

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with

IOWA WEATHER AND CROP BUREAU

CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, JANUARY, 1925 No. 1

GENERAL SUMMARY

Compared to the month preceding, January would be considered a very mild month, and while the mean temperature for the State was less than one degree above normal, the absence of disagreeable features made the month appear more mild than the mean temperature indicates. There were numerous fluctuations above and below normal but there were no decided departures. While the mean for the State averaged above normal there was a general deficiency over most of the Missouri and Big Sioux valleys, which amounted to more than two degrees in several counties in the northwest portion. The most pronounced periods of excess occurred from the 2nd till the 9th and another during most of the 3d week, being the most marked in the central and eastern portions, while in the western half of the State, where the coldest weather prevailed, there was a period with below normal temperatures that extended from the 9th till the 18th.

The month was characterized by the entire absence of severe storms and the precipitation, which was almost entirely in the form of sleet or snow, has been less in January only three times since 1890. There were no individual heavy falls of snow, except over a limited area in the western portion of the State on the 28th. There was practically no drifting and as a result of these favorable conditions railway traffic was able to move normally throughout the month, and highways continued passable though dirt roads in the southern and central sections were quite rough following periods of thawing weather. Sleet was reported from numerous places on several dates but there was apparently no damage from this source. The snow cover remained on the ground over nearly all the northern division throughout the entire month but large areas in the central and southern sections were bare at the end of the month, and were bare over much of the area during the last 10 days, but there had been no material damage reported to winter wheat or grasses.

Some building operations were halted during the most severe weather, but the usual winter out door occupations were pursued with very little interruption. Some corn that remained in the fields was gathered in the southern portion and there was still some corn standing in the northwest portion. The ice harvest was completed in all portions of the State, the quality being unusually good and the quantity ample.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 104 stations, was 19.4°, or 0.9° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 15.8°, or 0.5° higher than the normal; Central, 20.0°, or 1.2° higher than the normal; Southern, 22.5°, or 1.1° higher than the normal. The highest monthly mean was 25.4°, at Keokuk, and the lowest was 11.8° at Inwood. The highest

temperature reported was 55°, at Wescott, on the 24th, and the lowest was -24°, at Milford, on the 27th. The temperature range for the State was 79°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 107 stations, was 0.40 inch, or 0.68 inch less than the normal. By divisions, the averages were as follows: Northern, 0.42 inch, or 0.52 inch less than the normal; Central, 0.35 inch, or 0.77 inch less than the normal; Southern, 0.43 inch, or 0.74 inch less than the normal. The greatest amount, 1.23 inches occurred at Burlington, and the least, 0.05 inch, occurred at Grundy Center. The greatest amount in any 24 consecutive hours, 0.60 inch, occurred at Williamsburg, on the 16th.

SNOWFALL

The average snowfall for the State 4.2 inches, or 2.7 inches less than the normal. The greatest amount, 10.0 inches occurred at Burlington and Washington, and the least, 0.2 inch occurred at Pella. The ground was covered the entire month north of a line running from Monona to Allamakee Counties and over a few small areas in the southern and east-central portions. The snowfall was above normal over most of the Missouri Valley and a small area in the southeast section.

MISCELLANEOUS PHENOMENA

Fog: 8th, 9th, 10th, 11th, 12th, 14th, 16th, 18th, 19th, 20th, 21st, 24th, 25th, 28th, 29th, 30th.

(Continued on Page 3)

COMPARATIVE DATA FOR THE STATE—JANUARY

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|------|-------------|------------|---------|--------|---------------|------------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure* | Highest | Lowest | Total | Departure* | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 19.7 | +1.2 | 61 | -27 | 2.08 | +0.95 | 3.46 | 0.35 | | | | | |
| 1891 | 26.0 | +7.5 | 58 | -4 | 1.75 | +0.67 | 3.99 | 0.61 | | 4 | 13 | 7 | 11 |
| 1892 | 15.3 | -3.2 | 76 | -38 | 1.09 | +0.01 | 3.13 | 0.10 | 6.9 | 5 | 16 | 9 | 6 |
| 1893 | 9.3 | -9.2 | 54 | -34 | 0.74 | -0.34 | 3.20 | 0.13 | 6.9 | 6 | 11 | 9 | 11 |
| 1894 | 19.3 | +0.8 | 69 | -37 | 1.09 | +0.01 | 2.24 | 0.31 | 6.0 | 5 | 14 | 9 | 8 |
| 1895 | 13.6 | -4.9 | 68 | -31 | 0.85 | -0.23 | 2.65 | 0.09 | 8.7 | 4 | 15 | 7 | 9 |
| 1896 | 23.4 | +4.9 | 68 | -20 | 0.48 | -0.60 | 2.10 | T. | 2.8 | 3 | 10 | 10 | 11 |
| 1897 | 17.2 | -1.3 | 66 | -30 | 2.01 | +0.93 | 6.16 | 0.15 | 8.2 | 7 | 12 | 7 | 12 |
| 1898 | 23.4 | +4.9 | 52 | -11 | 1.60 | +0.52 | 5.32 | T. | 12.6 | 5 | 15 | 6 | 10 |
| 1899 | 19.8 | +1.3 | 68 | -34 | 0.28 | -0.80 | 1.15 | T. | 1.5 | 3 | 15 | 10 | 6 |
| 1900 | 25.6 | +7.1 | 66 | -20 | 0.53 | -0.55 | 2.47 | T. | 2.3 | 3 | 16 | 7 | 3 |
| 1901 | 23.7 | +5.2 | 60 | -21 | 0.74 | -0.34 | 2.34 | 0.04 | 6.2 | 4 | 14 | 9 | 8 |
| 1902 | 22.4 | +3.9 | 63 | -31 | 0.88 | -0.20 | 2.83 | 0.19 | 9.4 | 4 | 17 | 8 | 6 |
| 1903 | 23.0 | +4.5 | 60 | -12 | 0.28 | -0.80 | 1.46 | T. | 2.0 | 4 | 13 | 7 | 11 |
| 1904 | 14.0 | -4.5 | 57 | -32 | 1.18 | +0.10 | 3.68 | 0.02 | 6.1 | 6 | 12 | 8 | 11 |
| 1905 | 11.2 | -7.3 | 56 | -30 | 0.91 | -0.17 | 1.82 | 0.12 | 11.1 | 7 | 14 | 7 | 10 |
| 1906 | 24.6 | +6.1 | 69 | -19 | 1.52 | +0.44 | 4.71 | 0.28 | 11.3 | 5 | 14 | 6 | 11 |
| 1907 | 18.8 | +0.3 | 68 | -22 | 1.52 | +0.44 | 5.30 | 0.10 | 6.0 | 7 | 8 | 7 | 16 |
| 1908 | 24.9 | +6.4 | 60 | -18 | 0.44 | -0.64 | 1.50 | 0.06 | 4.8 | 2 | 17 | 8 | 6 |
| 1909 | 21.2 | +2.7 | 72 | -25 | 1.66 | +0.58 | 3.74 | 0.41 | 7.8 | 6 | 9 | 6 | 16 |
| 1910 | 18.1 | -0.4 | 56 | -35 | 1.57 | +0.49 | 3.15 | 0.55 | 12.6 | 6 | 13 | 7 | 11 |
| 1911 | 20.2 | +1.7 | 66 | -35 | 0.97 | -0.11 | 3.73 | 0.11 | 7.3 | 5 | 9 | 8 | 14 |
| 1912 | 4.2 | -14.3 | 49 | -47 | 0.53 | -0.55 | 1.90 | T. | 5.5 | 5 | 14 | 7 | 10 |
| 1913 | 20.9 | +2.4 | 62 | -25 | 0.77 | -0.31 | 2.05 | 0.04 | 7.2 | 5 | 14 | 9 | 8 |
| 1914 | 27.8 | +9.3 | 64 | -10 | 0.88 | -0.20 | 2.34 | 0.27 | 5.1 | 5 | 11 | 8 | 12 |
| 1915 | 17.5 | -1.0 | 59 | -32 | 1.63 | +0.55 | 3.15 | 0.10 | 7.3 | 8 | 13 | 8 | 10 |
| 1916 | 17.8 | -0.7 | 63 | -34 | 2.62 | +1.54 | 6.07 | 0.85 | 7.2 | 10 | 12 | 6 | 13 |
| 1917 | 17.0 | -1.5 | 60 | -28 | 0.83 | -0.25 | 2.07 | 0.17 | 7.2 | 4 | 17 | 8 | 6 |
| 1918 | 8.6 | -9.9 | 53 | -35 | 1.02 | -0.06 | 2.79 | 0.26 | 11.2 | 7 | 13 | 8 | 10 |
| 1919 | 26.8 | +8.3 | 64 | -32 | 0.24 | -0.84 | 0.86 | T. | 2.8 | 2 | 20 | 5 | 6 |
| 1920 | 16.7 | -1.8 | 58 | -26 | 0.42 | -0.66 | 1.05 | T. | 4.0 | 4 | 12 | 8 | 11 |
| 1921 | 28.4 | +9.9 | 67 | -9 | 0.51 | -0.57 | 1.92 | 0.10 | 4.1 | 4 | 11 | 7 | 13 |
| 1922 | 19.8 | +1.3 | 57 | -29 | 0.89 | -0.19 | 2.30 | 0.32 | 5.3 | 4 | 17 | 6 | 8 |
| 1923 | 26.7 | +8.2 | 58 | -10 | 0.85 | -0.23 | 2.34 | T. | 6.5 | 6 | 10 | 7 | 14 |
| 1924 | 13.9 | -4.6 | 59 | -36 | 0.89 | -0.19 | 2.47 | 0.06 | 5.5 | 5 | 17 | 7 | 7 |
| 1925 | 19.4 | +0.9 | 55 | -24 | 0.40 | -0.68 | 1.23 | 0.05 | 4.2 | 3 | 17 | 7 | 7 |

T. indicates an amount too small to measure, or less than .005 inch precipitation and less than .05 inch snowfall.
*New normals effective June 1, 1924.



Climatological Data for January, 1925—Continued

Table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature, in Degrees Fahrenheit (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation, in inches (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

The departure from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc. †Also other dates. ‡Received too late to be included in means and summaries. †. Precipitation is less than 0.01 inch rain or melted snow.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table with columns: Stations, Barometric Pressure, Relative Humidity, Wind (Total movement, Average hourly velocity, Miles, From, Date), Sunshine (Per cent of possible, Departure from normal).

§Sioux City. §Dubuque. *Omaha. ‡Local mean time. †And other dates.

MISCELLANEOUS PHENOMENA—(Continued)

Halos (Lunar and solar): 3d, 4th, 6th, 7th, 8th, 12th, 13th, 15th, 19th, 22d, 23d, 26th, 27th, 28th, 31st. Parhelia: 12th. Sleet: 15th, 16th, 25th, 26th, 28th. Winds (strong): 26th, 31st.

RIVERS

A gradual, though slight, fall prevailed on the Mississippi River throughout the month with a mean stage slightly below the normal. Low and nearly stationary stages prevailed on all interior rivers. There was considerable fluctuation on the Missouri River with a falling tendency till the middle of the month and a slight rising tendency the remainder of the month. All rivers were frozen during the entire month, with the ice ranging from a foot to more than two feet in thickness.

Daily Precipitation for January, 1925—Continued

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Totals | | | | |
|--------------------------|----------------|--------------|----|----|-----|----|----|---|---|---|----|-----|-----|----|----|----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|--|--|--|--|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | | | |
| <i>Southern Division</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afton | Grand | | | | | | | | | | | T. | | | | T. | .10 | | | | | | | | | | | | | | | | | | | | |
| Albia | Des Moines | .13 | | | | | | | | | | .01 | | | | T. | .13 | | | | | | | | | | | T. | | | | | | | | | |
| Atlantic | Nishnabotna | .09 | | T. | | | | | | | | .05 | | | | | .08 | | | | | | | | | | | | | | | | | | | | |
| Bonaparte | Des Moines | T. | | | | | | | | | | .10 | | | | | .21 | | | | | | | | | | | T. | | | | | | | | | |
| Burlington | Mississippi | .35 | | | | | | | | | | .50 | | | | | .38 | | | | | | | | | | | | | | | | | | | | |
| Centerville | Chariton | .11 | | | | | | | | | | .02 | | | | T. | .04 | | | | | | | | | | | T. | | | | | | | | | |
| Chariton | Chariton | | | | | | | | | | | T. | | | | | .11 | | | | | | | | | | | | | | | | | | | | |
| Clarinda | Nodaway | .10 | | | | | | | | | | .20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Columbus Jct. | Iowa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Corning | Nodaway | T. | | | | | | | | | | | | | | | .15 | | | | | | | | | | | | | | | | | | | | |
| Corydon | Chariton | | T. | | | | | | | | | | | | | | T. | .12 | | | | | | | | | | | | | | | | | | | |
| Creston | Missouri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cumberland (near) | Nodaway | .03 | | T. | | | | | | | | | T. | | | | .01 | | | | | | | | | | | | | | | | | | | | |
| Earlham | Des Moines | .20 | | | | | | | | | | T. | | | | | .10 | | | | | | | | | | | | | | | | | | | | |
| Fairfield | Skunk | .17 | | | | | | | | | | | .05 | | | | T. | .10 | | | | | | | | | | T. | | | | | | | | | |
| Glenwood | Missouri | .03 | | | | | | | | | | | | | | | | .35 | | | | | | | | | | | | | | | | | | | |
| Indianola | Des Moines | .21 | | | | | | | | | | | T. | | | | .15 | | | | | | | | | | | | | | | | | | | | |
| Keokuk*** | Mississippi | .08 | | | | | | | | | | | .12 | | | | T. | .08 | | | | | | | | | | | | | | | | | | | |
| Keosauqua | Des Moines | .15 | | | | | | | | | | | .20 | | | | T. | | | | | | | | | | | | | | | | | | | | |
| Knoxville | Des Moines | .10 | | | | | | | | | | | .03 | | | | .20 | | | | | | | | | | | | | | | | | | | | |
| Lacona | Des Moines | .20 | | | | | | | | | | | .20 | | | | .20 | | | | | | | | | | | | | | | | | | | | |
| Lamoni | Grand | .04 | | | | | | | | | | | T. | | | | T. | .11 | | | | | | | | | | | | | | | | | | | |
| Lenox | Missouri | .05 | | | | | | | | | | | .05 | | | | | .10 | | | | | | | | | | | | | | | | | | | |
| Mt. Ayr | Grand | .05 | | | | | | | | | | | | | | | T. | .12 | | | | | | | | | | | | | | | | | | | |
| Mt. Pleasant | Skunk | .20 | | | | | | | | | | | .13 | | | | .19 | | | | | | | | | | | | | | | | | | | | |
| Oakland | Nishnabotna | .10 | T. | | | | | | | | | | | | | | | .20 | | | | | | | | | | | | | | | | | | | |
| Oskaloosa | Des Moines | .07 | T. | | | T. | | | | | | | | | | | .16 | | | | | | | | | | | | | | | | | | | | |
| Ottumwa | Des Moines | .15 | T. | | | | | | | | | | | | | | .10 | | | | | | | | | | | | | | | | | | | | |
| Pella | Skunk | T. | | | | | | | | | | | | | | | | .10 | | | | | | | | | | | | | | | | | | | |
| Red Oak (near) | Missouri | | | | .08 | | T. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sigourney | Skunk | .06 | | | | | | | | | | | | | | | | .32 | | | | | | | | | | | | | | | | | | | |
| Stockport | Skunk | .23 | | | | | | | | | | | .25 | | | | .25 | | | | | | | | | | | | | | | | | | | | |
| Thurman | Missouri | .10 | | | | | | | | | | | T. | | | | T. | .32 | | | | | | | | | | | | | | | | | | | |
| Tingley | Platt | .04 | | | | | | | | | | | | | | | T. | .06 | | | | | | | | | | | | | | | | | | | |
| Washington | Skunk | .24 | | | | | | | | | | | .24 | | | | T. | .32 | | | | | | | | | | | | | | | | | | | |
| Wescott (near) | Mississippi | .02 | | | | | | | | | | | .35 | | | | | | | | | | | | | | | | | | | | | | | | |
| Winterset | Des Moines | .08 | | | | | | | | | | | .08 | | | | | | | | | | | | | | | | | | | | | | | | |
| Omaha, Neb.*** | Missouri | .04 | | T. | | | | | | | | .04 | | | | | T. | .03 | .01 | | | | | | | | | | | | | | | | | | |

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

|||||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.

