, 90.4 per cent.

STATE WEATHER SERVICES.

The following extracts are republished from reports for June, 1888, of the directors of the various state weather services:

The "Alabama Weather Service," P. H. Mell, jr., of the Agricultural and Mechanical College, Auburn, director:

The month has been remarkable for the continued dry weather through the first half of the period, and the large amount of rain that fell within the last ten days. The farmers generally availed themselves of the dry, sunshiny season to clean out the crops and kill the grass, so that the plants were in a condition to be greatly benefited by the rains falling at the end of the month. The average precipitation was 1.90 inches above the normal.

The temperature was generally cool and pleasant the first half of the month; and at no period was the heat excessive. The average temperature for the state was 2°.2 above the normal.

Summary.

Atmospheric pressure (in inches).—Monthly mean, 30.03; maximum observed, 30.49, at Auburn, on the 6th; minimum observed, 29.63, at Chattanooga, on the 27th; range for state, 0.86.

Temperature (in degrees Fahr.).—Monthly mean, 76.6; highest monthly mean, 82, at Troy; lowest monthly mean, 71, at New Market; maximum, 98, at Gadsden, Opelika, and Pine Apple on the 18th, and at Fort Deposit on the 17th; minimum, 48, at Gadsden on the 4th; range for state, 50; greatest local monthly range, 60, at Gadsden; least local monthly range, 19, at Greenville.

Precipitation, including melted snow (in inches).—Average for the state, 6.80; greatest, 13.56, at Mobile; least, 2.05, at Eufaula.

Wind.—Prevailing direction, southwest.

The "Arkansas Weather Service," Prof. John C. Branner, Little Rock, director:

Temperature (in degrees Fahr.).—Monthly mean, 73.6; highest monthly mean, 83.0, at Dallas; lowest monthly mean, 69.4, at El Dorado; maximum, 103, at Lead Hill, on the 16th and 17th; minimum, 48, at Malvern, on the 4th; monthly range for state, 55; greatest local monthly range, 52, at Newport; least local monthly range, 29, at Dayton and Lonoke.

The "Colorado Weather Service," Prof. F. H. Loud, Colorado Springs, director:

Summary.

Temperature (in degrees Fahr.).—Monthly mean, 60.5; highest monthly mean, 76.2, at Cañon City; lowest monthly mean, 35.1, at Pike's Peak; maximum, 102.0, at Pueblo, on 28th; minimum, 18.0, at Pike's Peak and Walden, on the 21st; range for state, 84.0; greatest local monthly range, 64.0, at Home; least local monthly range, 42.0, at Thou; greatest daily range, 53.0, at Home, on the 27th and 28th, and at Monte Vista, on the 7th; least daily range, 4.7, at Red Cliff, on the 19th.

Precipitation, including melted snow (in inches).—Average for state, 0.52; greatest, 2.16, at Springfield; least, 0.12, at Akron, Cañon City, Monte Vista and Pueblo.

Wind.—Prevailing direction, west and southwest.

The "Monthly Review of the Illinois Weather Service," Col. Charles F. Mills, Springfield, director:

The month just passed, while presenting no very abnormal features, was considerably different from a normal one. There were no extremes of temperature. The mean was slightly above the average of similar months in previous years, while the rainfall was very irregular, in some instances excessive, and in others it was far below the average.

The mean temperature of the month was almost the mean of June through the preceding ten years. The mean of the state was 71°.3, only 0°.4 above the average of the past ten years. In the northern division it was 69°.1, or 0°.9 above the average; in the central it was 71°.3, or 0°.3 above, and in the southern it was 73°.5, or 0°.1 below. Thus, the temperature deficiency of the present year has not been increased or diminished in the state during month.

The following heavy rainfalls (in inches) have been reported: Griggsville, 9.77; Winchester, 9.19; Collinsville, 8.97; Pana, 8.74; Mattoon, 8.25; Irish-town, 7.59; Jordan's Grove, 7.23; Albion, 7.35; Windsor, 8.09; Golconda, 7.00; Centralia, 6.99; Vandalia, 6.99; Richview, 6.54; Kampville, 6.53; Greedville, 6.52; while at nine other stations it was over five inches, all in the central or southern part of the state. At Riley, however, there was only a fall of 0.81, which was 3.17 below the average of twenty-seven years for that place. At Aurora it was only 0.98, and at several other places in the northern division it was nearly as small. The mean of the northern division was only 2.42; the mean of the central division was 5.75, which was 0.69 above the average, while the mean in the southern division was 6.32, or 1.60 above the average of ten years. Thus, in the whole state, the mean was 4.83, or .09 above the average.

The "Indiana Weather Service," Prof. H. A. Huston, of Purdue University, Lafayette, director:

The temperature during the month of June was slightly above the normal, except in the northern portion, where it was near, or below, the normal. The highest temperatures were noted from the 16th to the 20th, with a reading from 90° to 100° and above. The lowest temperatures were noted from the 1st to the 4th. The changes in the temperature were gradual. Abrupt changes were not noted.

The rainfall was greatly below the normal. No rain of any considerable

amount fell till about the 20th, but from that date until the 29th rain occurred every day. The thunder-storms which passed during these rains were not of a violent nature. Distant lightning in the evening was noted frequently.

The barometric pressure during the month was slightly below the normal. Higher readings were noted from the 3d to the 7th, the 11th to the 12th, and the 29th to the 30th; the highest, nearly everywhere, was noted on the 7th. Lower pressures occurred from the 20th to the 28th; the lowest on the 27th.