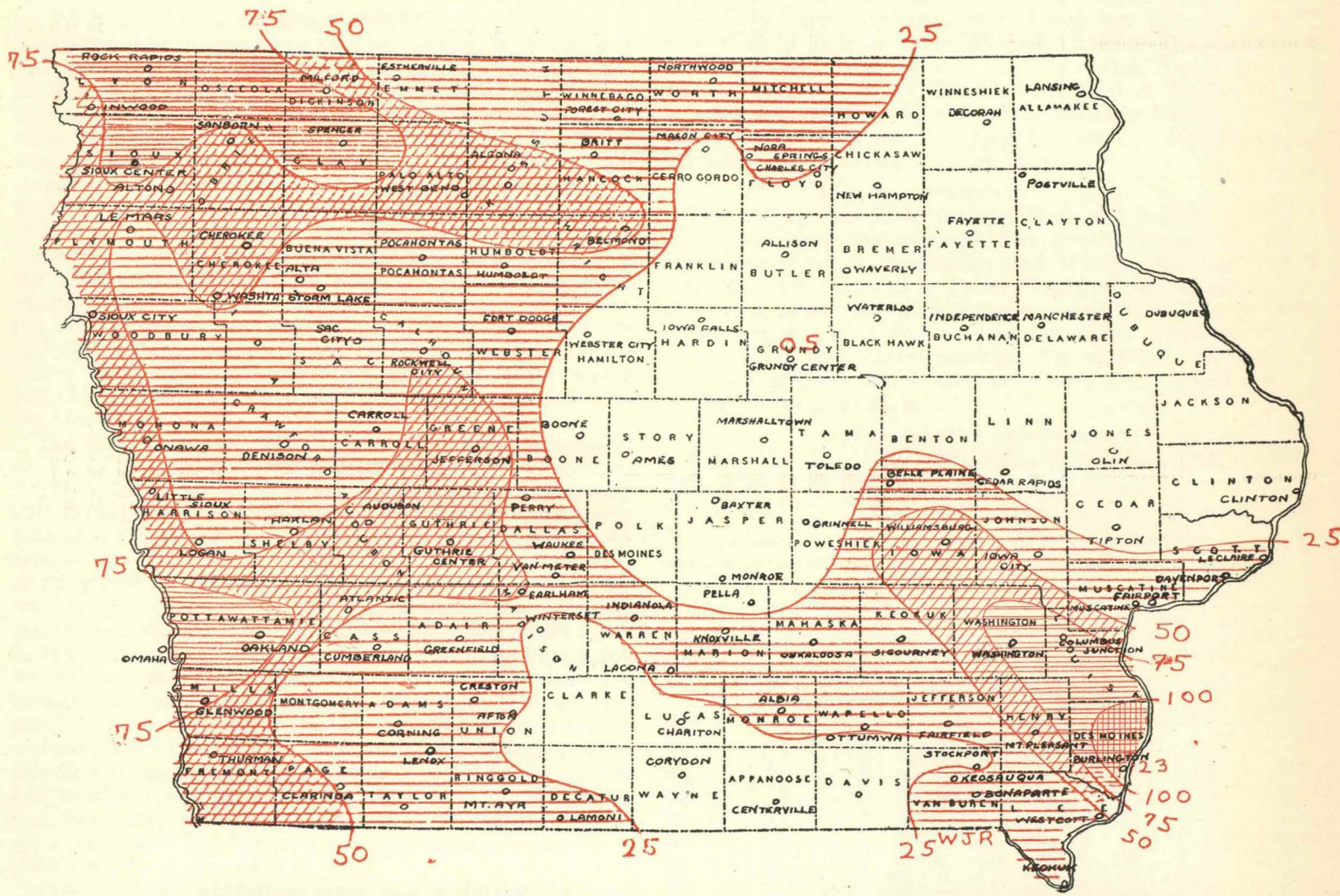
***Regular Weather Bureau Station; precipitation is for 24-hour period, midnight to midnight.

**Incomplete.

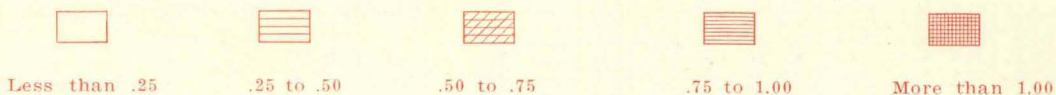
*Precipitation included in the next following measurement.

T. Precipitation is less than .01 inch rain or melted snow.

TOTAL PRECIPITATION, JANUARY, 1925



SCALE OF SHADES—IN INCHES



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
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VOL. XXXVI DES MOINES, IOWA, FEBRUARY, 1925 No. 2

GENERAL SUMMARY

Uniformly mild winter weather prevailed during February throughout the State and the month was decidedly the warmest of the three winter months. The mean temperature for the state, 28.4°, is the highest, with the exception of 1915 and 1921, in the history of the State for February. There were no prolonged cold spells and the temperature was below normal only three brief periods, the first at the beginning of the month, the second on the 16th and 17th, and the last and longest period of three days, at the end of the month. Zero weather occurred on one or more days throughout the northern division and most of the central division, but zero was reached on a single day in about one-fourth of the southern division.

The precipitation was very unevenly distributed, and while the average for the State was slightly more than two-thirds of the normal, there was a decided deficiency in about 85 per cent of the State and small areas in the extreme southeastern and extreme southwestern portions had excesses that amounted to more than one inch. In about one-third of the State, mostly in the central division, the precipitation amounted to less than half an inch. At a number of stations in the north-central section the precipitation was nearly all snow, but over the rest of the State rain predominated and at several stations in the southwestern portion it was all rain. The heaviest snowfall was 12.0 inches and the fall exceeded 5.0 inches over only about one-tenth of the State. The heaviest individual fall of snow was 6.0 inches, but there were only a few stations that had individual falls of 4.0 inches or more. There was very little drifting and railroads were not hampered in any way by snow or adverse weather conditions. Highways remained open as to snow drifts but thawing made dirt roads almost impassable during most of the first half of the month, after which there was a decided improvement and at the end of the month roads were in unusually good condition except in small areas where the rainfall was heaviest.

Conditions were favorable for out door work but the frost had not left the ground sufficiently to permit plowing except small areas in the southern portion of the State, where it was too wet. There was too little moisture in a wide belt running east and west across the State and many fields in this area were beginning to show the need of rain.

TEMPERATURE

The mean temperature for the state, as shown by the records of 99 stations, was 28.4°, or 5.8° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 24.4°, or 5.3° higher than the normal; Central, 28.7°, or 5.8° higher than the normal; Southern, 32.2°, or 6.4° higher than the normal. The highest monthly mean was 33.8°, at Burlington and Centerville, and the lowest was 21.6°, at Estherville. The highest temperature reported was 66° at Perry on the 6th, and the lowest was -16° at Rock Rapids.

Sanborn and Spencer on the 2d. The temperature range for the State was 82°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 103 stations, was 0.82 inch, or 0.38 inch less than the normal. By divisions, the averages were as follows: Northern, 0.58 inch, or 0.48 inch less than the normal; Central, 0.65 inch, or 0.61 inch less than the normal; Southern, 1.24 inches, or 0.05 inch less than the normal. The greatest amount, 3.69 inches, occurred at Burlington, and the least, a trace occurred at Creston and Cumberland. The greatest amount in 24 consecutive hours, 1.95 inches, occurred at Glenwood on the 22d-23d.

SNOWFALL

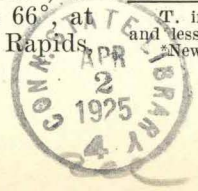
The average snowfall for the State was 2.6 inches, or 4.8 inches less than the normal. The average for February has been less but once in the history of the State. In about one-third of the State, in the central and southern divisions, the total snowfall was less than one inch and a large number of stations in the southwestern portion reported only a trace. A few stations in the northern division had a snow cover the entire month, but over more than half of the State the range was from a single day to a week, while in several counties in the southwestern portion there was no snow on the ground at any time.

(Continued on Page 3)

COMPARATIVE DATA FOR THE STATE—FEBRUARY

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|-----------|-------------|------------|---------|--------|---------------|------------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure* | Highest | Lowest | Total | Departure* | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890..... | 26.0 | +3.4 | 67 | -24 | 0.83 | -0.37 | 2.18 | 0.11 | | | | | |
| 1891..... | 19.4 | -3.2 | 70 | -31 | 1.16 | -0.04 | 2.41 | 0.55 | | 5 | 13 | 7 | 8 |
| 1892..... | 28.1 | +5.5 | 63 | -20 | 1.20 | 0.00 | 2.18 | 0.12 | 5.0 | 6 | 6 | 7 | 16 |
| 1893..... | 16.0 | -6.6 | 60 | -28 | 1.39 | +0.19 | 2.91 | 0.06 | 8.1 | 6 | 10 | 8 | 10 |
| 1894..... | 19.7 | -2.9 | 60 | -19 | 0.89 | -0.31 | 2.41 | T. | 8.4 | 3 | 16 | 8 | 4 |
| 1895..... | 16.4 | -6.2 | 73 | -33 | 0.49 | -0.71 | 1.34 | 0.02 | 3.3 | 4 | 13 | 9 | 8 |
| 1896..... | 27.4 | +4.8 | 78 | -13 | 0.71 | -0.49 | 2.40 | 0.04 | 5.4 | 4 | 12 | 9 | 8 |
| 1897..... | 24.7 | +2.1 | 61 | -24 | 0.89 | -0.31 | 1.81 | 0.22 | 8.0 | 5 | 6 | 10 | 12 |
| 1898..... | 24.2 | +1.6 | 62 | -18 | 1.20 | 0.00 | 3.65 | 0.10 | 7.8 | 5 | 10 | 9 | 9 |
| 1899..... | 12.2 | -10.4 | 75 | -40 | 0.89 | -0.31 | 4.32 | 0.12 | 7.1 | 5 | 11 | 10 | 7 |
| 1900..... | 14.8 | -7.8 | 60 | -27 | 1.30 | +0.10 | 4.57 | 0.18 | 9.9 | 6 | 10 | 8 | 10 |
| 1901..... | 17.5 | -5.1 | 49 | -21 | 1.01 | -0.19 | 3.00 | 0.12 | 9.7 | 4 | 15 | 7 | 6 |
| 1902..... | 17.6 | -5.0 | 62 | -21 | 0.73 | -0.47 | 2.39 | 0.02 | 2.6 | 4 | 13 | 8 | 7 |
| 1903..... | 19.8 | -2.8 | 56 | -21 | 1.18 | -0.02 | 3.25 | 0.30 | 7.9 | 4 | 13 | 7 | 8 |
| 1904..... | 14.8 | -7.8 | 70 | -26 | 0.41 | -0.79 | 1.99 | T. | 4.5 | 4 | 10 | 9 | 10 |
| 1905..... | 12.8 | -9.8 | 69 | -41 | 1.57 | +0.37 | 2.97 | 0.44 | 15.5 | 7 | 14 | 6 | 8 |
| 1906..... | 23.6 | +1.0 | 66 | -32 | 1.29 | +0.09 | 2.91 | 0.20 | 6.1 | 5 | 14 | 7 | 7 |
| 1907..... | 25.0 | +2.4 | 65 | -31 | 0.71 | -0.49 | 1.95 | 0.06 | 4.6 | 4 | 14 | 6 | 8 |
| 1908..... | 24.3 | +1.7 | 59 | -16 | 1.69 | +0.49 | 3.95 | 0.23 | 8.9 | 6 | 12 | 6 | 11 |
| 1909..... | 26.2 | +3.6 | 62 | -26 | 1.54 | +0.34 | 4.72 | 0.30 | 7.7 | 5 | 11 | 6 | 11 |
| 1910..... | 17.8 | -4.8 | 58 | -21 | 0.46 | -0.74 | 2.09 | T. | 4.0 | 3 | 14 | 8 | 6 |
| 1911..... | 27.3 | +4.7 | 71 | -13 | 2.76 | +1.56 | 5.46 | 0.50 | 7.0 | 6 | 12 | 6 | 10 |
| 1912..... | 18.1 | -4.5 | 57 | -30 | 1.21 | +0.01 | 3.25 | 0.04 | 11.2 | 5 | 10 | 9 | 10 |
| 1913..... | 20.2 | -2.4 | 70 | -24 | 0.82 | -0.38 | 2.39 | 0.07 | 7.3 | 4 | 14 | 7 | 7 |
| 1914..... | 16.8 | -5.8 | 59 | -29 | 0.87 | -0.33 | 1.99 | 0.32 | 9.2 | 6 | 10 | 9 | 9 |
| 1915..... | 29.1 | +6.5 | 62 | -8 | 2.93 | +1.73 | 5.39 | 0.43 | 9.4 | 9 | 9 | 5 | 14 |
| 1916..... | 19.0 | -3.6 | 62 | -32 | 0.55 | -0.65 | 1.38 | 0.05 | 6.0 | 4 | 14 | 8 | 7 |
| 1917..... | 15.2 | -7.4 | 68 | -37 | 0.36 | -0.84 | 1.19 | T. | 3.5 | 3 | 14 | 8 | 6 |
| 1918..... | 23.0 | +0.4 | 70 | -36 | 0.95 | -0.25 | 2.10 | 0.09 | 6.0 | 5 | 14 | 7 | 7 |
| 1919..... | 24.9 | +2.3 | 65 | -16 | 2.42 | +1.22 | 4.12 | 1.32 | 9.9 | 8 | 11 | 5 | 12 |
| 1920..... | 24.0 | +1.4 | 59 | -22 | 0.56 | -0.64 | 1.75 | 0.04 | 4.1 | 5 | 9 | 6 | 14 |
| 1921..... | 31.0 | +8.4 | 76 | -5 | 0.77 | -0.43 | 2.00 | T. | 6.5 | 5 | 13 | 7 | 8 |
| 1922..... | 23.7 | +1.1 | 70 | -20 | 1.59 | +0.39 | 4.56 | 0.40 | 1.3 | 4 | 14 | 7 | 7 |
| 1923..... | 20.1 | -2.5 | 61 | -23 | 0.40 | -0.80 | 1.71 | 0.00 | 3.2 | 3 | 13 | 8 | 7 |
| 1924..... | 25.8 | +3.2 | 70 | -15 | 1.27 | +0.07 | 4.00 | 0.30 | 11.2 | 7 | 15 | 5 | 9 |
| 1925..... | 28.4 | +5.8 | 66 | -16 | 0.82 | -0.38 | 3.69 | T. | 2.6 | 4 | 11 | 7 | 10 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.
*New normals effective June 1, 1924



Daily Recipitation for February, 1925

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | Totals |
| | | Northern Division <p><i>Northern Division</i></p> <p>Algona.....Des Moines......32......24......0.96 Allison (near).....Cedar......10 T......0.78 Alta.....Raccoon......06......09......0.50 Alton.....Floyd......15......05......0.50 Belmond.....Iowa......22......04 T......0.52 Britt.....Iowa......32......10......0.58 Charles City***.....Cedar......18 T T......0.57 Cherokee.....Little Sioux......06......06......0.16 Decorah.....Mississippi......24......50......0.78 Dubuque***.....Mississippi......06 T .02......0.01 1.08 Estherville.....Des Moines......20......10......0.95 Payette.....Mississippi......13......14......0.45 Forest City.....Cedar......40......10......0.62 Hampton.....Cedar......10......13......0.38 Humboldt.....Des Moines......22......04 T......0.36 Independence.....Wapsipinicon......10......25 T......0.35 Inwood.....Big Sioux......06......01......0.33 Le Mars.....Floyd......08......06......0.08 Mason City.....Cedar......16 .29......0.53 Milford (near).....Little Sioux......50......45......1.48 New Hampton.....Wapsipinicon......20......18......0.58 Nora Springs.....Cedar......46......12......0.82 Northwood.....Cedar......80......10......0.40 Oelwein.....Wapsipinicon......36......05 .09 T......0.70 Osage.....Cedar......15......05......0.67 Pocahontas.....Des Moines......15 .15......0.92 Postville.....Mississippi......15......40......0.53 Rock Rapids.....Big Sioux......15......05......0.45 Sanborn.....Floyd......15......05......0.42 Sioux Center.....Floyd......20......10......1.22 Spencer.....Little Sioux......40......07......0.23 Storm Lake.....Raccoon......18......10......0.20 Washta.....Little Sioux......10......10......0.45 Waterloo.....Cedar......12......01 .10......0.39 Waverly.....Cedar......18......03......0.12 West Bend.....Des Moines...... T...... T...... 0.12</p> Central Division <p><i>Central Division</i></p> <p>Ames.....Skunk...... T .03......05 .30 T......0.04 Audubon.....Nishnabotna...... T......02......0.04 Baxter.....Skunk...... T T......20......0.25 Belle Plaine.....Iowa...... T T T......21 T......0.36 Boone.....Des Moines...... T T......05 T......0.05 Carroll.....Raccoon...... T......04......0.04 Cedar Rapids.....Cedar...... T......51 .02......0.76 Clinton.....Mississippi......01......12 .50......2.16 Davenport***.....Mississippi......01......28 .12 T......1.94 Davenport (No. 2).....Mississippi......01......19 .05......1.75 Denison.....Missouri...... T......02 .03......0.21 Des Moines***.....Des Moines...... T T......46 T......0.50 Fairport.....Mississippi...... T......31 .55......2.36 Fort Dodge.....Des Moines......05......07 T......0.35 Grinnell.....Iowa......02......05 .09......0.29 Grundy Center.....Cedar......12 T......10......0.82 Guthrie Center.....Raccoon......19 .04 T......0.27 Harlan.....Nishnabotna...... T......11......1.04 Iowa City.....Iowa...... T......28 .21......1.04 Iowa Falls.....Iowa......07 .08...... T .20......0.65 Jefferson.....Raccoon...... T...... T T......0.05 Le Claire Mississippi...... T......16......0.36 Little Sioux.....Little Sioux...... T......08......0.09 Logan.....Missouri......02 .03......05 .05......0.27 Marshalltown.....Iowa...... T T......11 T......0.27 Monroe.....Des Moines...... T T......22 T......0.47 Muscatine Mississippi...... T......50......1.24 Olin.....Wapsipinicon......30......30......1.10 Onawa.....Missouri...... T...... T......0.07 Perry.....Raccoon......20......07......0.17 Rockwell City.....Raccoon......20......05......0.35 Sac City.....Raccoon......03......01......0.17 Sioux City***.....Missouri......01......42 .52......2.06 Tipton.....Cedar...... T...... T .15......0.21 Toledo.....Iowa...... T...... T......0.41 Van Meter Raccoon...... T T......40 T......0.50 Waukeo.....Raccoon...... T......08......0.21 Webster City.....Des Moines...... T...... T......0.21 Williamsburg.....Iowa...... T......08......0.07</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Daily Precipitation for February, 1925—Continued

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|----------------|--------------|-----|---|---|---|---|---|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|------|------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | To. tals | | |
| <i>Southern Division</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afton | Grand | | | | | | | | .05 | .15 | | | | | | | | | | | | | | | | | | | | .10 | 0.71 | |
| Albia | Des Moines | T. | | | | | | | .24 | .09 | .01 | | | | | | | | | | | | | | | | | | | T. | 1.23 | |
| Atlantic | Nishnabotna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.06 |
| Bonaparte | Des Moines | T. | | | | | | | .27 | .46 | .15 | | | | | | | | | | | | | | | | | | | | 1.18 | |
| Burlington | Mississippi | T. | T. | | | | | | .91 | .31 | .12 | | | | | | | | | | | | | | | | | | | | 3.69 | |
| Centerville | Chariton | T. | | | | | | | .36 | .27 | .01 | | | | | | | | | | | | | | | | | | | | 1.12 | |
| Chariton | Chariton | | | | | | | | .66 | .10 | .11 | | | | | | | | | | | | | | | | | | | | 1.85 | |
| Clarinda | Nodaway | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.95 | |
| Columbus Jet. | Iowa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.02 | |
| Corning | Nodaway | | | | | | | | | | T. | | | | | | | | | | | | | | | | | | | | 1.02 | |
| Corydon | Chariton | T. | | | | | | | .60 | .07 | .25 | | | | | | | | | | | | | | | | | | | | 1.33 | |
| Creston | Missouri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | T. | |
| Cumberland (near) | Nodaway | | | | | | | | T. | | T. | | | | | | | | | | | | | | | | | | | | T. | |
| Earlham | Des Moines | | | | | | | | T. | .06 | T. | | | | | | | | | | | | | | | | | | | | 0.06 | |
| Fairfield | Skunk | | .02 | | | | | | .38 | .48 | .10 | | | | | | | | | | | | | | | | | | | | 2.76 | |
| Glenwood | Missouri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.97 | |
| Indianola | Des Moines | | | | | | | | T. | T. | | | | | | | | | | | | | | | | | | | | | 0.51 | |
| Keokuk*** | Mississippi | T. | | | | | | | .55 | .05 | .37 | | | | | | | | | | | | | | | | | | | | 1.71 | |
| Keosauqua | Des Moines | T. | | | | | | | .25 | .33 | .18 | | | | | | | | | | | | | | | | | | | | 1.10 | |
| Knoxville | Des Moines | T. | | | | | | | .16 | T. | .10 | | | | | | | | | | | | | | | | | | | | 0.51 | |
| Lacona | Des Moines | | | | | | | | .12 | .11 | | | | | | | | | | | | | | | | | | | | | 0.63 | |
| Lamoni | Grand | | | | | | | | .38 | .27 | .02 | | | | | | | | | | | | | | | | | | | | 1.16 | |
| Lenox | Missouri | | T. | | | | | | .05 | .05 | .02 | | | | | | | | | | | | | | | | | | | | 1.13 | |
| Mt. Ayr | Grand | T. | | | | | | | .18 | .23 | T. | | | | | | | | | | | | | | | | | | | | 0.96 | |
| Mt. Pleasant | Skunk | T. | | | | | | | .53 | .62 | .09 | | | | | | | | | | | | | | | | | | | | 1.56 | |
| Oakland | Nishnabotna | | | | | | | | T. | | T. | | | | | | | | | | | | | | | | | | | | 0.72 | |
| Oskaloosa | Des Moines | T. | T. | | | | | | .45 | T. | | | | | | | | | | | | | | | | | | | | | 0.71 | |
| Ottumwa | Des Moines | T. | | | | | | | .44 | .20 | .02 | | | | | | | | | | | | | | | | | | | | 1.98 | |
| Pella | Skunk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Red Oak (near) | Missouri | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.17 | |
| Sigourney | Skunk | T. | | | | | | | .53 | T. | .03 | | | | | | | | | | | | | | | | | | | | 0.87 | |
| Stockport | Skunk | T. | | | | | | | .36 | .38 | .20 | | | | | | | | | | | | | | | | | | | | 2.32 | |
| Thurman | Missouri | | | | | | | | T. | T. | T. | | | | | | | | | | | | | | | | | | | | 1.30 | |
| Tingley | Platt | | | | | | | | .23 | | | | | | | | | | | | | | | | | | | | | | 1.05 | |
| Washington | Skunk | T. | | | | | | | .42 | .62 | T. | | | | | | | | | | | | | | | | | | | | 2.20 | |
| Wescott (near) | Mississippi | | | | | | | | .60 | .35 | .15 | | | | | | | | | | | | | | | | | | | | 2.60 | |
| Winterset | Des Moines | | | | | | | | .05 | .25 | | | | | | | | | | | | | | | | | | | | | 0.35 | |
| Omaha, Neb.*** | Missouri | | | | | | | | T. | .01 | | | | | | | | | | | | | | | | | | | | | 0.61 | |

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.

***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.

**Incomplete.

*Precipitation included in the next following measurement.

T. Precipitation is less than .01 inch rain or melted snow.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

ERRATA

In the June, 1924 report, page 51, the following figures should be substituted for those appearing for Charles City in the table headed "Northern Division."

| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|--------------|------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Charles City | 13.7 | 17.1 | 30.7 | 46.4 | 57.8 | 66.5 | 72.3 | 69.1 | 61.0 | 48.6 | 33.0 | 20.4 | 44.7 |

In this table the mean for January should be 15.4, instead of 15.3°.

| Stations | Barometric Pressure, Inches (Sea Level) | | | | | Relative Humidity, % | | | | Wind | | | | | Sunshine | | |
|---------------------|---|---------|------------------|--------|------------------|----------------------|---------|---------|--------|-----------------|----------------|-------------------------|-------|------|-----------------|----------------------|-----------------------|
| | Mean | Highest | Date | Lowest | Date | 7 a. m. | 12 Noon | 7 p. m. | Lowest | Date | Total movement | Average hourly velocity | Miles | From | Date | Per cent of possible | Departure from normal |
| Charles City | 30.04 | 30.48 | 27 | 29.57 | 24 | 86 | 69 | 81 | 39 | 27 | 4,733 | 7.0 | 26 | nw. | 25 | 44 | -10 |
| Davenport | 30.03 | 30.50 | 27 | 29.56 | 24 | 90 | 73 | 76 | 42 | 11 | 5,259 | 7.8 | 30 | nw. | 25 | 37 | -17 |
| Des Moines | 30.02 | 30.53 | 27 | 29.56 | 24 | 84 | 64 | 67 | 41 | †11 | 4,906 | 7.3 | 31 | sw. | 3 | 56 | 0 |
| Dubuque | 30.01 | 30.48 | 27 | 29.56 | 9 | 84 | 66 | 74 | 39 | 27 | 4,731 | 7.0 | 31 | nw. | 26 | 45 | 8 |
| Keokuk | 30.04 | 30.52 | 27 | 29.51 | 23 | 81 | 59 | 67 | 30 | 28 | 5,237 | 7.8 | 29 | w. | 8 | 50 | 5 |
| Sioux City | 30.06 | 30.54 | 11 | 29.61 | 24 | 85 | 71 | 76 | 42 | 11 | 8,102 | 12.1 | 46 | nw. | 25 | 53 | -4 |
| Omaha, Neb. | 30.04 | 30.52 | 11 | 29.51 | 7 | 82 | 63 | 68 | 31 | 11 | 6,300 | 9.4 | 33 | nw. | †23 | 54 | -3 |
| Means and extremes | 30.03 | | | | | 85 | 66 | 73 | | | | 8.3 | | | | 48 | -7 |
| Normals and records | 30.10 | | 21 st | | 28 th | 84 | | 76 | | 22 ^d | | 9.3 | | | 4 th | 55 | |
| | | | †31.07 | 1918 | *28.69 | 1902 | | | | †13 | 1880 | | | \$69 | nw. | 1917 | |

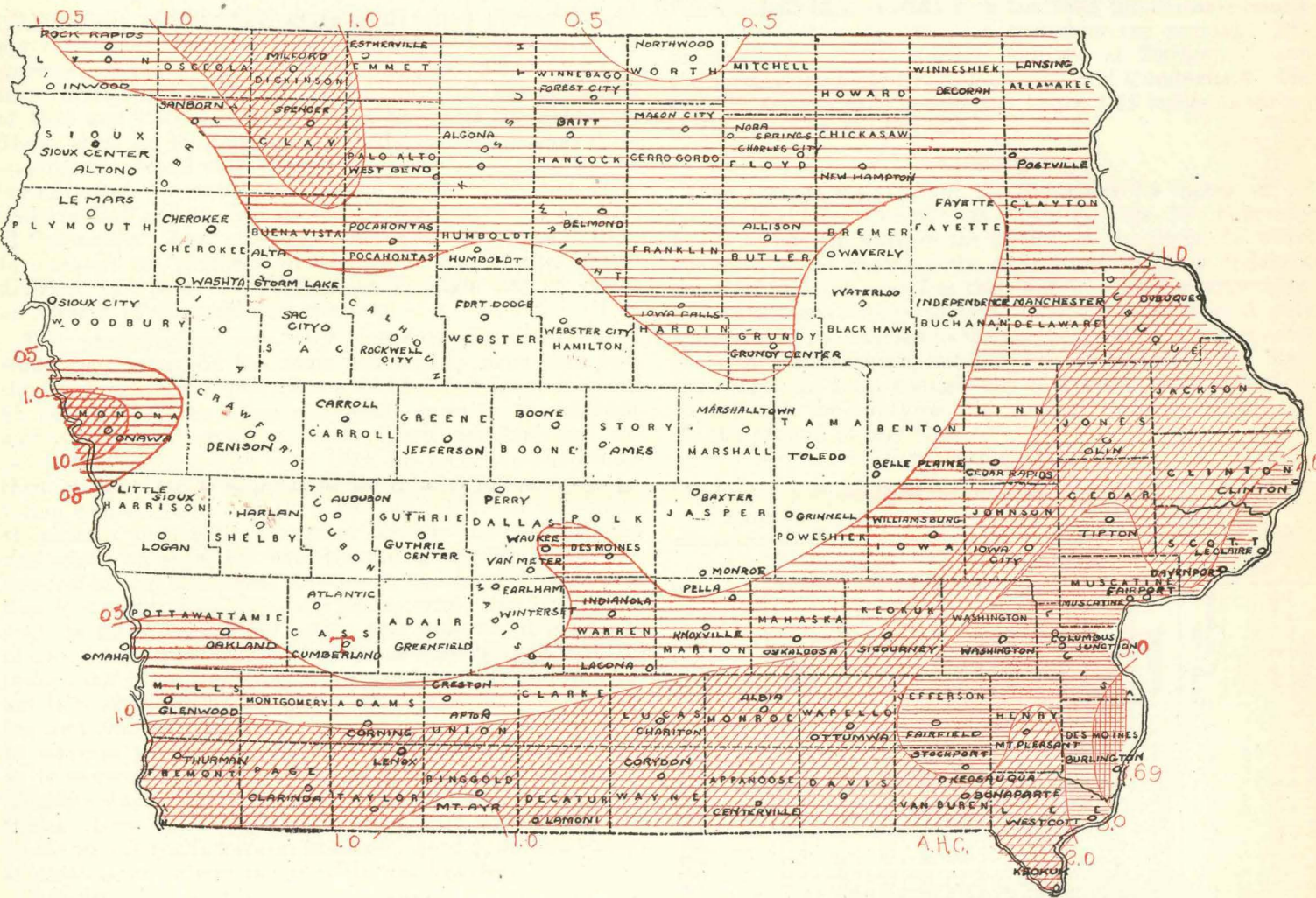
§Sioux City. *Davenport. †Des Moines. ‡Local mean time. †And other dates.

Daily Maximum and Minimum Temperature for the Month of February, 1925

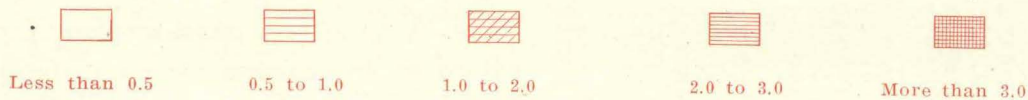
Table with columns for Stations, days 1-28, and Mean. Rows are categorized by Northern, Central, and Southern Divisions, listing various Iowa cities and their daily temperature ranges.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from record.

TOTAL PRECIPITATION, FEBRUARY, 1925



SCALE OF SHADES—IN INCHES



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, MARCH, 1925 No. 3

GENERAL SUMMARY

Aside from a cold spell on the 1st and 2d, and another at the end of the second week and the beginning of the third week, unusually mild weather prevailed throughout the month, though the mean temperature has been exceeded five times in March. Zero temperatures were reached on the 1st, 2d, and 15th, being general over most of the State on the 2d and over a large area on the 15th, but zero was reached in none of the counties bordering the Missouri River except Lyon. This is the third consecutive month with an excess in temperature. The average daily excess since January 1 is 4.0 degrees. This caused all trees to make rapid advances and at the end of the month fruit buds were about two weeks ahead of last year.

The precipitation was decidedly below the normal, only two stations having an excess. This was also the third consecutive month with deficient precipitation, and the total for the three months, 2.15 inches, was the least in the history of the State for a similar period. The nearest approach to this amount was 2.17 inches in 1895. Precipitation was well distributed throughout the month but generally too light to penetrate the soil, except in the storm of the 13th, and most of the moisture was lost by evaporation.

Conditions were unusually favorable for all farm work. Frost left the ground much earlier than usual, and the preparation of the soil and seeding oats and spring wheat progressed with practically no interruption during the last half of the month, to a stage much ahead of the average. While conditions were favorable for farm work, the general lack of precipitation in connection with the large number of windy days and the abnormally low humidity was injuriously affecting certain kinds of vegetation. In localities the dry soil drifted and covered up some winter wheat, and in other fields the soil blew away from the roots.

A number of small streams were completely dry and an unusually large number of wells were failing that never before had failed in the spring. The soil was so dry in most of the State that most of the oats seeded had made no advance toward germination, and grasses appeared dormant. Truck gardeners reported that hardy plants that had been transferred to fields were becoming yellow where irrigation was not practiced. Building operations progressed with very little interruption and highways were in unusually good condition, except for a brief period following the storm of the 13th, when dirt and gravel roads became soft.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 101 stations, was 40.1°, or 5.4° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 37.6°, or 5.5° higher than the normal; Central, 40.2°, or 5.1° higher than the normal; Southern, 42.4°, or 5.6° higher than the normal. The highest monthly mean was 44.4° at Ottumwa, and the lowest was 34.3°, at Estherville. The highest temperature reported was 82° at Thurman on the 22d, and at Glenwood and Little Sioux on the 23d, and the lowest was -6° at Cedar Rapids, Williamsburg and Postville on the 2d and at Fayette on the 15th. The temperature range for the State was 88°.

tumwa, and the lowest was 34.3°, at Estherville. The highest temperature reported was 82° at Thurman on the 22d, and at Glenwood and Little Sioux on the 23d, and the lowest was -6° at Cedar Rapids, Williamsburg and Postville on the 2d and at Fayette on the 15th. The temperature range for the State was 88°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 105 stations, was 0.93 inch, or 0.82 inch less than the normal. By divisions, the averages were as follows: Northern 0.68 inch, or 0.88 inch less than the normal; Central, 0.90 inch, or 0.92 inch less than the normal; Southern, 1.20 inches, or 0.68 inch less than the normal. The greatest amount, 2.34 inches, occurred at Thurman, and the least, 0.10 inch, occurred at Harlan. The greatest amount in 24 consecutive hours, 1.50 inches occurred at Creston on the 13th.

SNOWFALL

The average snowfall for the State was 2.9 inches, or 2.4 inches less than the normal. The greatest amount, 7.5 inches occurred at Humboldt and Iowa Falls and the least was a trace at Bonaparte, Corning, Cumberland, Fairfield, Fairport, Keosauqua, Monroe, Ottumwa, Stockport, Washington and Winterset.