The meteorological conditions in general, but especially the rains during the latter part of the month, were quite beneficial to crops and pasturage, and improved their condition very much.

Summary.

Temperature (in degrees Fahr.).—Monthly mean, 72.9; highest monthly mean, 76.8, at Columbus; lowest monthly mean, 67.5, at La Grange; maximum, 105.0, at Princeton, on the 18th; the minimum, 37.0, at Fortville, on the 3d and 4th; range for state, 50.2; greatest local monthly range, 61.0, at Fortville; least local monthly range, 37.0, at Seymour and Huntingburg.

Precipitation (in inches).—Average for the state, 3.82; greatest, 8.64, at Mount Vernon; least, 1.37, at Franklin.

Wind.—Prevailing direction, southwest and south.

The "Kansas Weather Service," Prof. J. T. Lovewell, Topeka, director:

The mean temperature for the state is below the average for June in the northeastern counties; this deficiency continues south through the eastern tier of counties to Cherokee, thence westward, but it disappears in Chautauqua. An excess of temperature has prevailed throughout the remainder of the state, being greatest through the middle counties west of Dickinson. The average temperature for the eastern division is 76°.1; for the middle division, 75°.2, and for the western division, 73°.6. The average maximum temperature for the eastern division is 98°.0; for the middle division, 100°.3, and for the western division, 102°.1. The highest day temperature occurred in the western division, and the lowest night temperature in the eastern division.

The average rainfall for the state was 3.96 inches; for the eastern division it was 5.44; for the middle division, 3.04, and for the western division, 2.04. Of the total amount, the western division received 19.4 per cent.; the middle, 28.9, and the eastern, 51.7 per cent. An average rainfall in Jewell, Cloud, Ottawa, Dickinson, and McPherson, thence west to Scott, thence southwest to Morton; while west and north of these counties there was a deficiency, except in Russell and the northwestern portion of Ellsworth, where a slight excess occurs. The deficiency culminates in Grove, Trego, Graham, and Sheridan, where less than an inch fell. A deficiency occurs again in Greenwood, and extends southwest through Crowley and southeast half of Sumner. An excess in Harvey and Sedgwick, thence west to Haskell and Stevens. An excess in the eastern and northeastern counties, which culminates in Shawnee, Douglass, and Jefferson, where it is upwards of three inches above the normal. The drought that prevailed during May in the central and east-central counties has been completely wiped out. Of the heavy rains in twenty-four hours, during the month, many stations report over 2 inches. On the 12th, Scott reported 3.05 inches. On the 19th, at Dodge City, 3.24, at Russell 3, and at Ninescah 4 inches. On the 20th and 21st, at Topeka, 3; on the 21st, at Toronto, 3.19, and at Lebo, 3.35; and on the 20th and 21st, at Independence, 3.05 inches.

Summary.

Temperature (in degrees Fahr.).—Monthly mean, 74.6; highest monthly mean, 79, at Brookville; lowest monthly mean, 70, at Buffalo Park and Collyer; maximum, 110, at Bunker Hill and Montero, on the 17th and 30th; minimum, 36, at Topeka, on the 2d; range for state, 74; greatest local monthly range, 66, at Montero; least local monthly range, 38, at Cawker City and Wilson; greatest daily range, at Tribune, on the 29th; least daily range, 6, on the 8th and 17th, at Pence.

Precipitation, including melted snow (in inches).—Average for the state, 3.96; greatest, 9.14, at Topeka; least, .50, at Collyer.

Wind.—Prevailing direction, south.

The "Louisiana State Weather Service," in charge of R. E. Kerkam, Sergeant, Signal Corps, at New Orleans:

There was a deficiency of 1°.3 in the mean temperature for June, 1888, as compared with the normal of the state for the past eighteen years. The first part of the month was particularly cool, minimum temperatures ranging from 54° in the northern section of the state to 69° in the southern section being reported from the 1st to the 4th.

The weather was generally cloudy and showery throughout the latter part of the month, and although the amount of rainfall for the state was but four-tenths of an inch above the average for June, yet the frequency of the showers had a demoralizing effect on the planting interests of the state.

Summary.

Temperature (in degrees Fahr.).—The average temperature for the state was 78.1, being the lowest June mean on record in the past eighteen years. The highest mean during that period was in 1885, when an average of 82.6 was recorded. In the northern section of the state the deficiency was nearly 1.0 from the normal in that section, exceeding the deficiency in the southern section by 0.5. The difference is due to the cool nights prevailing during the early part of the month in the northern section, there being an average difference of about 3.0 in the minimum temperatures between the northern and southern sections during the first four days of the month.

Precipitation (in inches).—The average for the state for the month was 5.32, which was 0.39 above the normal for June; the average for the northern section was 4.99, and for the southern section 5.64, being respectively nearly one inch above and nearly one half inch below the normal for the section for the month. The heaviest monthly rainfall, 12.69, was reported from the Sugar Experiment Station, and the least, 2.26, from Keachi. The greatest daily rainfall, 4.44, occurred at New Orleans on the 26th.

The "Michigan Weather Service," N. B. Conger, Sergeant, Signal Corps, Lansing, director:

Temperature (in degrees Fahr.).—The mean temperature for June, 67.4, is 1.4 above the normal of thirteen years. The temperature was above the normal in all sections during June. The greatest deviation, 2.9, was for the northern section, and the least was 1.3 above the normal in the southern section. The mean daily temperature was below the normal on thirteen days and above on fourteen days. The highest daily mean temperature, 79, occurred on the 17th, 18th, and 20th, when the temperature was 11 and 12 respectively above the normal, and lowest, 51, occurred on the 2d, when the temperature was 11 below the normal. The highest daily mean temperature for the past thirteen years occurred on the 25th, 1876, 29th, 1878, and 17th, 18th, and 20th, 1888, temperature 79, and the lowest, 47, occurred on the 4th, 1882. The highest monthly mean temperature, 69.5, occurred in 1876, and the lowest, 63.3, occurred in 1885. The maximum temperature, 102, occurred at Omer on the 17th, and the lowest, 27, at Lathrop on the 1st.

Frosts were reported on the 1st, 2d, 3d, 7th, and 11th, in different portions of the state.

The first twelve days of the month were cold, and on the 13th the temperature began to rise, and from the 17th to the 21st the average daily temperature was the highest shown by the records of this service.

Precipitation (in inches).—The average amount of precipitation for June, 2.73, is 1.15 below the normal of thirteen years. The precipitation was below the normal in all sections. The greatest deficiency occurred in the counties of Charlevoix, Benzie, Manistee, Emmet, and Lake, where the deficiency ranged from 3.32 at Charlevoix to 2.26 at Chase. General rains occurred on the 1st, 9th, 10th, 13th, 14th, 21st, 23d, 24th, 25th, 27th, and 28th. The rain of the 13th was the heaviest, thirty stations reporting over one-half inch on that date. The largest monthly rainfall, 5.57, was recorded at Houghton, and the smallest, 0.45, at Charlevoix.

The excess of rainfall since January 1, 1888, in the upper peninsula is rapidly decreasing. There was an excess on June 1st at Marquette of 5.14, and on June 30th it was reduced to 2.85.

Wind.—Prevailing direction, southwest.

The "Minnesota Weather Service," Prof. W. W. Payne, Northfield, director:

In eastern Minnesota the mean temperature for the month was from four to five degrees below the average, while in other portions of the state it was nearly normal, the departures being not more than one degree above or below that point.

The precipitation was not equally distributed. The greatest amount fell in the northern and northwestern portions, and the least in the southern division of the state. There was a great deficiency of rain in the western and southern counties of the state during the month. At Saint Paul it was the driest June, with one exception (June, 1879), since 1870; the deficiency equaled 2.8 inches. There was more than the average rainfall in the eastern counties, and in the northwest it was greatly in excess. At Saint Vincent the normal precipitation for the month of June is 3.71 inches, while the rainfall for the month just ended was 7.37 inches, or an excess of 3.66 inches.

Wind.—Prevailing direction, southeast.

The "Mississippi Weather Service," Prof. R. B. Fulton, of the University of Mississippi, Oxford, director:

Temperature (in degrees Fahr.).—Monthly mean, 78; highest monthly mean, 81, at Columbus, Macon, and Natchez; lowest monthly mean, 75, at Memphis, Corinth, and Hernando; maximum, 102, at Columbus on the 15th; minimum, 48, at Meridian on the 4th; range for state, 54; greatest local monthly range, 51, at Columbus; least local monthly range, 22, at Biloxi; greatest daily range, 40, at Columbus and Okolano on the 4th and 18th; least daily range, 2, on the 10th at Lamar.

Precipitation (in inches).—Average for the state, 4.15; greatest, 13.15, at Mobile; least, 0.22, at Hazlehurst. It was nearer the normal in the central portion of the state, the greatest departure occurring in the extreme northern and southern portions. In the northern counties there was a deficiency, and in the southern counties an excess of rainfall. In Wilkerson county there was an excess of 2.43 inches, and in La Fayette county a deficiency of 2.82 inches.

The "Missouri Weather Service," Prof. Francis E. Nipher, of Washington University, Saint Louis, director:

The average temperature for June was 72°.8. The highest reported was 103° at Proteum, and the lowest was 3°.7 at Ironton. The average of maximum temperatures was 92°.8, and the average of minimum temperatures 48°.5, making an average monthly range of 44°.3.

The average precipitation was 6.22 inches, which was 1.25 inches above the

normal for June. The greatest amount reported was 10.52 inches at Miami, and the least 2.87 at Proteum.

The month is remarkable for unusually heavy rains in nearly all sections.

The "Nebraska Weather Service," Prof. Goodwin D. Swezey, of Doane College, Crete, director:

The month has been one of extremes of temperature, but averaging a little cooler than usual, and, except in the lower Republican and Blue river valleys, a month of rather less than usual rainfall.

Temperature (in degrees Fahr.).—The normal temperature for June in southeastern Nebraska is 70.6. The mean for the past month is 69.4. The highest temperature reported is 102, at Kimball, which is excessive for June. The lowest is 37, at Hay Springs, which is unusually low. There have been eight days that have reached 85, which is about two days less than usual.

Precipitation (in inches).—There has been great inequality of distribution. From the middle of the state northeastward there has been but an inch or two of rain, reaching a minimum at the northeast. Yankton, Dak., had but 1.08. Along the southern line of the state the rainfall was from 5.00 to 7.00, mostly falling in one heavy rain. Joel Hull, of Minden, reports: "On the night of the 25th and morning of the 26th the rainfall from about ten miles south of this station to the Kansas line, extending from the west side of Phelps County in a southeasterly direction, was excessively heavy, estimated in the counties of Franklin and Webster at 3.00 to 5.00, with high wind and hail, destroying nearly all road and railroad bridges on the smaller streams."