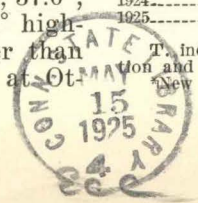
MISCELLANEOUS PHENOMENA

Birds (migration of): Boone, red winged black birds, ducks, robins and kildeer 6th; wild geese, 13th; blue birds, (Continued on Page 21)

COMPARATIVE DATA FOR THE STATE—MARCH

| YEAR | Temperature | | | | Precipitation | | | | | Number of Days | | | |
|------|-------------|------------|---------|--------|---------------|------------|----------|-------|----------|--------------------------|-------|---------------|--------|
| | Mean | Departure* | Highest | Lowest | Total | Departure* | Greatest | Least | Snowfall | With pre. of in. or more | Clear | Partly cloudy | Cloudy |
| 1800 | 28.0 | -6.7 | 75 | -24 | 1.57 | -0.18 | 3.67 | 0.32 | --- | 10 | 6 | 8 | 17 |
| 1801 | 26.8 | -7.9 | 66 | -19 | 2.60 | +0.85 | 4.58 | 1.33 | --- | 6 | 11 | 8 | 12 |
| 1802 | 31.9 | -2.8 | 84 | -6 | 2.22 | +0.47 | 4.58 | 0.57 | 3.9 | 8 | 9 | 11 | 11 |
| 1803 | 31.8 | -2.9 | 84 | -8 | 2.14 | +0.39 | 4.40 | 0.64 | 4.0 | 6 | 13 | 10 | 8 |
| 1804 | 41.0 | +6.3 | 84 | -5 | 2.03 | +0.28 | 4.52 | 0.26 | 2.7 | 4 | 16 | 8 | 7 |
| 1805 | 34.4 | -0.3 | 94 | -11 | 0.83 | -0.92 | 2.60 | 0.22 | 2.9 | 5 | 12 | 9 | 10 |
| 1806 | 30.9 | -3.8 | 81 | -12 | 1.10 | -0.65 | 3.99 | 0.16 | 5.4 | 5 | 12 | 9 | 10 |
| 1807 | 32.0 | -2.7 | 72 | -22 | 2.39 | +0.64 | 6.16 | 0.29 | 5.5 | 8 | 9 | 8 | 14 |
| 1808 | 37.5 | +2.8 | 72 | -2 | 1.94 | +0.19 | 6.21 | 0.33 | 3.7 | 6 | 12 | 9 | 10 |
| 1809 | 23.0 | -11.7 | 75 | -16 | 1.62 | -0.13 | 5.90 | 0.37 | 8.0 | 6 | 7 | 12 | 12 |
| 1800 | 30.7 | -4.0 | 81 | -13 | 2.06 | +0.31 | 5.15 | 0.45 | 6.6 | 5 | 12 | 9 | 10 |
| 1901 | 34.2 | -0.5 | 76 | -8 | 2.64 | +0.89 | 5.25 | 0.70 | 12.6 | 7 | 10 | 8 | 13 |
| 1902 | 39.1 | +4.4 | 79 | -12 | 1.45 | -0.30 | 4.33 | 0.13 | 1.3 | 7 | 9 | 11 | 11 |
| 1903 | 38.8 | +4.1 | 82 | 6 | 1.38 | -0.37 | 3.90 | 0.15 | 3.9 | 7 | 11 | 7 | 13 |
| 1904 | 34.8 | +0.1 | 78 | 3 | 2.18 | +0.43 | 4.57 | 0.50 | 4.4 | 7 | 8 | 8 | 15 |
| 1905 | 41.5 | +6.8 | 84 | 1 | 2.04 | +0.29 | 3.70 | 0.89 | 4.1 | 7 | 8 | 8 | 15 |
| 1906 | 27.1 | -7.6 | 65 | -14 | 2.34 | +0.59 | 4.55 | 0.58 | 8.9 | 10 | 8 | 7 | 16 |
| 1907 | 40.6 | +5.9 | 92 | -7 | 1.35 | -0.40 | 5.05 | 0.23 | 4.1 | 6 | 14 | 7 | 10 |
| 1908 | 37.9 | +3.2 | 85 | -8 | 1.58 | -0.17 | 3.74 | 0.45 | 1.1 | 6 | 13 | 7 | 11 |
| 1909 | 32.5 | -2.2 | 71 | -15 | 1.53 | -0.22 | 5.00 | 0.28 | 9.8 | 6 | 12 | 10 | 9 |
| 1910 | 48.9 | +14.2 | 92 | -10 | 0.17 | -1.58 | 1.37 | 0.00 | T. | 1 | 23 | 6 | 2 |
| 1911 | 39.4 | +4.7 | 83 | 2 | 0.93 | -0.82 | 4.84 | T. | 1.9 | 5 | 16 | 9 | 6 |
| 1912 | 24.9 | -9.8 | 70 | -19 | 2.01 | +0.26 | 5.25 | 0.60 | 19.1 | 7 | 15 | 6 | 10 |
| 1913 | 31.9 | -2.8 | 78 | -23 | 2.48 | +0.73 | 5.88 | 0.74 | 5.3 | 9 | 11 | 10 | 10 |
| 1914 | 34.7 | 0.0 | 78 | -5 | 1.69 | -0.06 | 3.84 | 0.28 | 1.8 | 7 | 12 | 8 | 11 |
| 1915 | 29.3 | -5.4 | 61 | -5 | 0.96 | -0.79 | 2.12 | 0.17 | 8.8 | 5 | 8 | 9 | 14 |
| 1916 | 35.2 | +0.5 | 80 | -18 | 1.57 | -0.15 | 5.80 | 0.23 | 2.9 | 6 | 11 | 9 | 11 |
| 1917 | 34.6 | -0.1 | 85 | -12 | 1.84 | +0.09 | 4.35 | 0.57 | 6.2 | 6 | 14 | 8 | 9 |
| 1918 | 42.9 | +8.2 | 85 | 0 | 0.63 | -1.12 | 2.12 | 0.03 | 2.6 | 3 | 19 | 7 | 5 |
| 1919 | 37.5 | +2.8 | 78 | -11 | 2.33 | +0.53 | 5.40 | 0.81 | 1.1 | 6 | 15 | 8 | 8 |
| 1920 | 38.0 | +3.3 | 80 | -21 | 3.02 | +1.27 | 5.70 | 0.47 | 2.4 | 7 | 15 | 7 | 9 |
| 1921 | 42.8 | +8.1 | 86 | 4 | 1.57 | -0.18 | 6.62 | 0.17 | 0.2 | 7 | 14 | 8 | 9 |
| 1922 | 38.3 | +3.6 | 74 | -5 | 1.97 | +0.22 | 3.73 | 0.76 | 3.4 | 7 | 12 | 6 | 13 |
| 1923 | 29.4 | -5.3 | 78 | -22 | 2.87 | +1.12 | 5.08 | 0.71 | 18.5 | 7 | 13 | 9 | 9 |
| 1924 | 31.9 | -2.8 | 72 | 3 | 2.65 | +0.90 | 4.76 | 1.26 | 10.5 | 8 | 8 | 8 | 15 |
| 1925 | 40.1 | +5.4 | 82 | -6 | 0.93 | -0.82 | 2.34 | 0.10 | 2.9 | 4 | 17 | 9 | 5 |

T. indicates an amount too small to measure, or less than .005 inch precipitation and less than .05 inch snowfall.
New normals effective June 1, 1924.



Climatological Data for March, 1925—Continued

Table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation, Clear, Partly cloudy, Cloudy, Prevailing direction of wind), and Observers.

The departure from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table with columns: Stations, Barometric Pressure (Mean, Highest, Date, Lowest, Date), Relative Humidity (Mean, 7 a. m., 12 Noon, 7 p. m., Lowest, Date), Wind (Total movement, Average hourly velocity, Miles, From, Date), and Sunshine (Per cent of possible, Departure from normal).

§Sioux City. *Des Moines. †Local mean time. ‡And other dates.

Daily Precipitation for March, 1925

Table with columns: Stations, Drainage Basin, Day of Month (1-31), and Totals. Rows include stations like Algona, Allison, Alta, Alton, Belmond, Britt, Charles City, Cherokee, Decora, Dubuque, Estherville, Fayette, Forest City, Hampton, Humboldt, Independence, Inwood, Le Mars, Mason City, Milford, New Hampton, Nora Springs, Northwood, Osage, Pocahontas, Postville, Rock Rapids, Sanborn, Sioux Center, Spencer, Storm Lake, Washita, Waterloo, Waverly, West Bend, Ames, Audubon, Baxter, Belle Plaine, Boone, Carroll, Cedar Rapids, Clinton, Davenport, Davenport (No. 2), Denison, Des Moines, Fairport, Fort Dodge, Grinnell, Grundy Center, Guthrie Center, Harlan, Iowa City, Iowa Falls, Jefferson, Le Claire, Little Sioux, Logan, Maquoketa, Marshalltown, Monroe, Muscatine, Olin, Onawa, Perry, Rockwell City, Sac City, Sioux City, Tipton, Toledo, Van Meter, Wankee, Webster City, Williamsburg.

Daily Precipitation for March, 1925—Continued

Table with columns: Stations, Drainage Basin, Day of Month (1-31), and Totals. Rows include stations like Afton, Albia, Atlantic, etc., with their respective precipitation values for each day.

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.

***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.

**Incomplete.

*Precipitation included in the next following measurement.

T. Precipitation is less than .01 inch rain or melted snow.

(Continued from page 1)

14th; phoebe, 19th; fox sparrow, song sparrow, 21st; blue heron, chewing, kingfisher, 31st. Corydon, robins, 4th. Earlham, robins, 6th. Jefferson, robins, 6th. Oskaloosa, ducks, 6th; meadow larks, 11th.

Dust storm: 26th.

Fog: 8th, 9th, 17th, 19th, 22d, 24th, 25th.

Hail: 23d.

Halos (lunar and solar): 1st, 2d, 3d, 5th, 9th, 11th, 12th, 15th, 16th, 17th, 18th, 20th, 21st, 22d.

Haze: 16th, 23d.

Parhelia: 1st.

Sleet: 3d, 4th, 13th, 14th, 18th.

Thunderstorms: 9th, 13th, 22d, 23d, 24th, 31st.

Wind (high): 1st, 3d, 5th, 10th, 13th, 15th, 16th, 20th, 21st, 23d, 24th, 25th, 26th, 27th, 28th.

RIVERS

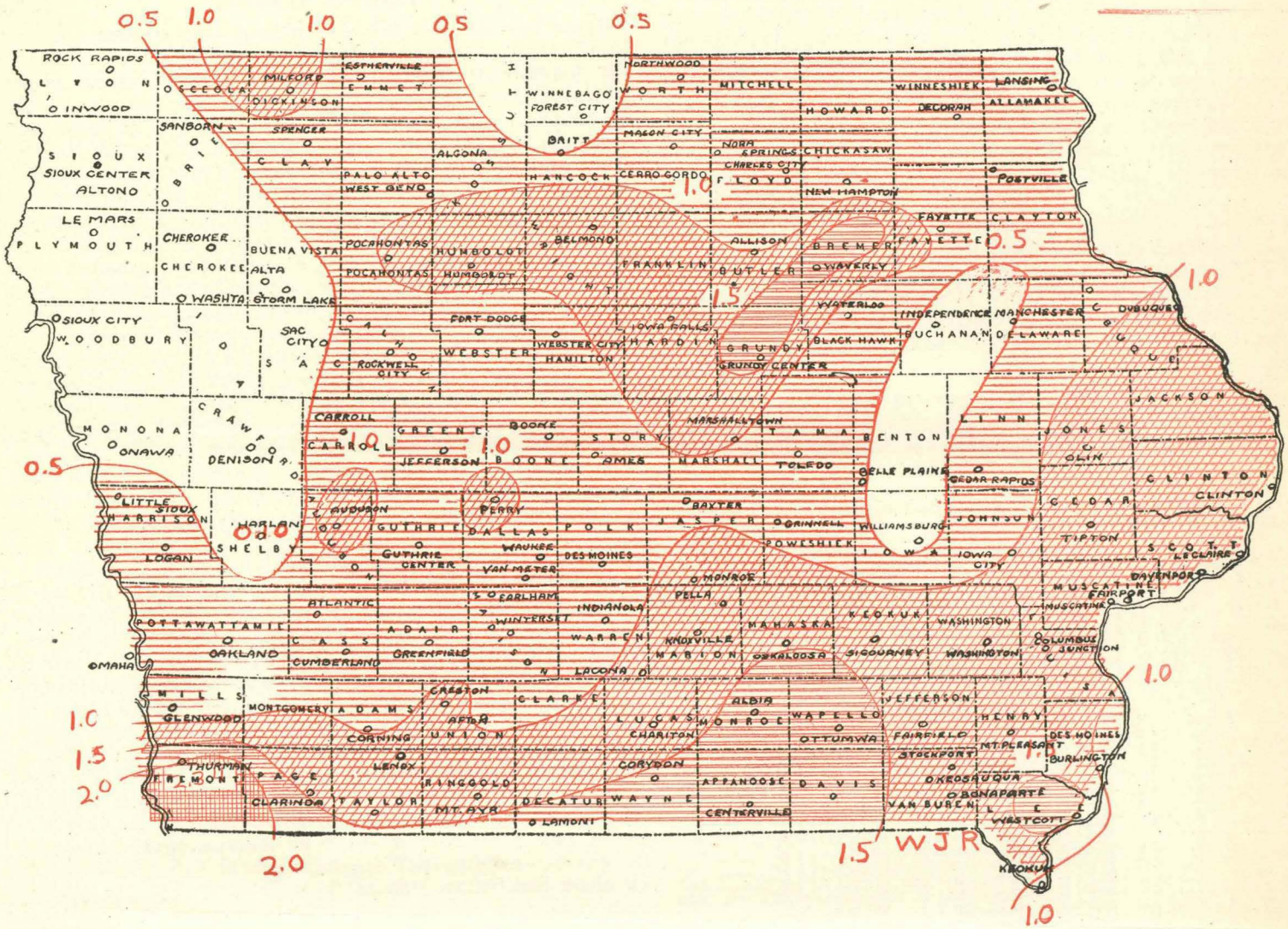
Low stages prevailed on the Mississippi river with a slight fall during the first week and a gradual rise thereafter till near the end of the month. The ice began breaking at the end of the first week but there was still some ice in the upper course as late as the 20th. Low stages also prevailed on all interior rivers with considerable fluctuation during the first week due to ice after which there was a slow rise till the latter part of the month. Moderate stages prevailed on the Missouri River with the highest stages during the first week and a general falling tendency prevailed the rest of the month. The ice moved out of all streams with very little damage.

Daily Maximum and Minimum Temperature for the Month of March, 1925.

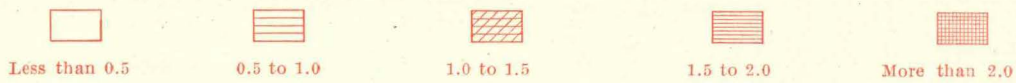
Table with columns for Stations, days 1-31, and Mean. Rows are categorized by Northern Division, Central Division, and Southern Division, listing various Iowa cities and their daily temperature ranges.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

TOTAL PRECIPITATION, MARCH, 1925



Scale of Shades—In Inches



CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, APRIL, 1925 .No. 4

GENERAL SUMMARY

Unusually mild weather prevailed practically the entire month, and with the exception of April 1915 this was the warmest April of record. From the 1st to the 26th the temperature was continuously above normal except on an occasional day, in scattered portions of the State. An unusual feature was the fact that at a number of stations the temperature did not reach the freezing point, and there was no damage of consequence from frost. The month closed with a decided change to colder. Another unusual feature was the remarkably high minimum temperature on the night of the 21st-22d, which seemed more like a July night, and the minimum on the morning of the 22d did not go below 70° at several stations in the western portion of the State. The mild weather caused all vegetation to advance far beyond the average for the season. Fruit blossomed in some parts of the State nearly three weeks ahead of the average date, under ideal conditions. Strawberries were damaged somewhat by frost at the end of the month, but most tree fruit escaped injury. Truck gardeners generally disregarded caution and planted a large acreage of tomatoes, sweet corn and beans. Many fields of sweet corn intended for early market were more than six inches high at the end of the month. The weather was ideal for all farm work. The preparation of the soil for corn was pushed and there was considerable planting in the southern half of the State, but in a small area in the southeast the work was interrupted by too much rain. The temperature departures were remarkably uniform.

Though precipitation averaged only 0.79 inch below normal, the greater portion of the State had less than half the normal, the average being brought up by an excess in the southeast and south-central sections. The continued rain shortage in much of the State caused small streams and wells to continue to go dry and crops in large areas were badly in need of rain. Since the present dry period set in there has been but one month, December 1924, that has had more than the normal precipitation. The deficiency since last September now amounts to more than five inches. There was very little rain during the first week; thereafter rainfall occurred at frequent intervals but generally insufficient to penetrate the soil. Hail occurred on a large number of days, but it was not of a damaging nature except on the 18th, 20th, and 21st. The most severe storm occurred on the 18th in a strip running from Humboldt and Wright counties northeastward to Winneshiek, Howard, and Mitchell counties. The damage consisted mainly of broken windows, punctured roofs, and some damage to fruit buds. Stones were noted at many places as large as hen's eggs. A less severe storm also occurred over much of this area on the 20th and 21st; and on the 21st a local storm occurred in Appanoose county. These storms were accompanied by considerable wind which wrecked a number of barns and silos. Lightning was severe in localities. In Dubuque county a team of two mules and two horses were killed, but the driver escaped without being stunned; in Lee county lightning struck a barn, causing it to burn with all its contents, including four horses.

Roads were in generally good condition, except in the south-east portion, throughout the month, and all outside occupations were carried on with very little interruption.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 102 stations, was 56.5°, or 7.6° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows; Northern, 54.8°, or 7.7° higher than the normal; Central, 56.7°, or 7.5° higher than the normal; Southern, 58.1° or 7.6° higher than the normal. The highest monthly mean was 60.2°, at Thurman, and the lowest was 52.6°, at Osage. The highest temperature reported was 95°, at Waterloo, on the 23d, and the lowest was 21°, at Postville, on the 5th. The temperature range for the State was 74°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 105 stations, was 2.20 inches, or 0.79 inch less than the normal. By divisions the averages were as follows: Northern, 1.76 inches, or 1.01 inches less than the normal; Central, 2.12 inches, or 0.91 inch less than the normal; Southern, 2.71 inches, or 0.47 inch less than the normal. The greatest amount, 5.34 inches, occurred at Centerville, and the least, 0.71 inch, occurred at Allison. The greatest amount in any 24 consecutive hours, 2.31 inches, occurred at Fairfield, on the 24th.