The "Nevada Weather Service," Prof. Charles W. Friend, Carson City, director:

Both pressure and temperature for June were below the normal. The highest temperature reported, 100°, occurred at Golconda, on the 30th, and the lowest, 25°, at Elko, on the 12th. The highest temperature, except at Golconda, as noted above, occurred generally throughout the state from the 23d to 27th; and the lowest in the western part of the state from the 1st to the 7th, in the eastern and central parts from the 12th to 21st.

The weather for June was generally fair to cloudy, cool and windy, with a great deficiency of precipitation. Light showers of rainfall occurred from the 1st to the 7th, and from the 17th to 19th; but the rainfall was generally so light as to be of little benefit. The deficiency of precipitation at Carson City since January 1st, 1888, is 3.83 inches, and since September 1st, 1887, 5.61 inches. In some sections of the state the deficiency is not so great, but everywhere the season has been very unfavorable to both agricultural and grazing interests.

The "New England Meteorological Society," Prof. Wm. H. Niles, of the Institute of Technology, Boston, Massachusetts, president:

Special features.—(1) *Thunder-storms.*—These were most severe and widespread on the 6-7th, 15th, 23d, 24th and 30th, and in all cases were experienced in a region south of the centre of a barometric depression. The storm of the 6-7th entered the northwestern corner of Vermont about 3 p. m. of the 6th, moved southeasterly, covering all of New England, except the southern portion, and reached the eastern boundary of Maine about midnight. It was especially violent in southwestern Maine. The storm of the 15th moved in an easterly direction, covering the whole of the district, and was very violent at about 9 p. m. in eastern Massachusetts. The progress of the storm of the 23d cannot be traced with the data at hand, but there were several developments of it, principally in Maine, New Hampshire, Vermont, and Massachusetts. The storm of the 24th, while reported from all of the states except Maine and Rhode Island, was very violent in central Massachusetts, where the rainfall was excessive, reaching over four inches in the vicinity of Northampton. The storm of the 30th was also in several developments, but prevailed principally in Massachusetts and Rhode Island.

(2) *Temperature.*—The average temperature of the month was in general a little above the normal. On the 23d the mercury reached a height rarely attained in New England, several stations reporting a maximum temperature of 100° Fahrenheit.

(3) *Precipitation.*—The rains were irregularly distributed both as to dates and to quantity, as is to be expected when the rainfall attending the passage of well-developed cyclones is given by showers instead of by general rains. In nearly all cases the rains are to be denominated as local, though it will be noticed that they were usually general over a large region of contiguous territory. The rains were nearly general over New England on the 14th, 15th, and 26th. With few exceptions the total rainfall of the month was small, and the average for thirty-one stations, where records for previous years are accessible for comparison, shows a deficiency of 1.15 inches, or nearly forty per cent. The deficiency was greatest in the southern part of New England, where vegetation begins to show the effects of a drought.

Wind.—Prevailing direction, southwest.

The "New Jersey Weather Service," Prof. George H. Cook, of the Agricultural College, New Brunswick, director:

The mean temperature of the state, as compared with normals determined from past records, of twenty-nine stations, was found to be 1°.1 above the mean. The maximum, 104°, is probably the highest temperature recorded

within the state during the month of June. Temperatures ranging from 94° to 104° were recorded between the 21st and 25th at all stations.

The average rainfall for the month, for the state, 2.59 inches, is 1.02 below the average, as determined from past records of twenty-nine stations. Seven stations report an excess, and twenty-two a deficiency. Two stations, Trenton and Tom's River, report a total exceeding five inches, and five stations report a total of less than two inches.

Temperature (in degrees Fahr.).—Monthly mean, 70.8; highest monthly mean, 75.0, at Bridgeton and Trenton; lowest monthly mean, 66.6, at Atlantic City; maximum, 104.0, at Tenafly, on 23d; minimum, 38.0, at Bordentown, on the 5th; range for state, 66.0; greatest local monthly range, 64.0, at Tenafly; least local monthly range, 40.5, at Atlantic City; greatest daily range, 45.0, at Bordentown, on the 5th; least daily range, 1.0, at Paterson, on the 28th.

Precipitation, including melted snow (in inches).—Average for the state, 2.59; greatest, 5.69, at Trenton; least, 1.67, at Bridgeton.

Wind.—Prevailing direction, southwest.

The "North Carolina Weather Service," Dr. Herbert B. Battle, of Raleigh, director:

Temperature (in degrees Fahr.).—Mean, 75.3; highest monthly mean, 78.6, occurred at Salisbury; lowest monthly mean, 73.1, at Hatteras; maximum, 102, on the 22d, at Cheraw, S. C.; minimum, 49.7, on the 4th, at Knoxville, Tenn.; range for state, 52.3; average monthly range, 38.8; highest monthly range, 50.0, occurred at Chapel Hill; lowest monthly range, 24.0, at Hatteras.

Precipitation (in inches).—Average, 3.21; greatest monthly, 5.79, at Norfolk, Va.; least monthly, 0.93, at Salisbury. Average number of rainy days, 8.2.

Wind.—Prevailing direction, southwest.

The "Ohio Meteorological Bureau," Prof. B. F. Thomas, of the Ohio State University, Columbus, president; Charles E. Kilbourne, Secretary:

Temperature (in degrees Fahr.).—Mean of the northern section is 68.4; middle, 71.0; southern, 71.9. These means are 0.4, 1.9, and 0.9 above the means of the sections respectively. The mean for the state, 70.4, is 1.1 above the normal. The maximum, 102, occurred at Pomeroy, on the 18th and 20th; minimum, 34.0, at Paulding, on the 3d, and at Youngstown, on the 4th. Only once before, since the opening of the bureau in 1882, has a temperature of over 100 been reported during the month of June. Wauseon reported hoar-frost on the 1st, 3d, and 4th; Sidney, Clarksville, Bangorville, Newcomers-town, and New Alexandria, light frost on the 12th; North Lewisburg, 1st, 3d, and 4th; Quaker City, 3d, 4th, 5th, and 12th; Youngstown, 4th and 12th; Toledo, 1st and 3d; Pomeroy, 3d and 4th, and Westerville, 3d.

Precipitation (in inches).—General rains occurred in all sections on the 9th, 10th, 22d, 23d, 24th, 25th, 27th, and 28th; local rains in the northern section, 1st, 2d, 11th, 20th, 21st, and 29th; middle, 14th and 21st; southern, 2d, 6th, 11th, 15th, and 16th. Thunder-storms were reported from all sections on the 9th, 10th, 14th, 22d, and 23d. The mean rainfall in the northern section, 3.88, is 0.24 above the average; middle, 3.15, 0.49 below; southern, 3.16, 0.71 below for the past six years. The mean for the state, 3.41, is 0.31 below the average, making the deficiency for the year to July 1st, 2.66.

"Oregon Weather Service," report prepared by B. S. Pague, Sergeant, Signal Corps, Roseburg, Oregon:

The marked characteristic of the month was the excessive rainfall in all parts of the state.

Temperature (in degrees Fahr.).—The mean temperature of the state for June was 59.3, which is 1 below the normal. The mean of June is only 1.3 above the mean for May. Along the coast the temperature was above the normal. In the Willamette and Umpqua valleys there were but very slight departures from the normal. In southern and eastern Oregon it was below the normal, the greatest deficiency, 6, being at Ashland. The Dalles reports the highest mean temperature, 67, and Fort Klamath the lowest, 52. In the interior valleys, Portland has the highest mean, 62, and Eola the lowest, 59; these temperatures are the same as those of May. Cresswell and Bois  City report 90, their maximum being the highest in the state, and Fort Klamath reports the lowest minimum, 30. The maximum was between 80 and 90 in all sections of the state, except along the coast, where it ranged from 68 to 75. Ashland reports the lowest, 40, in the interior valleys, and the highest occurred on the 8th, 9th, 11th, and 22d; the lowest 20th and 30th. It is a noteworthy fact that the mean temperature of May and June, 1888, varied but little from each other. The maximum for June were lower than those of May, while the minimum were higher, this was undoubtedly due to the excessive moisture prevailing in June, and not in May.

Precipitation (in inches).—The precipitation was most decidedly above the normal, except at Lakeview, where owing to 6.53 of rain falling in June, 1884, the normal June rainfall is increased at that point. March, April, and May were dry months, not enough of rain for the need of crops; but June was in reality a rainy month. Astoria reports 7.23, the greatest amount in the state, and Lakeview 1.53, the least. The greatest departure from the normal was at Roseburg, where the excess amounted to nearly 5; the least, at La Grande, where it amounted to not quite 1.0. Notwithstanding the excessive June rainfall, the seasonal precipitation, from July 1st, 1887, to June 30, 1888, inclusive, is below the normal, ranging from 2 per cent. below at Ashland to

45 per cent. below at Lakeview, except at Walla Walla, where it is 2 per cent. above the seasonal normal.

Wind.—The prevailing winds for June are from the northwest, but this year the prevailing winds were from the southwest.

The "Pennsylvania State Weather Service," report prepared under the direction of the Franklin Institute, Philadelphia, by Sergeant T. F. Townsend, Signal Corps:

Temperature (in degrees Fahr.).—The mean for June, 1888, as deduced from the observations of more than fifty stations, gives 68.6, which is probably 1.0 above the average. The departures from the June normals (fifteen years) at the Signal Service stations show the following: Erie, 0.0; Pittsburg, +1.0; Philadelphia, +1.5. The mean of the daily maximums at fifty stations, 80.7, and the mean of the daily minimums, 56.1, give an average, or mean, of 68.4, which very nearly corresponds with that determined from the tri-daily readings. The highest temperatures prevailed on the 21st, but they were not unusual for the season. The highest June temperatures for the past fifteen years give an average at Erie, Pittsburg, and Philadelphia of 87.7, 94.0, and 92.5, respectively, against 87.5, 95.2, and 97.2 during June, 1888. Lock Haven reports 100; Chambersburg, 99.5; Reading, Catawissa, Carlisle, and Montrose, 99.0. The lowest temperatures noted were Coudersport, 30.0; Somerset, 31.0; Columbus, Dyberry, and Honesdale, 32.0. Most of the low temperatures occurred on the 4th, with frosts at many places. At the close of June the season was less than one week late.