(Continued on page 29)

COMPARATIVE DATA FOR THE STATE—APRIL

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|-----------|-------------|------------|---------|--------|---------------|------------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure* | Highest | Lowest | Total | Departure* | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890..... | 51.8 | +2.9 | 88 | 2 | 1.80 | -1.19 | 4.46 | 0.38 | ----- | 6 | 14 | 9 | 7 |
| 1891..... | 50.6 | +1.7 | 93 | 13 | 2.15 | -0.84 | 5.06 | 0.59 | ----- | 5 | 14 | 7 | 9 |
| 1892..... | 45.4 | -3.5 | 88 | 14 | 4.75 | +1.76 | 8.38 | 2.43 | 5.7 | 9 | 8 | 9 | 13 |
| 1893..... | 45.5 | -3.4 | 96 | 15 | 4.21 | +1.22 | 8.51 | 1.24 | 6.0 | 10 | 8 | 9 | 13 |
| 1894..... | 51.7 | +2.8 | 93 | 12 | 3.07 | +0.08 | 6.91 | 0.55 | 0.2 | 9 | 11 | 11 | 8 |
| 1895..... | 54.2 | +5.3 | 98 | 8 | 2.62 | -0.37 | 5.88 | 0.28 | 2.1 | 5 | 14 | 8 | 8 |
| 1896..... | 54.5 | +5.6 | 94 | 10 | 5.02 | +2.03 | 9.67 | 2.35 | 4.5 | 11 | 11 | 10 | 9 |
| 1897..... | 47.9 | -1.0 | 89 | 19 | 5.35 | +2.36 | 9.86 | 2.22 | T. | 11 | 9 | 9 | 12 |
| 1898..... | 48.1 | -0.8 | 91 | 14 | 2.56 | -0.43 | 4.82 | 0.27 | T. | 8 | 13 | 9 | 8 |
| 1899..... | 48.9 | 0.0 | 89 | 1 | 2.40 | -0.59 | 5.76 | 0.56 | 2.0 | 7 | 12 | 11 | 7 |
| 1900..... | 52.2 | +3.3 | 89 | 19 | 2.67 | -0.32 | 6.62 | 0.43 | 0.9 | 6 | 12 | 9 | 9 |
| 1901..... | 49.9 | +1.0 | 92 | 15 | 1.79 | -1.20 | 3.47 | 0.66 | 2.0 | 5 | 14 | 8 | 8 |
| 1902..... | 48.2 | -0.7 | 96 | 9 | 1.71 | -1.28 | 4.15 | 0.40 | T. | 5 | 14 | 11 | 5 |
| 1903..... | 49.8 | +0.9 | 86 | 17 | 2.98 | -0.01 | 6.00 | 0.74 | 0.8 | 9 | 11 | 9 | 10 |
| 1904..... | 44.1 | -4.8 | 86 | 13 | 3.63 | +0.64 | 8.97 | 1.52 | 1.4 | 7 | 15 | 6 | 9 |
| 1905..... | 47.5 | -1.4 | 90 | 10 | 3.03 | +0.04 | 5.49 | 0.63 | 1.2 | 8 | 12 | 8 | 10 |
| 1906..... | 52.5 | +3.6 | 94 | 22 | 2.42 | -0.57 | 5.55 | 0.53 | 0.6 | 8 | 14 | 9 | 7 |
| 1907..... | 41.5 | -7.4 | 80 | 10 | 1.32 | -1.67 | 3.22 | 0.24 | 2.7 | 6 | 12 | 8 | 10 |
| 1908..... | 50.5 | +1.6 | 91 | 8 | 2.24 | -0.75 | 4.59 | 0.67 | 0.3 | 8 | 14 | 8 | 8 |
| 1909..... | 43.8 | -5.1 | 86 | 14 | 4.58 | +1.59 | 9.43 | 0.83 | 3.1 | 12 | 9 | 9 | 12 |
| 1910..... | 52.5 | +3.6 | 99 | 15 | 1.48 | -1.51 | 4.86 | 1.10 | 3.0 | 7 | 14 | 7 | 9 |
| 1911..... | 46.7 | -2.2 | 86 | 3 | 3.09 | +0.10 | 6.04 | 1.33 | 3.6 | 9 | 11 | 8 | 11 |
| 1912..... | 49.9 | +1.0 | 84 | 20 | 2.66 | -0.33 | 5.66 | 0.78 | 1.1 | 8 | 13 | 8 | 9 |
| 1913..... | 50.2 | +1.3 | 88 | 16 | 3.28 | +0.29 | 7.43 | 1.12 | 2.7 | 9 | 15 | 5 | 10 |
| 1914..... | 48.6 | -0.3 | 88 | 11 | 2.52 | -0.47 | 5.03 | 0.37 | 0.3 | 8 | 10 | 8 | 12 |
| 1915..... | 57.2 | +8.3 | 95 | 18 | 1.41 | -1.58 | 4.02 | 0.05 | T. | 7 | 15 | 10 | 5 |
| 1916..... | 47.1 | -1.8 | 90 | 11 | 2.62 | -0.37 | 5.92 | 1.13 | 1.1 | 10 | 10 | 9 | 11 |
| 1917..... | 45.5 | -3.4 | 88 | 17 | 4.55 | +1.56 | 7.84 | 2.05 | 3.8 | 11 | 9 | 7 | 14 |
| 1918..... | 44.8 | -4.1 | 79 | 12 | 2.32 | -0.67 | 4.20 | 1.01 | 3.5 | 9 | 12 | 8 | 10 |
| 1919..... | 48.4 | -0.5 | 81 | 20 | 4.78 | +1.79 | 9.00 | 1.94 | 0.7 | 14 | 8 | 8 | 14 |
| 1920..... | 42.4 | -6.5 | 78 | 22 | 4.59 | +1.60 | 7.13 | 1.93 | 2.0 | 12 | 8 | 9 | 13 |
| 1921..... | 52.4 | +3.5 | 88 | 14 | 3.34 | +0.35 | 6.69 | 0.99 | 3.6 | 10 | 13 | 7 | 10 |
| 1922..... | 49.9 | +1.0 | 87 | 21 | 3.06 | +0.07 | 6.70 | 1.04 | 1.0 | 9 | 11 | 9 | 10 |
| 1923..... | 48.4 | -0.5 | 85 | 11 | 2.09 | -0.90 | 4.26 | 0.47 | 0.8 | 8 | 15 | 7 | 8 |
| 1924..... | 50.5 | +1.6 | 90 | -8 | 1.38 | -1.61 | 4.53 | 0.38 | 1.4 | 7 | 16 | 8 | 6 |
| 1925..... | 56.5 | +7.6 | 95 | 21 | 2.20 | -0.79 | 5.34 | 0.71 | T. | 8 | 14 | 9 | 7 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

*New normals effective June 1, 1924.



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Climatological Data for April, 1925

Table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation .01 in. or more, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

Daily Precipitation for April, 1925—Continued

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Totals |
|--------------------------|------------------|--------------|-----|---|---|---|----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|-----|-----|-----|-----|-----|----|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| Southern Division | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afton..... | Grand..... | | | | | | | .62 | .70 | | | | T. | T. | | | | | | | | .18 | .13 | .22 | | | | | .20 | .03 | | |
| Albia | Des Moines..... | | | | | | | T. | .13 | .52 | .06 | | | T. | T. | | | | | .07 | .07 | | | 1.08 | .26 | .03 | | | .22 | .07 | | |
| Atlantic | Nishnabotna..... | .17 | .04 | | | | | T. | .50 | .24 | | | | .03 | | | | | | | | | | | | | | | .20 | | | |
| Bonaparte..... | Des Moines..... | | | | | | | T. | .65 | | | | | T. | T. | .06 | | | .70 | | | | 1.58 | | | | | T. | .26 | T. | | |
| Burlington | Mississippi..... | | | | | | | | .96 | .06 | | | | .05 | | .16 | | | .54 | | | .14 | | | 1.12 | | | | .33 | .25 | | |
| Centerville..... | Chariton..... | | | | | | T. | .22 | .77 | .02 | | | T. | .02 | | | | .01 | .17 | | 1.08 | | T. | 2.28 | .19 | .41 | | .12 | .05 | | | |
| Chariton (near)..... | Chariton..... | | | | | | | T. | .22 | .46 | | | T. | | T. | | | | | | | | | 1.22 | .12 | | | .20 | | | | |
| Clarinda | Nodaway..... | .15 | .05 | | | | | | .22 | .70 | .24 | | | | | .01 | | | .02 | | | | .05 | | .01 | .17 | .10 | | .41 | | | |
| Columbus Jct. | Iowa..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Corning..... | Nodaway..... | .18 | | | | | | T. | .77 | .06 | | | | | | | | | | | | .25 | T. | | .67 | | | .25 | | | | |
| Corydon..... | Chariton..... | | | | | | | .23 | | .90 | | | | | | | | | | .05 | .43 | | .71 | .29 | | | | .12 | .02 | | | |
| Creston | Missouri..... | | | | | | | | .25 | .50 | | | | | T. | | | | | | .02 | | | | .05 | | | .23 | | | | |
| Cumberland (near)..... | Nodaway..... | .08 | T. | | | | T. | .53 | .03 | | | | T. | | T. | | | | | | | | T. | T. | | .09 | | .25 | T. | | | |
| Earlham..... | Des Moines..... | | | | | | | | .65 | .64 | | | | T. | T. | | | | | | | | T. | .48 | .15 | | | .13 | .07 | | | |
| Fairfield..... | Skunk..... | | | | | | | T. | .56 | .10 | | | .06 | T. | | .08 | | .56 | | | .12 | | | 2.31 | .06 | .15 | T. | .17 | .05 | | | |
| Glenwood..... | Missouri..... | .26 | .10 | | | | | | .85 | .15 | | | | | | | | | | | | | | .10 | | | .40 | | .56 | | | |
| Indianola..... | Des Moines..... | | | | | | T. | .47 | .17 | T. | | | | | | | | | | | | | | .29 | .13 | .03 | .20 | | .27 | .06 | | |
| Keokuk***..... | Mississippi..... | | | | | | | | .08 | .65 | | | .09 | | T. | T. | .27 | .78 | .28 | | .28 | | | 1.21 | | T. | .12 | .19 | | | | |
| Keosauqua..... | Des Moines..... | | | | | | | | .04 | .97 | .16 | | .12 | | | | .10 | | .65 | | .39 | | | 1.80 | | .12 | .12 | .16 | .19 | | | |
| Knoxville..... | Des Moines..... | | | | | | | T. | .30 | .40 | | | | T. | | | | | | | | | | 1.00 | .20 | .10 | | .18 | .05 | | | |
| Lacona..... | Des Moines..... | | | | | | | .01 | .19 | .21 | .07 | | | | .01 | | | | | | | | | .48 | .03 | .21 | .02 | .27 | .13 | | | |
| Lamoni | Grand..... | .27 | | | | | | .44 | .20 | | | | | | | | | | | | 1.15 | | | 1.17 | .65 | .06 | | .10 | | | | |
| Lenox..... | Missouri..... | .10 | | | | | | T. | .61 | | | | | | | | | | | | .01 | | | .03 | .11 | | .04 | .27 | .17 | | | |
| Mt. Ayr..... | Grand..... | .08 | .03 | | | | | T. | .71 | .63 | | | | | | | | | | | .46 | | .71 | .04 | .21 | .13 | .15 | .02 | | | | |
| Mt. Pleasant..... | Skunk..... | | | | | | | | .02 | .88 | .04 | | | | | .14 | | .33 | .09 | | | .09 | | 1.55 | .01 | .04 | | .30 | T. | | | |
| Oakland..... | Nishnabotna..... | .11 | | | | | | | ** | ** | | | | | | | | | | | | | | | | | | .37 | | ** | | |
| Oskaloosa..... | Des Moines..... | | | | | | T. | .08 | .60 | T. | | | T. | T. | | | | | | | | T. | T. | T. | .96 | .06 | .07 | .07 | .11 | T. | | |
| Ottumwa..... | Des Moines..... | | | | | | | | .08 | .57 | .08 | | .03 | | T. | | | | .06 | | .19 | | | 1.92 | .07 | .19 | .05 | .13 | .15 | | | |
| Red Oak (near)..... | Missouri..... | .03 | | | | | | | .90 | .14 | .18 | | | | | .05 | T. | | .06 | | .40 | | | T. | | | .30 | | | | | |
| Sigourney..... | Skunk..... | | | | | | | T. | .50 | T. | | | T. | T. | | | | | | | | | | | 1.21 | .10 | .10 | .07 | .19 | T. | | |
| Stockport..... | Skunk..... | | | | | | | | .05 | .83 | .17 | | .06 | | | .06 | | | | .43 | | .11 | | | 1.96 | | .06 | .07 | .15 | | | |
| Thurman..... | Missouri..... | .42 | | | | | | T. | .61 | .54 | | | | | T. | | | | | | T. | | | .10 | | | T. | .60 | | | | |
| Tingley..... | Platt..... | .12 | .02 | | | | | T. | .44 | .68 | | | | | T. | | | | | | | | | .43 | .02 | .17 | .05 | .17 | T. | | | |
| Washington..... | Skunk..... | | | | | | | T. | | .72 | | | | .28 | T. | | .01 | | .74 | | .02 | | | 2.24 | | .08 | | .36 | .01 | | | |
| Wescott (near)..... | Mississippi..... | | | | | | | | 1.00 | | | .09 | .01 | | | .15 | | .61 | | .26 | | | | 1.15 | | | .23 | .43 | | | | |
| Winterset..... | Des Moines..... | | | | | | | T. | .58 | .95 | | | | | T. | | | | | | | | | .10 | .28 | | | .35 | | | | |
| Omaha, Neb.***..... | Missouri..... | .33 | | | | | | .03 | .53 | .10 | | | .02 | | T. | | | | | .02 | | T. | T. | .02 | | | .45 | | | | | |

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

||Precipitation measured at 7:00 p. m. from the 1st to 15th inclusive. During the rest of the month the amounts are for the 24 hours ending at 7:00 a. m. on the date the amounts are entered.

|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.

***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.

**Incomplete.

*Precipitation included in the next following measurement.

T. Precipitation is less than .01 inch rain or melted snow.

(Continued from page 25)

SNOWFALL

The average snowfall for the State was a trace, this year being the fifth year in the history of the State's weather that the April average has been less than 0.1 inch. The normal for the State is 1.8 inches. Only three stations, Belmond, Spencer and Davenport, reported more than a trace and about three-fourths of the Stations reported no snow whatever.

MISCELLANEOUS PHENOMENA

Fog: 9th, 18th.

Frost (light): 1st, 2d, 3d, 5th, 6th, 15th, 16th, 27th, 28th, 29th, 30th; (heavy): 5th, 15th, 27th, 29th, 30th; (killing): 2d, 3d, 5th, 6th, 15th, 16th, 29th, 30th.

Hail: 7th, 14th, 18th, 19th, 20th, 21st, 22d, 24th, 26th, 27th, 28th, 29th.

Halos (lunar and solar): 1st, 2d, 3d, 4th, 7th, 16th, 18th, 21st, 23d, 26th, 28th.

Haze: 4th, 18th, 22d.

Rainbows: 13th, 23d, 25th.

Sleet: 19th, 29th.

Thunderstorms: 7th, 8th, 9th, 13th, 14th, 16th, 18th, 19th, 20th, 21st, 22d, 23d, 24th, 25th, 26th, 28th.

Winds (high): 3d, 6th, 14th, 18th, 20th, 21st, 22d, 23d, 26th, 29th.