Precipitation (in inches).—There was a rainfall deficiency of about 1.00. The total average throughout the state was 3.04; but, owing to its unequal distribution, several sections had a large deficiency, and a few an excess, caused by heavy local storms. In many parts rain was needed during the first three weeks of the month, but copious showers fell in all districts during the last week, which favorably affected all growing crops. The extremes of rainfall reported were: Coudersport, 6.90; Emporium, 6.57; Girardville, 6.50; Pottstown, 1.55; Bernice, 1.15; Phillipsburg, 1.11; Philadelphia, 1.08.

Wind.—Prevailing direction at 7 a. m., northwest; 2 and 9 p. m., southwest.

The "South Carolina Weather Service," Hon. A. P. Butler, Com'r of Agriculture for South Carolina, Columbia, director:

The mean temperature of the month was 78° 1, two-tenths of a degree higher than for June, 1887, when 77° 9 was recorded. In a great number of instances the maximum temperatures occurred on the 22d and the minimum temperature on the 5th of the month.

The monthly rainfall was 2.73 inches against 3.53 for June, 1887. Copious rains have fallen in some sections of the state, while in others the deficiency has been great. The greatest amount of precipitation occurred at Hardeeville, when a fall of 6.43 inches occurred, of which 3.42 inches fell in one hour and fifteen minutes on the last day of the month. The number of days on which rain fell was 6.8 against 8.1 for June, 1887.

As a whole the month has been favorable for the growing crops. In the early portion of the month the nights were rather cool for cotton, but this was counteracted by the higher temperature of the latter part of the month.

Summary.

Temperature (in degrees Fahr.).—Monthly mean, 78.1; highest, 82.0, at Timmonsville; lowest, 74.5, at Cedar Springs; maximum, 102, at Cheraw, on the 22d; minimum, 51.0, at Branchville and Hardeeville, on the 6th; range for the state, 51.0; greatest local monthly range, 45 at Kingstree; least, 14.7, at Charleston; greatest daily range, 35.0, at Brewer's Mine, Cedar Springs, and Kingstree, on 7th, 6th, and 7th, respectively; least, 6.1, at Marion, on 28th.

Precipitation (in inches).—Average for the state, 2.75; greatest, 6.43, at Hardeeville; least, 0.71, at Branchville.

Wind.—Prevailing direction, southwest.

The following is an extract from the report of the "Meteorological Department of the State (Tennessee) Board of Health," prepared under direction of J. D. Plunket, M. D., President of the State Board of Health, by H. C. Bate, Signal Corps, Assistant, Nashville:

The month of June was characterized by frequent local rains, especially during the second and third decades, and the amount of electrical disturbance, also by a cool wave about the 3d and 4th, resulting in a light frost in the western portion of the middle division, and by an abnormally high temperature about the 18th and 19th. The percentage of cloudiness was rather below the normal. Altogether it was a very favorable month for the farmer.

Temperature (in degrees Fahr.).—The mean temperature was 78.4, about the June normal during the past six years. The highest local mean was 78.1, recorded at Maryville, and the lowest 67.6, recorded at Fostoria. The maximum temperature was 100, recorded on the 18th, and was up to the June maximum of last year, the highest during the five years preceding. The minimum temperature was 86, recorded on the 3d and 4th at Hohenwald, and was the lowest June minimum during the past six years, the next being 45, last year. The maximum temperature was recorded at the various stations on the 7th, 16th to 21st, and the minimum on the 3d, 4th, and 5th. The daily ranges of temperature were about the normal.

Precipitation (in inches).—The mean precipitation was 4.23 inches, a little

less than the June mean for the past six years. Of this amount the eastern and western divisions received an average of nearly three and three-fourths inches, and the middle division nearly five inches. Except those of the 27th and 28th, the rains were comparatively light but well distributed, and from the 10th to the 28th, inclusive, they were frequent. The heaviest rains fell on the 10th, 27th, and 28th. The greatest monthly rainfall was 8.00, recorded at Nunnely, and the least, 2.10, at Newport. The greatest amount reported falling in twenty-four consecutive hours was 4.30 on the 26th and 27th, at Fostoria. Other heavy local daily falls were reported, notably, 2.11 at Chattanooga, 2.22 at Beech grove, 2.10 at Fayetteville, 1.83 at Riddleton, and more than two inches at Nunnely, all on the 27th; and 2.19 at Florence Station, 1.72 at Knoxville, 1.60 at Andersonville, and 1.37 at Maryville, all on the 28th. At Maryville on the 28th half an inch fell in the space of ten minutes; at Parkville, on the 15th, 1.0 fell in thirty minutes; and at Nunnely, on the 27th, 2.0 fell in thirty minutes. Rain fell in various portions of the state on twenty-four days, the 3d, 4th, 5th, 6th, 12th, and 30th being reported without measurable precipitation. Hail fell at two stations during the month. Dews were reported at various stations on twenty-four days. Frost was reported at one station, Hohenwald, on the 3d and 4th, but was scarcely perceptible.

The "Monthly Weather Review of the Texas State Weather Service," S. O. Young, M. D., director:

Temperature (in degrees Fahr.).—The average temperature for the state, 80.4; mean of the maximum temperature for the state, 89; mean of minimum temperature, 72. At only seven places in the state was the maximum temperature 100, and above, and this high temperature occurred on the last three days of month. El Paso and Sour Lake reports 104; Tyler, 103; and Brenham, Fort Elliott, Longview, and Weatherford, 100.

Precipitation (in inches).—The average rainfall for Texas for the month, 6.10; the greatest amount of monthly precipitation, 15.10, occurred at Sour Lake; the greatest amount of rainfall in the state during twenty-four hours occurred at Sour Lake on the 18th.

Meteorological record of voluntary observers and Army post surgeons, June, 1888.

The maximum and minimum temperatures at stations marked thus (*) are from readings of other than standard instruments.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
<i>Alabama.</i>	°	°	°	<i>Ins.</i>	<i>British Columbia.</i>	°	°	°	<i>Ins.</i>
Auburn	93	58	76.0	5.30	New Westminster	79	48	61.6	5.46
Bermuda	91	61	74.0	5.53	<i>California.</i>				
Carrollton	90	58	76.0	3.98	Alcatraz Island	88	54	60.2	0.17
Edwardsville	94	59	79.3	4.40	Angel Island	82	54	64.4	0.13
Eufaula	94	57	75.4	2.05	Banning	98	49	0.00	0.00
Florence	88	56	72.0	6.49	Barstow	82	50	0.00	0.00
Fort Deposit	98	55	79.5	8.33	Benicia Barracks	90	56	67.0	0.38
Gadsden	98	48	73.0	4.70	Bidwell, Fort	87	36	58.3	1.49
Greensborough	97	64	78.0	4.14	Georgetown	87	37	58.1	4.20
Greenville	97	70	80.0	0.00	Greenville	90	41	63.3	1.56
Livingston	93	52	77.0	6.05	Hydesville	76	42	3.92	0.00
Marion	96	54	80.9	4.94	Lewis Creek*	104	61	82.0	0.00
Mt. Vernon B'ks	96	57	79.3	7.86	Mason, Fort	78	57	62.0	0.06
Mount Willing	96	54	77.0	8.95	Nicolaus	92	56	68.9	0.15
New Market*	86	50	71.3	7.54	Oakland	80	53	63.1	0.46
Opelika	98	56	77.7	5.28	Oroville	93	57	72.3	1.16
Pine Apple	98	50	73.8	3.30	Presidio of San F	74	47	60.8	0.80
Solms	95	52	78.2	3.30	Sacramento	95	44	66.8	0.39
Talladega	92	49	81.0	7.91	Salinas	75	51	62.1	0.00
Troy	93	68	82.0	8.09	Santa Barbara	88	50	64.4	1.00
Tuscaloosa	90	49	80.1	3.81	Santa Maria	85	34	65.7	1.00
Tuscumbia	92	55	74.5	6.09	Willow	107	43	71.4	0.24
Union Springs	92	62	77.0	5.87	<i>Colorado.</i>				
Valley Head	92	58	73.0	4.19	Bennett	82	36	57.7	0.96
<i>Arizona.</i>					Georgetown	83	31	59.7	0.02
Holbrook	98	40	0.05	0.05	<i>Connecticut.</i>				
Huachuca, Fort	96	55	1.00	0.00	Canton	97	42	1.40	1.06
McDowell, Fort	110	54	89.0	0.00	Hartford	99	51	71.5	2.10
Mojave, Fort	109	49	84.4	0.14	Mansfield	94	41	65.3	1.86
Teviston	99	0.14	0.55	0.01	Middletown	100	42	67.7	1.86
Tucson	99	0.14	0.55	0.01	New Hartford	99	43	65.6	1.65
Winslow	99	0.14	0.55	0.01	Shelton	96	40	67.2	3.52
<i>Arkansas.</i>					Southington	97	53	69.0	1.53
Alexander	81	60	76.0	7.10	Thompson	92	43	65.2	0.95
Conway	98	55	72.3	8.10	Voluntown	102	47	67.4	1.55
Dallas	100	70	83.0	9.50	Waterbury	96	38	67.4	1.55
Dayton	91	62	77.8	5.17	<i>Dakota.</i>				
Devall's Bluff	95	49	75.3	5.77	A. Lincoln, Fort	98	34	64.8	5.96
El Dorado	91	48	69.4	8.09	Davenport	98	31	65.6	2.04
Eureka Springs	93	52	73.3	8.78	Garden City	97	32	64.8	1.10
Forrest City	94	60	76.8	3.22	Goddard	97	32	64.8	1.10
Heber	94	49	74.4	3.16	Farmington	96	42	67.8	3.30
Helena	95	50	77.7	5.70	Kimball	90	42	61.0	1.77
Hot Spring	95	55	75.5	9.54	Meade, Fort	95	35	69.3	5.41
Lead Hill	103	52	77.1	8.00	Pembina, Fort	95	39	68.3	1.99
Lonoke	91	62	76.0	7.25	Randall, Fort	99	41	66.4	7.92
Malvern	95	48	77.9	7.70	Richardton	97	42	63.3	8.23
Monticello	96	54	78.4	4.12	Sisseton, Fort	100	39	68.9	1.56
Newport	102	50	77.3	7.70	Sully, Fort	100	39	68.3	3.61
Osceola	91	52	74.0	4.78	Totten, Fort	95	39	66.8	7.57
Ozone	86	55	71.1	10.36	Webster	98	32	68.4	1.99
Pine Bluff	97	56	78.9	5.76	Woonsocket	99	35	68.4	1.99
Portia	97	56	77.8	3.96	Yates, Fort	98	34	66.4	7.92
Prescott	91	58	76.8	5.51	<i>District of Columbia.</i>				
Russellville	95	53	77.3	5.61	Distrib'g res'v't*	96	55	75.9	3.61
Stuttgart	96	60	76.2	0.09	Receiving res'v't*	98	56	75.9	3.74
Texarkana	96	59	78.6	5.61	Washington aq.	98	55	78.2	0.00
Washington	93	62	77.5	5.61					