RIVERS

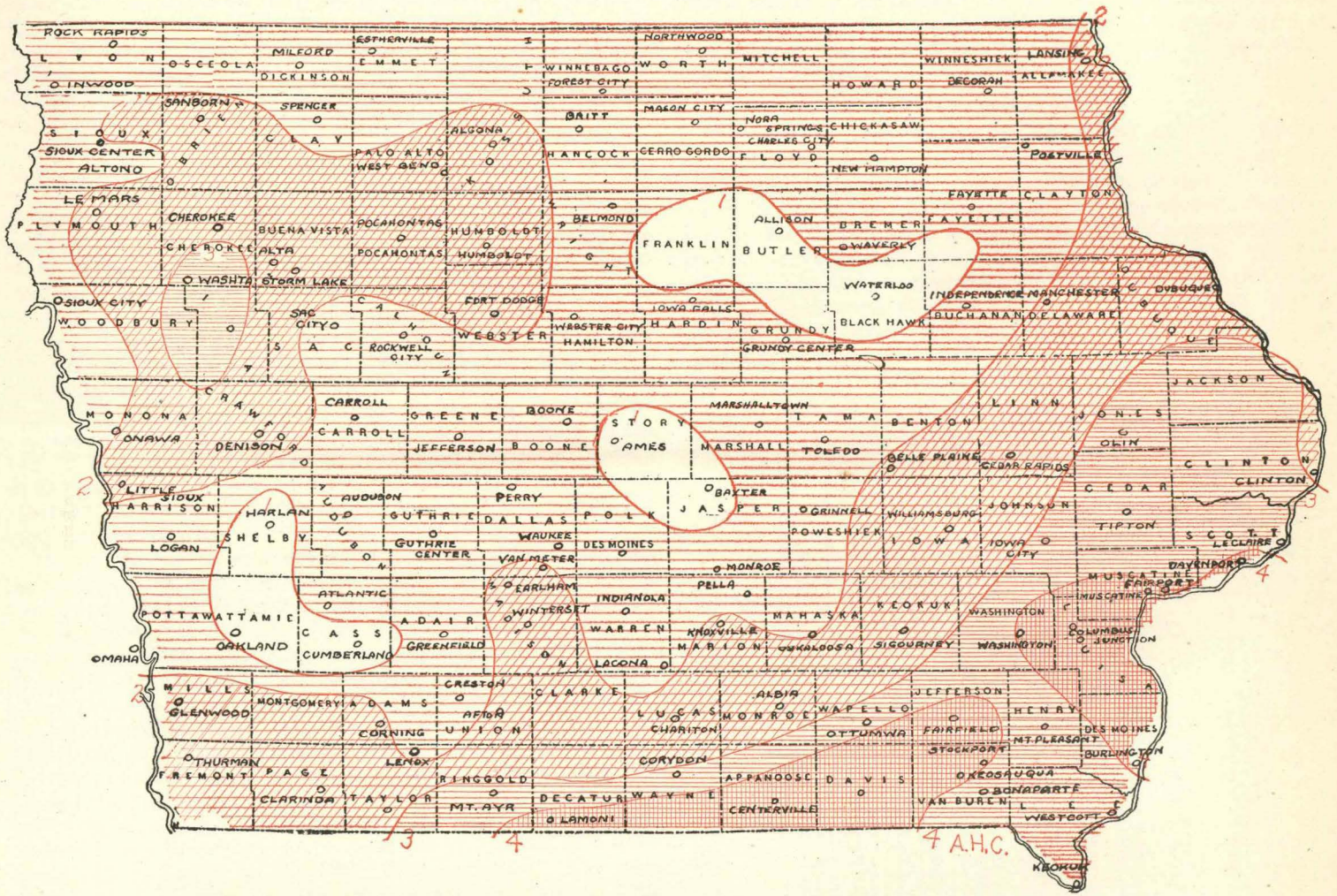
Low stages prevailed on the Mississippi and all interior rivers. The highest stages prevailed during the first week after which there was a gradual fall on the interior rivers but a moderate rise occurred on the Mississippi during the third and fourth weeks. Moderate stages prevailed on the Missouri River with a rather sharp rise during the first week, the total rise amounting to more than 6.0 feet and a rise in a single day of more than 2.5 feet. After the first week there was a gradual fall except a slight rise occurred during the latter part of the third week.

Daily Maximum and Minimum Temperature for the Month of April, 1925

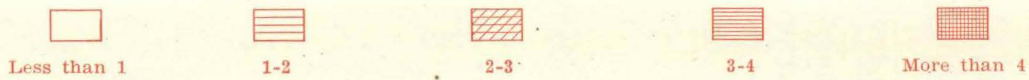
Table with columns for Stations, days 1-30, and Total. Rows are categorized into Northern Division (Algona, Alta, Alton, Belmond, Charles City, Dubuque, Forest City, Independence, Inwood, Mason City, Milford (near), New Hampton, Northwood, Pocahontas, Postville), Central Division (Belle Plaine, Boone, Carroll, Cedar Rapids, Davenport, Des Moines, Ft. Dodge, Grinnell, Guthrie Center, Iowa City, Iowa Falls, Little Sioux, Marshalltown, Olin, Sioux City), and Southern Division (Albia, Atlantic, Burlington, Columbus Jet., Corning, Corydon, Fairfield, Keokuk, Lamoni, Sigourney, Thurman, Winterset, Omaha). Each station entry includes maximum and minimum temperature values for each day.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

TOTAL PRECIPITATION, APRIL, 1925



Scale of Shades—In Inches.



CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, MAY, 1925 No. 5

GENERAL SUMMARY

The month was characterized by great extremes and numerous sudden changes in temperature. While neither the maximum nor the minimum equaled the record for the State for May, a great many stations in the northern and central divisions reported the highest record for May and the low temperatures that occurred during the last week of May were the lowest ever recorded so late in the season. Following the abnormally high temperature on the 22d, occurred the most remarkable drop that ever occurred in the State, except in winter. The greatest drop of 78° occurred at Webster City, falling from a maximum of 102° on the afternoon of the 22d, to 26° on the morning of the 25th, a period of about 60 hours. Over a large area in the northeastern portion of the State the drop amounted to more than 65° in a period of 36 hours, thus within this short period the high and low record for this section of the State was broken. Frost of varying degrees occurred with unusual frequency till the 27th, causing severe damage to all vegetation susceptible to frost damage. Some truck crops were completely destroyed, the damage being particularly heavy to tomato plants and beans. After the first killing frost occurred many truck gardeners replanted after each killing frost, so that in some parts of the State the tomato crop was wiped out for the third time. One field of 1,500 acres had 700 acres killed at Muscatine. The loss was heavy in all sections of the State and there was fear that there would not be sufficient plants to replace those killed. The frost seriously injured all fruit. Grapes were generally killed early in the month but they had recovered and were putting out the second shoots when the hard freeze of the 25th again killed them in a large portion of the State. Strawberries went through almost the same adversities as grapes and in portions of the State they will be almost a total failure. Blackberries and raspberries also suffered from the frost.

Also, this was the 5th consecutive month that the precipitation has been below normal, being the driest May of record. The deficiency was the greatest of record for any month, and the five-month period is the driest of all similar periods of record. The total for the last five months has been 5.51 inches as compared to a normal of 11.63 inches. An unusual feature in connection with the lack of rain is that last May was the second driest May, with a total of 0.55 inch more than this month. The month was favorable for all out door work but detrimental to practically all crops.

Corn planting was completed and much of the early planted was cut to the ground by frost, but it generally made a good recovery. In some of the drier sections the soil was too dry for the corn to germinate, but notwithstanding the generally unfavorable conditions there was only a small per cent of replanting necessary, and the general condition was better than a year ago, and compared favorably with the normal condition at the end of May. Wheat, oats, and grasses were

affected by the dry weather. In some sections of the State winter wheat was injured beyond recovery; oat fields were heading that were not over six inches high; meadows were making no growth; pastures were burned brown; and cattle in sections of the State were being grazed along roadsides. The extremely dry conditions in connection with the strong winds on numerous days caused the soil to drift and cover up growing crops and other fields had the soil blown away from the roots. The protracted dry weather caused a further drying up of small streams and wells, necessitating the hauling of water. There were very few storms of a damaging nature, though a rather severe hail storm, ranging from 6 to 10 miles wide, and from 10 to 15 miles long, occurred in the vicinity of Sioux City. The hail accompanied a heavy downpour that flooded numerous basements and caused the collapse of a building under construction. Greenhouses also suffered from the hail. The storm caused a loss of about \$30,000.

The unusual features of the month are well set forth in the following brief notes by the Official in Charge of the Weather Bureau Office in Dubuque, where one of the longest records in the State is available:

“Both the high and low temperature records for the season of the year were broken within a two-day period; mean daily range for the month set a new record; precipitation was the lowest of record for three-quarters of a century; snowfall occurred the latest of record; sunshine the greatest

COMPARATIVE DATA FOR THE STATE—MAY

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|------|-------------|------------|---------|--------|---------------|------------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure* | Highest | Lowest | Total | Departure* | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 57.7 | -2.5 | 90 | 26 | 3.56 | -1.05 | 6.44 | 1.61 | ----- | 9 | 10 | 13 | 8 |
| 1891 | 58.3 | -1.9 | 94 | 21 | 3.18 | -1.43 | 7.10 | 1.46 | ----- | 8 | 14 | 9 | 8 |
| 1892 | 54.0 | -6.2 | 88 | 29 | 8.77 | +4.16 | 12.64 | 4.87 | T. | 16 | 5 | 9 | 17 |
| 1893 | 56.6 | -3.6 | 96 | 26 | 3.45 | -1.16 | 5.82 | 1.65 | 0 | 9 | 13 | 9 | 9 |
| 1894 | 61.1 | +0.9 | 96 | 22 | 1.87 | -2.74 | 4.77 | 0.33 | 0 | 6 | 17 | 10 | 4 |
| 1895 | 61.7 | +1.5 | 104 | 24 | 3.19 | -1.42 | 5.79 | 0.84 | 0 | 9 | 11 | 12 | 8 |
| 1896 | 65.5 | +5.3 | 100 | 34 | 6.69 | +2.08 | 11.79 | 3.40 | 0 | 12 | 11 | 12 | 8 |
| 1897 | 58.5 | -1.7 | 96 | 20 | 1.92 | -2.69 | 3.59 | 0.21 | 0 | 5 | 16 | 10 | 5 |
| 1898 | 59.6 | -0.6 | 92 | 26 | 4.67 | +0.06 | 7.82 | 2.22 | 0 | 12 | 9 | 10 | 12 |
| 1899 | 60.2 | 0.0 | 90 | 27 | 6.23 | +1.62 | 11.47 | 3.00 | 0 | 13 | 9 | 12 | 10 |
| 1900 | 63.2 | +3.0 | 98 | 22 | 3.31 | -1.90 | 6.98 | 0.96 | 0 | 8 | 14 | 10 | 7 |
| 1901 | 60.7 | +0.5 | 95 | 28 | 2.35 | -2.26 | 4.57 | 0.72 | 0 | 7 | 16 | 9 | 6 |
| 1902 | 63.8 | +3.6 | 97 | 25 | 5.89 | +0.78 | 18.04 | 0.87 | 0 | 13 | 10 | 12 | 9 |
| 1903 | 61.6 | +1.4 | 91 | 24 | 8.55 | +3.94 | 15.45 | 2.88 | 0 | 16 | 9 | 12 | 10 |
| 1904 | 59.6 | -0.6 | 93 | 27 | 3.78 | -0.83 | 8.15 | 1.50 | 0 | 8 | 13 | 10 | 8 |
| 1905 | 58.3 | -1.9 | 88 | 28 | 5.95 | +1.34 | 10.88 | 2.57 | 0 | 14 | 12 | 11 | 8 |
| 1906 | 60.8 | +0.6 | 95 | 24 | 3.54 | -1.07 | 10.72 | 0.89 | 0 | 11 | 13 | 10 | 8 |
| 1907 | 53.5 | -6.7 | 96 | 14 | 3.48 | -1.13 | 7.68 | 0.71 | 1.0 | 10 | 11 | 10 | 10 |
| 1908 | 59.4 | -0.8 | 93 | 13 | 8.34 | +3.73 | 14.33 | 1.33 | 0 | 15 | 9 | 11 | 11 |
| 1909 | 57.9 | -2.3 | 97 | 18 | 4.34 | -0.27 | 7.85 | 1.86 | 0.1 | 9 | 12 | 12 | 7 |
| 1910 | 55.4 | -4.8 | 89 | 18 | 3.41 | -1.20 | 6.91 | 1.29 | T. | 10 | 15 | 7 | 9 |
| 1911 | 64.9 | +4.7 | 98 | 23 | 3.76 | -0.85 | 8.73 | 0.42 | 0.7 | 9 | 16 | 9 | 6 |
| 1912 | 62.7 | +2.5 | 97 | 29 | 3.33 | -1.27 | 6.41 | 0.72 | 0 | 10 | 14 | 11 | 6 |
| 1913 | 59.4 | -0.8 | 102 | 30 | 6.24 | +1.63 | 10.25 | 3.14 | 0 | 13 | 11 | 8 | 12 |
| 1914 | 62.2 | +2.0 | 98 | 25 | 3.31 | -1.30 | 6.90 | 0.30 | T. | 10 | 14 | 11 | 6 |
| 1915 | 56.1 | -4.1 | 99 | 25 | 7.34 | +2.73 | 13.21 | 3.82 | T. | 14 | 9 | 9 | 13 |
| 1916 | 59.9 | -0.3 | 94 | 27 | 4.93 | +0.32 | 10.44 | 2.14 | T. | 12 | 13 | 10 | 8 |
| 1917 | 55.1 | -5.1 | 95 | 18 | 3.87 | -0.74 | 7.33 | 1.69 | 0.6 | 10 | 15 | 8 | 8 |
| 1918 | 64.9 | +4.7 | 98 | 25 | 6.87 | +2.26 | 11.98 | 2.72 | T. | 13 | 13 | 11 | 7 |
| 1919 | 58.2 | -2.0 | 93 | 30 | 3.11 | -1.50 | 7.14 | 0.73 | 0 | 9 | 13 | 11 | 7 |
| 1920 | 59.4 | -0.8 | 89 | 29 | 3.26 | -1.35 | 5.73 | 0.62 | 0 | 8 | 14 | 9 | 8 |
| 1921 | 63.3 | +3.1 | 99 | 25 | 4.23 | -0.38 | 9.41 | 1.22 | 0 | 10 | 14 | 10 | 7 |
| 1922 | 63.4 | +3.2 | 91 | 34 | 3.53 | -1.08 | 8.36 | 0.47 | 0 | 12 | 13 | 10 | 8 |
| 1923 | 59.6 | -0.6 | 90 | 20 | 2.84 | -1.77 | 6.55 | 1.07 | T. | 10 | 14 | 10 | 7 |
| 1924 | 54.1 | -6.1 | 94 | 26 | 1.71 | -2.90 | 3.28 | 0.78 | 0.1 | 9 | 13 | 9 | 9 |
| 1925 | 57.8 | -2.4 | 102 | 20 | 1.16 | -3.45 | 2.62 | 0.30 | T. | 6 | 19 | 8 | 4 |

T. indicates an amount too small to measure, or less than .005 inch precipitation and less than .05 inch snowfall.
*New normals effective June 1, 1924.



Climatological Data for May, 1925—Continued

Table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table with columns: Stations, Barometric Pressure (Mean, Highest, Date, Lowest), Relative Humidity (Mean, 7 a. m., 12 Noont, 7 p. m., Lowest), Wind (Total movement, Average hourly velocity, Miles, From, Date, Per cent of possible), Sunshine (Departure from normal).

*Dubuque: †Omaha. ‡Sioux City. †Local mean time. †And other dates.

for any May of record; river stage equaled the previous low record for May; low record of thunderstorms also equaled." F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the record of 104 stations, was 57.8°, or 2.4° lower than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 56.4°, or 2.2° lower than the normal; Central, 57.9°, or 2.5° lower than the normal; Southern, 59.0°, or 2.5° lower than the normal. The highest monthly mean was 61.2°, at Thurman, and the lowest was 54.2°, at Decorah. The highest temperature reported was 102°, at Cedar Rapids and Webster City, on the 22d, and the lowest was 20°, at Milford, on the 17th. The temperature range for the State was 82°. This range has never been exceeded in May, and only once, in 1907, has it been equaled.

PRECIPITATION

The average precipitation for the State, as shown by the records of 108 stations, was 1.16 inches, or 3.45 inches less

Daily Precipitation for May, 1925—Continued

Table with columns for Stations, Drainage Basin, Day of Month (1-31), and Totals. It lists various Iowa cities and their corresponding precipitation amounts for each day of May 1925.

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

- |||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.
***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.
**Incomplete.
*Precipitation included in the next following measurement.
T. Precipitation is less than .01 inch rain or melted snow.

than the normal. By divisions the averages were as follows: Northern, 1.12 inches, or 3.48 inches less than the normal; Central, 1.18 inches, or 3.43 inches less than the normal; Southern, 1.18 inches, or 3.44 inches less than the normal. The greatest amount, 2.62 inches, occurred at Fayette, and the least, 0.30 inch, occurred at Milford and Sioux Center. The greatest amount in any 24 consecutive hours, 1.59 inches, occurred at Mt. Pleasant on the 30th.

SNOWFALL

Light snow flurries occurred in each of the three divisions but it did not exceed a trace at a single station, the snowfall that occurred on the 24th over the northeastern portion of the State is the latest that snow has occurred in the last 41 years.

MISCELLANEOUS PHENOMENA

- Fog: 7th, 8th, 10th, 16th, 18th, 29th.
Frost (Northern Division, Killing): 2d, 5th, 6th, 7th, 8th, 9th, 11th, 16th, 17th, 18th, 25th, 26th; Heavy: 2d, 6th, 7th, 8th, 16th, 17th, 25th; Light: 1st, 2d, 4th, 5th, 7th, 8th, 10th, 11th, 12th, 18th; Central Division, Killing: 1st, 2d, 5th, 6th, 7th, 8th, 11th, 16th, 25th; Heavy: 2d, 5th, 6th, 7th, 17th, 25th; Light: 1st, 2d, 5th, 6th, 7th, 11th, 12th, 17th; Southern Division, Killing: 1st, 2d, 6th, 7th, 11th, 25th; Heavy: 1st, 2d, 5th, 6th, 7th, 11th, 17th; Light: 1st, 2d, 5th, 6th, 7th, 12th, 18th, 25th, 27th.
Hail: 3d, 5th, 19th, 20th.

- Halos: 2d, 4th, 5th, 7th, 17th, 26th, 28th.
Haze: 21st.
Parhelia: 1st.
Sleet: 5th, 7th.
Thunderstorms: 3d, 4th, 5th, 6th, 9th, 15th, 16th, 19th, 20th, 22d, 24th, 27th, 30th, 31st.
Winds, high: 3d, 16th, 22d, 23d, 24th, 30th, 31st.

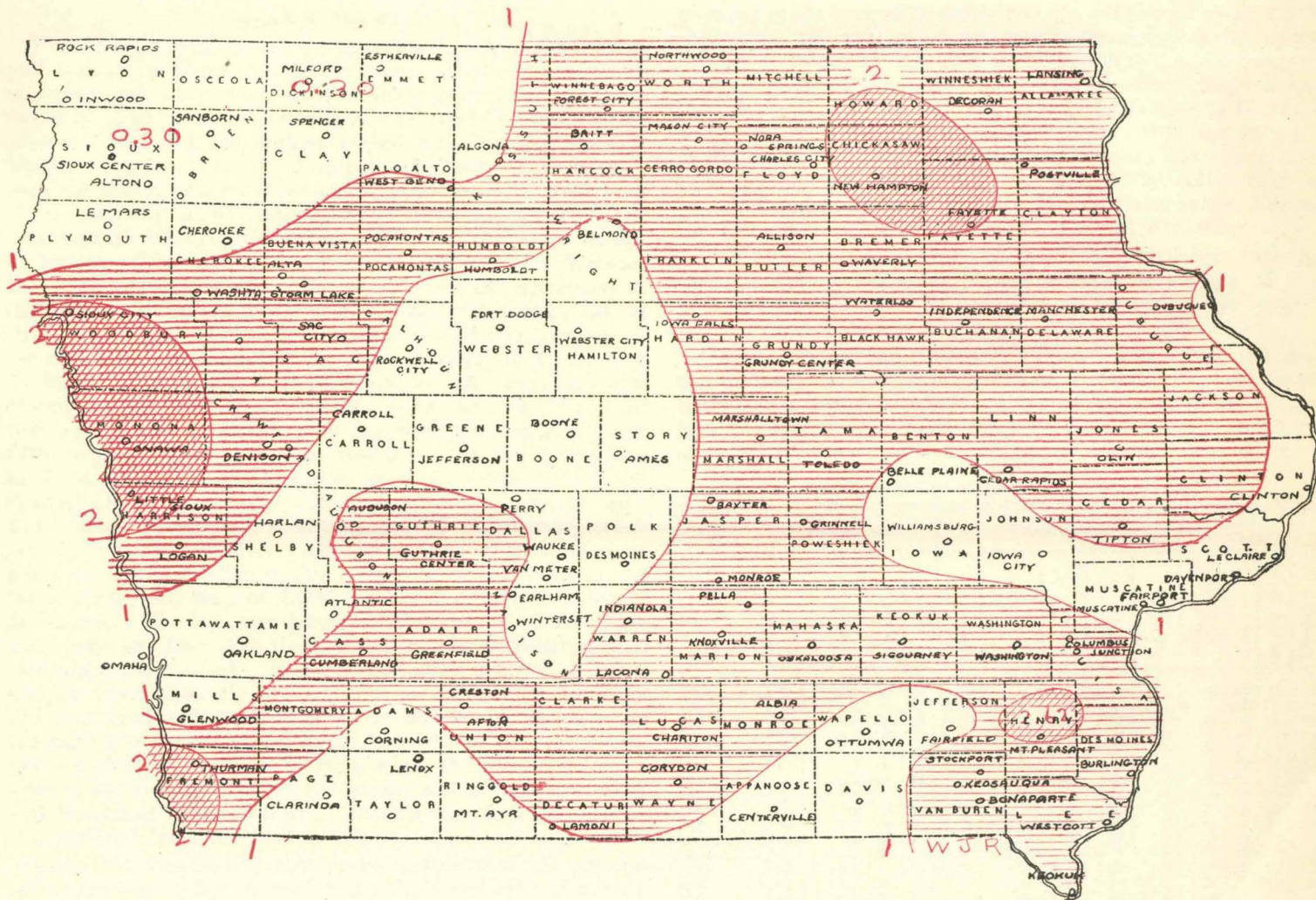
RIVERS

Unusually low stages prevailed on the Mississippi and all interior rivers. There was a gradual though slow fall the entire month, and almost without exception, the highest stages occurred on the first of the month and the lowest stages on the last. The lowest stages for the month of May were either equaled or exceeded along the entire border of the State on the Mississippi. Remarkably uniform moderate stages prevailed on the Missouri River. The range at Omaha was less than one foot from the 1st to the 25th, inclusive, and at Sioux City, from the 1st to the 27th, inclusive. A moderate rise occurred during the last half of the last week along the entire course bordering the State.

ERRATA

Report for April, 1925: Page 26; Charles City, mean temperature recorded 53.9°, should be 54.0°, departure recorded +7.5°, should be +7.6°. Page 30; minimum temperature on the 29th recorded 34°, should be 39°; mean of the minimum recorded 41.1°, should be 41.3°.

TOTAL PRECIPITATION, MAY, 1925



Scale of Shades—In Inches.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, JUNE, 1925 No. 6

GENERAL SUMMARY

The principal feature of the weather during June was the breaking of the persistent drouth that has prevailed throughout the previous months of the year. The average precipitation for the State exceeded the total for the preceding five months by more than one inch, and several stations reported amounts that exceeded the total for eight months preceding. As is usual during periods of heavy rainfall, there were the accompanying destructive elements, including hail, severe electrical storms, damaging straight winds, tornadoes, and floods. Minor tornadoes were reported at several places on the 1st, but on the afternoon of the 2d a large area in the western part of the State reaching eastward to Greene county reported unusual tornadic activity. The damage was especially heavy in portions of Woodbury, Harrison, Pottawattamie, Shelby, Mills, Montgomery, Cass, and Adair counties on the 2d, consisting of many separate tornadoes advancing in the same general direction. Small villages were almost completely destroyed and the path of destruction at a point near the line of Harrison and Pottawattamie counties was nearly five miles wide. Much of the area was again visited by a series of tornadoes on the afternoon of the 3d. One locality in the west-central portion of the State was visited by three distinct tornadoes, two being within a short period on the afternoon of the 2d. On the afternoon of the 11th tornadoes developed over a large area from Franklin and Cerro Gordo counties eastward to Fayette county, which injured many people, destroyed farm buildings, and damaged crops. More details of these tornadoes will be published next month. There is not sufficient time to carefully consider and arrange the data for this report. Destructive hail occurred over limited areas in the southwestern counties, portions of Woodbury county, and from Calhoun and Pocahontas counties north-eastward to Winneshiek county. The fall was especially heavy in localities. In the southern portion of Floyd county, a stream that is normally dry rose to a height of 20 feet and was over 100 yards wide. Residents in the district reported the fall of hail on the level to be from two to four inches deep. A picture was taken of the hail at a turn in a creek known as "Bloody Run" where the hail had collected, and it showed a bank from two to four feet deep that covered one and one-half acres. At the time the picture was taken, the day following the storm, there were still stones to be seen that were two inches in diameter. The damage from hail amounted to probably more than \$250,000 and from straight winds and tornadoes to an amount exceeding \$800,000.

The temperature averaged slightly above normal, being greatest in the southern division. There were no periods of oppressively warm weather, and the fluctuations were frequent beginning with the most protracted warm period during the first week and terminating with the coolest period of the month during the last week. All crops were greatly benefited. Corn made unusual growth and the straw of small grain lengthened considerably, so that much that seemed too

short to harvest will be gathered in the usual manner. Pastures that were bare in the beginning of the month were soon revived and minor crops responded quickly to the favorable growing conditions. The rains came so late that hay will not make more than half a crop.

As practically all the flood damage occurred in the north-eastern portion of the State, a complete report furnished by the Official in Charge of the Dubuque station appears elsewhere in this report.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 101 stations, was 70.4°, or 1.1° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 68.4°, or 0.4° higher than the normal; Central, 70.8°, or 1.2° higher than the normal; Southern, 71.9°, 1.7° higher than the normal. The highest monthly mean was 74.2°, at Keokuk, and the lowest was 66.0°, at Postville. The highest temperature recorded was 98° at Glenwood, Little Sioux and Perry on the 20th, and the lowest was 38°, at Milford on the 9th. The temperature range for the State was 60°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 107 stations, was 6.64 inches, or 2.11 inches greater than the normal. By divisions, the average were as follows: Northern, 7.20 inches, or 2.59 inches greater than the normal; Central, 5.77 inches, or 1.31 inches greater than the normal;

COMPARATIVE DATA FOR THE STATE—JUNE

| YEAR | Temperature | | | | Precipitation | | | | | Number of Days | | | |
|------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------|---------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 72.7 | +3.4 | 106 | 44 | 7.76 | +3.23 | 16.53 | 1.57 | ----- | 11 | 12 | 10 | 8 |
| 1891 | 69.1 | -0.2 | 99 | 37 | 5.39 | +0.86 | 19.88 | 1.68 | ----- | 11 | 8 | 10 | 12 |
| 1892 | 69.2 | -0.1 | 102 | 42 | 5.19 | +0.66 | 14.16 | 0.67 | ----- | 10 | 12 | 11 | 7 |
| 1893 | 71.2 | +1.9 | 100 | 40 | 3.91 | -0.62 | 7.56 | 1.36 | ----- | 8 | 15 | 11 | 4 |
| 1894 | 73.2 | +3.9 | 104 | 34 | 2.67 | -1.86 | 6.20 | 0.57 | ----- | 7 | 16 | 10 | 4 |
| 1895 | 69.7 | +0.4 | 102 | 34 | 4.32 | -0.21 | 9.26 | 0.98 | ----- | 10 | 11 | 11 | 8 |
| 1896 | 69.1 | -0.2 | 100 | 40 | 3.11 | -1.42 | 7.89 | 0.81 | ----- | 9 | 12 | 13 | 5 |
| 1897 | 69.1 | -0.2 | 103 | 29 | 3.81 | -0.72 | 9.38 | 1.08 | ----- | 10 | 10 | 12 | 8 |
| 1898 | 71.4 | +2.1 | 99 | 42 | 4.72 | +0.19 | 12.48 | 1.90 | ----- | 9 | 13 | 10 | 7 |
| 1899 | 70.7 | +1.4 | 100 | 42 | 5.04 | +0.51 | 11.99 | 1.10 | ----- | 10 | 12 | 13 | 5 |
| 1900 | 69.7 | +0.4 | 102 | 38 | 3.98 | -0.55 | 12.35 | 0.67 | ----- | 5 | 17 | 10 | 3 |
| 1901 | 72.3 | +3.0 | 106 | 30 | 3.71 | -0.82 | 7.84 | 1.05 | ----- | 9 | 15 | 11 | 4 |
| 1902 | 65.2 | -4.1 | 97 | 32 | 7.16 | +2.63 | 16.04 | 1.46 | ----- | 14 | 8 | 11 | 11 |
| 1903 | 64.6 | -4.7 | 96 | 30 | 2.86 | -1.67 | 6.04 | 0.75 | ----- | 10 | 13 | 10 | 7 |
| 1904 | 67.1 | -2.2 | 94 | 35 | 3.45 | -1.08 | 8.35 | 0.44 | ----- | 7 | 13 | 10 | 7 |
| 1905 | 69.9 | +0.6 | 100 | 36 | 5.53 | +1.00 | 14.89 | 1.80 | ----- | 10 | 12 | 11 | 7 |
| 1906 | 67.9 | -1.4 | 99 | 37 | 3.92 | -0.61 | 8.27 | 1.48 | ----- | 8 | 15 | 10 | 5 |
| 1907 | 66.5 | -2.8 | 98 | 36 | 5.35 | +0.82 | 9.33 | 2.07 | ----- | 11 | 14 | 9 | 7 |
| 1908 | 67.1 | -2.2 | 94 | 35 | 5.66 | +1.13 | 11.88 | 1.77 | ----- | 13 | 12 | 10 | 8 |
| 1909 | 69.1 | -0.2 | 96 | 40 | 6.41 | +1.88 | 13.30 | 2.80 | ----- | 13 | 12 | 10 | 8 |
| 1910 | 69.5 | +0.2 | 105 | 38 | 1.99 | -2.54 | 5.51 | 0.05 | ----- | 7 | 18 | 7 | 5 |
| 1911 | 75.7 | +6.4 | 108 | 36 | 1.82 | -2.71 | 6.28 | 0.06 | ----- | 5 | 20 | 8 | 2 |
| 1912 | 66.2 | -3.1 | 101 | 34 | 2.74 | -1.79 | 5.71 | 0.78 | ----- | 7 | 15 | 9 | 6 |
| 1913 | 71.5 | +2.2 | 102 | 33 | 3.31 | -1.22 | 8.95 | 0.74 | ----- | 7 | 19 | 8 | 3 |
| 1914 | 72.2 | +2.9 | 101 | 40 | 5.57 | +1.04 | 13.24 | 1.17 | ----- | 13 | 12 | 14 | 4 |
| 1915 | 65.1 | -4.2 | 91 | 31 | 4.16 | -0.87 | 9.99 | 1.72 | ----- | 11 | 12 | 12 | 6 |
| 1916 | 64.5 | -4.8 | 96 | 38 | 3.71 | -0.82 | 7.96 | 1.41 | ----- | 10 | 13 | 11 | 6 |
| 1917 | 66.0 | -3.3 | 100 | 32 | 6.65 | +2.12 | 13.82 | 3.04 | ----- | 12 | 13 | 10 | 7 |
| 1918 | 70.8 | +1.5 | 104 | 38 | 5.29 | +0.76 | 10.19 | 1.55 | ----- | 11 | 16 | 10 | 4 |
| 1919 | 71.9 | +2.6 | 98 | 41 | 6.13 | +1.60 | 12.25 | 1.82 | ----- | 13 | 12 | 12 | 6 |
| 1920 | 70.7 | +1.4 | 99 | 40 | 3.56 | -0.97 | 8.48 | 1.25 | ----- | 9 | 16 | 10 | 4 |
| 1921 | 74.7 | +5.4 | 100 | 40 | 3.76 | -0.77 | 8.85 | 0.56 | ----- | 9 | 16 | 10 | 4 |
| 1922 | 72.2 | +2.9 | 104 | 38 | 1.82 | -2.71 | 7.19 | 0.28 | ----- | 6 | 19 | 8 | 3 |
| 1923 | 70.9 | +1.6 | 100 | 40 | 4.93 | +0.40 | 7.69 | 2.43 | ----- | 12 | 14 | 10 | 6 |
| 1924 | 66.8 | -2.5 | 96 | 55 | 8.10 | +3.57 | 14.92 | 4.00 | ----- | 14 | 11 | 14 | 5 |
| 1925 | 70.4 | +1.1 | 98 | 38 | 6.64 | +2.11 | 13.30 | 2.99 | ----- | 12 | 15 | 9 | 6 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



other crops were destroyed in the lowlands along the streams, innumerable highway bridges were wrecked or seriously impaired, and railroads suffered heavily. The flood was generally considered the most disastrous in the history of the communities devastated, the water reaching one to several feet higher than in 1896. Railroad service west on the Illinois Central and Chicago-Great Western was completely abandoned for days, the trains being diverted over other routes.

The Maquoketa River freshet was the most damaging, perhaps due to its being the largest of the streams in flood and also to its passing directly through the three towns mentioned. Some of the details are given below:

MANCHESTER (Delaware County): One-third of the city under water, 10 feet deep in some of the streets; electricity cut off; two deaths and a number of injuries; one lumber yard completely wiped out; heavy damage to stocks in many business houses; two 10,000-gallon oil tanks carried into river; many buildings moved from their foundations and some carried away; estimated damage within city, \$200,000.

DYERSVILLE (Dubuque County): Entire west end of town including 100 residences inundated; water one and one-half feet higher than in 1896; Illinois Central and Great Western depots flooded for first time in history; a number of automobiles lifted and carried away; steel bridge 120 feet in length carried 900 feet; garages and other buildings carried away; three cars of lumber lost; 50 head of hogs nearby drowned; business stock ruined; estimated damage within city, \$100,000.

CASCADE (Dubuque County): Entire west portion of town comprising about 25 blocks under water reaching almost to the second floor in many instances; water 5 feet higher than that of 1896, the greatest previously known flood in that vicinity; seven residences and stores, a number of other buildings and one church completely demolished, besides a dozen more residences that were damaged; many business houses with stocks flooded; several streets and sewers completely washed out; electricity cut off; an excavation made by the raging torrents where a street had been, measuring from one hundred feet to one-half block wide, several blocks long and fifteen to twenty-five feet deep, the earth at this point being sand which the onrushing waters carried a quarter to half mile and precipitated in great heaps; two deaths from drowning; by far the greatest blow the town had ever received from any source; estimated damage, \$150,000.

ILLINOIS CENTRAL RAILROAD: About two miles of track or roadbed washed out between Dubuque and Manchester; several bridge approaches washed out for long stretches and some as deeply as 15 feet; engine fell partly through bridge east of Manchester; no train service over the line between Dyersville and Manchester till 10 a. m. of June 19th.

CHICAGO GREAT WESTERN RAILROAD: Approximately 60 miles of roadbed between Dubuque and Oelwein had to be rebuilt; 28 bridges out, of which 9 were large; several stations damaged; telegraph poles washed away over greater part of line; automatic block system almost entirely washed out; no trains over line for practically two weeks; service as far as Dyersville resumed June 27th, and through to Oelwein on the 29th.

NORTHWESTERN BELL TELEPHONE CO.: A loss of 65 poles in Dubuque County; 175 telephones in city and 125 outside, out of service till noon of June 15th; country lines restored by the 20th; estimated loss to company, \$2,000.