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
<i>Florida.</i>	°	°	°	<i>Ins.</i>	<i>Indiana—Cont'd.</i>	°	°	°	<i>Ins.</i>
Altamonte Springs	94	64	76.4	11.36	Salem	95	54	73.7	3.25
Alva*	93	67	81.7	1.07	Sunman*	94	42	72.8	2.55
Archer	104	55	81.7	4.48	Seymour	90	53	74.7	2.75
Duke	93	65	76.2	4.08	Vevay	99	43	74.2	1.69
Fort Meade*	94	74	84.0	4.08	Worthington	93	52	70.9	3.25
Homeland*	96	62	81.3	3.75	<i>Indian Territory.</i>				
Limona*	96	70	83.4	4.25	Gibson, Fort	99	50	77.3	3.74
Manatee	94	62	81.8	3.72	Reno, Fort	96	50	75.6	0.28
Merritt's Island	94	68	78.2	4.68	Supply, Fort	99	55	74.1	0.84
St. Francis Bar'cks	94	63	78.6	2.10	<i>Iowa.</i>				
Tallahassee	92	66	79.3	5.28	Amana	94	38	69.7	1.74
<i>Georgia.</i>					Ames	86	38	68.4	3.65
Athens	96	57	76.3	1.89	Auburn	90	50	65.7	2.60
Forsyth*	95	66	79.1	1.72	Bainbridge	94	50	69.8	2.29
Marietta	90	63	75.0	2.66	Cedar Rapids	94	34	70.8	4.90
Milledgeville*	93	60	0.00	2.81	Clarinda	90	49	67.8	3.07
<i>Idaho.</i>					Cresco	89	46	67.8	4.55
Boise Barracks	88	39	65.5	2.81	Cromwell	88	41	68.5	0.00
Lewiston	84	56	0.00	3.07	Des Moines	88	41	68.5	0.00
Sherman, Fort	82	44	0.00	3.07	Denmark	85	62	74.7	4.96
<i>Illinois.</i>					Dyars	90	34	79.2	1.20
Albion	103	52	73.4	7.35	Elkader	98	40	68.6	2.21
Aledo	96	42	64.3	4.33	Fairfield	90	54	71.9	0.00
Aurora	92	38	69.4	0.98	Payette	93	40	68.2	2.43
Beason	96	42	69.2	2.46	Fort Madison	93	54	0.00	3.17
Belvedere	95	46	69.1	2.76	Glenwood a	102	38	73.1	0.00
Benton	95	55	73.7	3.43	Glenwood b	100	38	73.2	3.81
Brush Hill	98	49	73.6	1.93	Grinnell	86	46	72.3	2.45
Cedarville	89	49	67.7	6.99	Hampton	82	36	0.00	2.14
Centralla	93	50	73.0	6.99	Humboldt	88	43	0.00	2.83
Charleston*	94	44	72.1	8.77	Independence*	84	51	68.5	2.27
Collinsville	90	45	71.6	8.97	Iowa City	80	44	66.2	1.63
Dwight	93	38	70.2	2.10	Logan	98	37	70.8	2.09
Fairfield	94	66	77.5	4.83	Maquoketa*	90	58	79.0	3.56
Flora	96	38	73.0	4.25	Maquoketa*	96	36	70.1	4.12
Gibson City	90	46	68.3	8.52	Monticello*	92	37	69.9	3.18
Greenville	92	44	71.8	9.77	Mount Pleasant	90	37	72.0	4.24
Griggsville	90	43	70.6	7.00	Mount Vernon*	96	51	74.5	1.28
Golconda	92	58	73.6	2.29	Osage	78	37	61.6	3.73
Hennepin	93	39	68.9	7.59	Osceola	96	41	73.2	4.30
Irishtown	93	52	72.2	4.21	Oskaloosa	92	48	66.1	2.81
Jacksonville	88	45	71.5	1.70	Sac City	92	48	66.1	2.60
Joliet	98	45	68.7	7.23	Smithland	92	48	66.1	2.60
Jordan's Grove	92	43	73.5	6.53	Vinton	87	51	67.9	1.74
Kampville	92	52	75.8	2.26	Washington	87	51	67.9	3.85
Lacon	93	48	71.5	2.68	<i>Kansas.</i>				
Lake Forest	91	36	66.6	2.72	Allison	99	57	0.00	1.06
Lazark	85	43	70.5	4.36	Belleville	93	33	5.69	5.69
Mahomet	89	36	68.7	5.56	Buffalo Park	100	50	70.0	3.60
Martinsville	94	49	75.2	8.70	Brookville	106	50	79.0	3.83
Mascoutah	90	44	74.0	8.25	Bunker Hill	110	60	0.00	3.83
Mattoon	97	44	73.8	5.83	Caneiro	96	56	75.0	3.08
McLeansborough	98	45	73.8	5.83	Cawker City	94	56	74.0	2.80
Mount Morris	94	50	71.1	5.55	Collyer	100	52	70.0	0.50
New Athens	95	56	75.8	4.41	Cunningham	98	51	75.1	5.41
Oney	94	50	74.0	4.10	Dorrance	105	64	0.0	