In the city of Dubuque, there was considerable injury to pavements in sections, the damage to streets and sewers amounting to about \$15,000. A great deal of debris was carried into the streets and many gardens were washed out. In Dubuque County, as in other counties, there was extensive damage to crops in the creek bottoms, especially just west and north of town, and also to road bridges, the county sustaining a loss or serious impairment of 26 bridges entailing a monetary loss estimated at \$150,000, and requiring at least six months for replacements. Large areas of the Swiss Valley, the Rockdale bottoms, and all the lowlands around Sageville and Durango were inundated, resulting in severe damage to growing crops and considerable loss of farm property including livestock. The water covered a long stretch of the Sageville road and reached 6.6 feet deep at the Great Western viaduct, or 0.4 foot higher than the previous record made in July, 1919.

The approximate number of highway bridges damaged or carried away in northeastern Iowa is reported as follows: Buchanan County, 27; Clayton County, 10; Delaware County, 75; Dubuque County, 26; Winneshiek County, 5; Chickasaw County, 30; total estimated loss from this source, besides extensive damage in some counties to new road fills, is given as \$400,000.

A close estimate of the acreage of crops destroyed in the entire flooded area has not been possible, but rough estimates gathered from the counties involved indicate an approximate total loss amounting to \$490,000.

Further down the Maquoketa River, the water was not of record-breaking height. The recording river gage of the United States Geological Survey near the town of Maquoketa shows a crest stage of 19.7 feet at noon, June 17. This is 0.1 foot lower than the high water of June 19, 1924, and 3.8 feet lower than the highest known water.

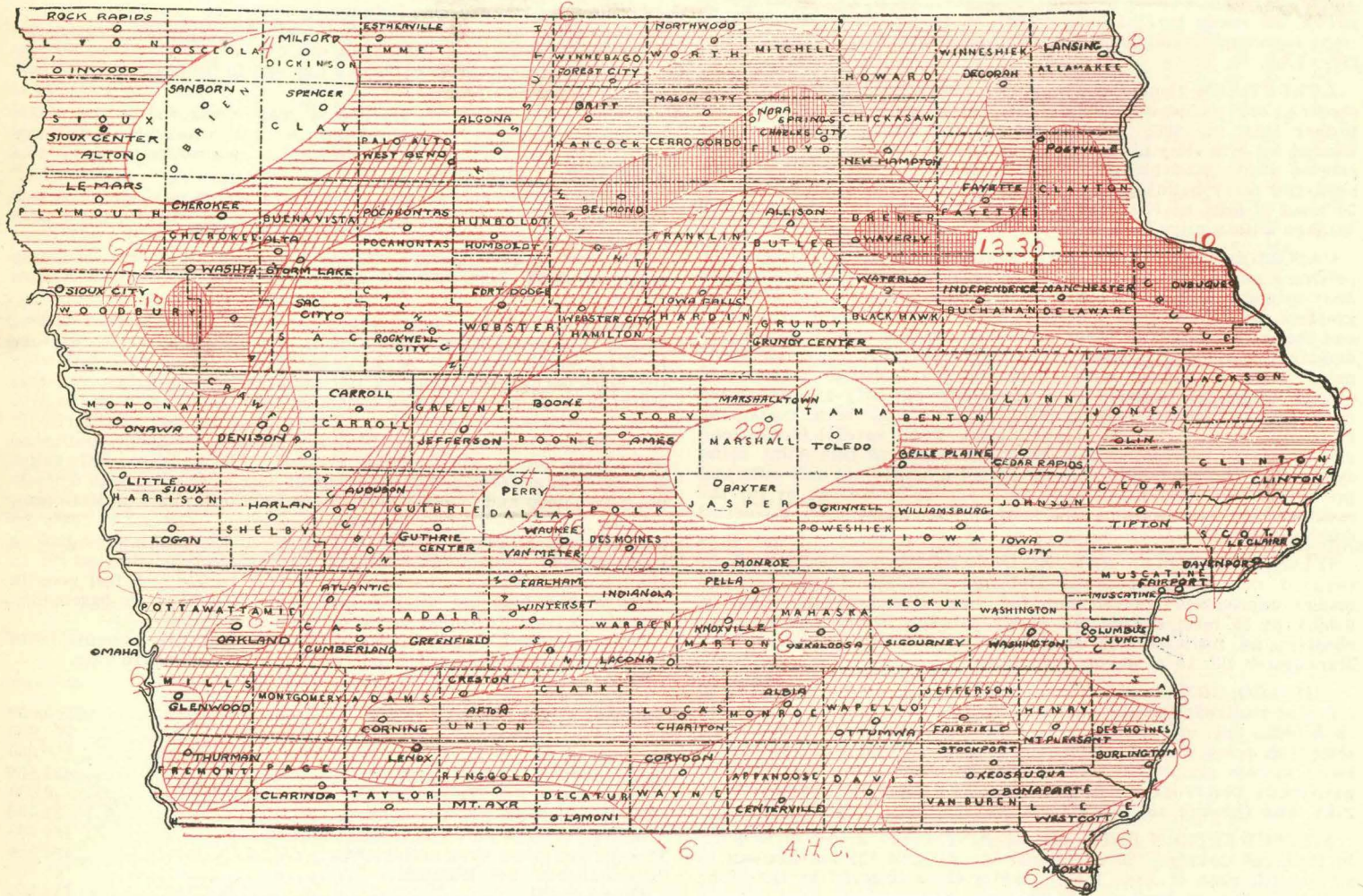
Rather heavy rains had preceded the storm just described, falling on the 11th and 12th and resulting in the drowning of two persons in Winneshiek County. A third heavy rain came just following the flood period, occurring on the night of the 16th-17th. In this storm the rain also fell at an excessive rate from 1:27 a. m. to 2:03 a. m. amounting to 1.48 inches. This caused another slight rise in the subsiding waters, some additional damage to roadbeds, and interfered with repair work already started. The Chicago, Milwaukee and St. Paul suffered a 100-foot washout east of Garber; also a washout 6 feet deep and 150 feet long, about four miles east of McGregor, resulting in a 12-hour suspension of service. The same company had a bridge at Green Island thrown out of line; estimated loss to road, \$2,000. Considerable damage was caused by this storm in the town of McGregor, the water standing 6 inches to 3 feet deep in parts of the business district and injuring stocks in basements. One death from drowning occurred near Monticello.

On the 24th, a fourth heavy rainstorm occurred, amounting to 1.84 inches at Dubuque, but not falling at an excessive rate.

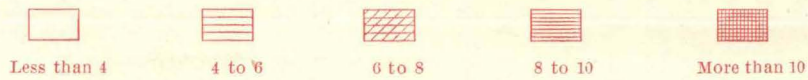
Summary of Losses

| | |
|--|-------------|
| Town of Manchester, all losses..... | \$200,000 |
| Dyersville | 100,000 |
| Cascade | 150,000 |
| Total damage to railways..... | 425,000 |
| Northwestern Bell Telephone Company..... | 2,000 |
| Streets and sewers in Dubuque..... | 15,000 |
| Highway bridges and fills in six counties..... | 460,000 |
| Prospective crops over entire area..... | 490,000 |
| Miscellaneous, not itemized..... | 46,000 |
| Grand total | \$1,888,000 |

TOTAL PRECIPITATION, JUNE, 1925



Scale of Shades—In Inches.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU

CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, JULY, 1925 No. 7

GENERAL SUMMARY

High temperature almost continuously the first half of July, averaging 6 to 8 degrees above normal; and low temperature almost continuously the balance of the month resulted in a monthly mean slightly above normal. Following the cool close of June the temperature rose abruptly on July 1 to the highest readings since August, 1918. The daily range of temperature at some stations was the greatest July range in more than 20 years.

The precipitation was very unevenly distributed. A number of stations in the northeast, southeast, central and extreme northwest portions had an excess. At Dubuque and Lansing the excess was more than twice the normal. Most of the western half had less than half the normal. More than 75 per cent of the precipitation occurred during the first two weeks and over nearly half the State more than half the monthly total occurred on a single day. The last general rain of consequence was on the 14th, after which there were numerous light scattered showers, but only in a few places were the amounts sufficient to be of any agricultural benefit. Over most of the western half of the State and limited areas in the north-central, south-central, and southeast portions a severe drouth developed that caused much deterioration in the corn crop and many pastures to become completely bare. However, the cool weather that prevailed during the last two weeks lessened the damage to corn so that at the end of the month there was only a small per cent that was damaged beyond a partial recovery. The rains generally were almost all taken up by the soil and small streams and wells that failed during the previous dry weather were still dry, and stock water at many places was still scarce.

Severe wind squalls and hail storms occurred at frequent intervals from the 3d to the 30th. A severe local wind storm, accompanied by hail occurred at Dubuque on the 3d, causing damage to buildings of about \$50,000. On the 6th, hail accompanying wind squalls, occurred over a large area in the northwestern portion and locally in Jasper, Johnson, and Appanoose counties. The greatest damage occurred in Cherokee county where some crops were damaged as much as 80 per cent, or a total of about \$150,000. On the 8th hail and wind again occurred in Cherokee county, causing damage to crops and buildings of about \$75,000. Also, in Monona county on the 8th, severe hail caused much damage to crops over an area 10 miles long, some fields as much as 50 per cent. Wind and hail storms also occurred on the 8th in Kossuth, Webster, Hamilton, and Woodbury counties, which caused much damage to crops, and blew down many telephone poles and damaged wires from Fort Dodge to Webster City. At Lakota five beet-field workers were injured. Local hail storms occurred at Appanoose, Pocahontas, Jones, and Clayton counties on the 12th, Lyon on the 13th, Jasper on

the 14th, Wright and Hancock on the 15th, and Hardin on the 19th, the damage in Lyon county amounting to \$25,000 and to \$100,000 in Wright and Hancock counties. On the 24th hail occurred in Cedar, Des Moines, Appanoose, Johnson, Henry, and Scott counties. Crop losses in Scott county were placed at over \$125,000, and buildings at \$100,000. Local storms occurred in Johnson and Fremont counties on the 25th, and many places in the eastern portion of the State on the 26th, 28th, and 30th, but the damage was generally light except in Fayette county where some crops were damaged as much as 50 per cent.

Conditions were favorable for haying, harvesting, and threshing, more than half of the threshing having been completed at the end of the month.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 104 stations, was 74.1°, or 0.3° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 72.3°, or 0.4° lower than the normal; Central, 74.4°, or 0.4° higher than the normal; Southern, 75.6°, or 1.0° higher than the normal. The highest monthly mean was 77.8°, at Thurman, and the lowest was 68.4°, at Postville. The highest temperature recorded was 105°, at Ames, Marshalltown, Monroe and Perry on the 1st, and the lowest was 40°, at Milford on the 22d. The temperature range for the State was 65°.

COMPARATIVE DATA FOR THE STATE—JULY

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------------|----------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With prec. .01 in. or more | Clear | Partly cloudy | Cloudy |
| | | | | | | | | | | | | | |
| 1890 | 75.6 | +1.8 | 110 | 45 | 1.98 | -1.87 | 5.00 | 0.37 | | 8 | 18 | 8 | 5 |
| 1891 | 68.5 | -5.3 | 99 | 41 | 4.22 | +0.37 | 8.20 | 1.67 | | 9 | 13 | 13 | 5 |
| 1892 | 73.0 | -0.8 | 104 | 38 | 5.29 | +1.44 | 12.86 | 1.71 | | 9 | 16 | 10 | 5 |
| 1893 | 75.0 | +1.2 | 102 | 47 | 3.33 | -0.52 | 8.84 | 1.49 | | 7 | 19 | 10 | 2 |
| 1894 | 76.4 | +2.6 | 109 | 39 | 0.63 | -3.22 | 3.50 | T. | | 3 | 22 | 8 | 1 |
| 1895 | 72.1 | -1.7 | 104 | 35 | 3.40 | -0.45 | 10.10 | 0.45 | | 7 | 15 | 12 | 4 |
| 1896 | 73.6 | -0.2 | 104 | 42 | 6.90 | +3.05 | 12.67 | 1.61 | | 9 | 14 | 11 | 6 |
| 1897 | 75.6 | +1.8 | 106 | 42 | 3.26 | -0.59 | 7.60 | 1.01 | | 6 | 18 | 10 | 3 |
| 1898 | 73.4 | -0.4 | 102 | 42 | 2.98 | -0.87 | 12.88 | 0.55 | | 7 | 19 | 9 | 3 |
| 1899 | 73.1 | -0.7 | 101 | 38 | 3.07 | -0.78 | 8.66 | 0.42 | | 7 | 16 | 10 | 5 |
| 1900 | 73.4 | -0.4 | 102 | 37 | 6.15 | +2.30 | 18.45 | 1.80 | | 9 | 16 | 10 | 5 |
| 1901 | 82.4 | +8.6 | 113 | 46 | 2.34 | -1.51 | 5.97 | 0.27 | | 5 | 21 | 9 | 1 |
| 1902 | 73.1 | -0.7 | 99 | 41 | 8.67 | +4.82 | 13.57 | 4.82 | | 13 | 14 | 10 | 7 |
| 1903 | 72.9 | -0.9 | 100 | 40 | 4.83 | +0.98 | 12.72 | 0.94 | | 9 | 17 | 9 | 5 |
| 1904 | 70.6 | -3.2 | 100 | 38 | 4.41 | +0.56 | 11.97 | 1.28 | | 10 | 16 | 9 | 6 |
| 1905 | 70.6 | -3.2 | 102 | 40 | 2.91 | -0.94 | 7.08 | 0.69 | | 9 | 14 | 10 | 7 |
| 1906 | 70.9 | -2.9 | 102 | 42 | 3.04 | -0.81 | 7.05 | 0.26 | | 8 | 18 | 10 | 3 |
| 1907 | 73.7 | -0.1 | 102 | 41 | 7.27 | +3.42 | 13.66 | 3.97 | | 13 | 16 | 11 | 4 |
| 1908 | 73.0 | -0.8 | 100 | 42 | 3.66 | -0.19 | 9.21 | 0.70 | | 8 | 16 | 10 | 5 |
| 1909 | 72.3 | -1.5 | 102 | 46 | 4.77 | +0.92 | 12.20 | 1.20 | | 10 | 15 | 8 | 8 |
| 1910 | 74.5 | +0.7 | 108 | 43 | 1.86 | -1.99 | 5.69 | 0.12 | | 7 | 19 | 8 | 4 |
| 1911 | 75.5 | +1.7 | 111 | 38 | 2.27 | -1.58 | 6.62 | 0.08 | | 7 | 18 | 10 | 3 |
| 1912 | 74.6 | +0.8 | 103 | 38 | 3.71 | -0.14 | 7.56 | 1.17 | | 10 | 17 | 10 | 4 |
| 1913 | 76.1 | +2.3 | 108 | 45 | 1.82 | -2.03 | 6.23 | T. | | 5 | 21 | 8 | 2 |
| 1914 | 76.6 | +2.8 | 109 | 43 | 2.27 | -1.58 | 6.50 | 0.44 | | 5 | 20 | 8 | 3 |
| 1915 | 60.5 | -4.3 | 92 | 40 | 8.32 | +4.47 | 15.83 | 3.68 | | 14 | 10 | 12 | 9 |
| 1916 | 79.7 | +5.9 | 105 | 48 | 1.78 | -2.07 | 6.87 | 0.10 | | 5 | 23 | 7 | 1 |
| 1917 | 74.3 | +0.5 | 106 | 38 | 2.27 | -1.58 | 6.06 | 0.23 | | 7 | 21 | 8 | 2 |
| 1918 | 73.1 | -0.7 | 105 | 40 | 3.17 | -0.68 | 8.05 | 0.26 | | 8 | 19 | 8 | 4 |
| 1919 | 77.4 | +3.6 | 104 | 41 | 2.86 | -0.99 | 7.82 | 0.39 | | 6 | 22 | 8 | 1 |
| 1920 | 72.3 | -1.5 | 102 | 45 | 4.22 | +0.37 | 7.49 | 1.11 | | 9 | 19 | 9 | 3 |
| 1921 | 77.9 | +4.1 | 104 | 41 | 2.53 | -1.32 | 7.45 | 0.42 | | 7 | 19 | 9 | 3 |
| 1922 | 71.5 | -2.3 | 98 | 40 | 6.31 | +2.46 | 11.72 | 2.13 | | 11 | 14 | 12 | 5 |
| 1923 | 76.5 | +2.7 | 102 | 47 | 1.75 | -2.10 | 5.54 | 0.29 | | 5 | 19 | 9 | 3 |
| 1924 | 70.2 | -3.6 | 99 | 41 | 3.67 | -0.18 | 8.90 | 0.57 | | 9 | 16 | 11 | 4 |
| 1925 | 74.1 | +0.3 | 105 | 40 | 2.66 | -1.19 | 7.93 | 0.80 | | 8 | 19 | 10 | 2 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



Climatological Data for July, 1925—Continued

Main climatological data table with columns for Stations, COUNTIES, Elevation, Temperature, Precipitation, and Observers.

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table for Pressure, Relative Humidity, Wind and Sunshine with columns for Barometric Pressure, Relative Humidity, Wind, and Sunshine.

*Davenport. §Charles City. ¶Des Moines. ||Omaha. †Local mean time. †And other dates.

PRECIPITATION

The mean precipitation for the State, as shown by the records of 112 stations, was 2.66 inches, or 1.19 inches less than the normal. By divisions, the means were as follows: Northern, 2.64 inches, or 1.15 inches less than the normal; Central, 2.94 inches, or 0.91 inch less than the normal; Southern, 2.41 inches, or 1.49 inches less than the normal. The greatest amount, 7.93 inches occurred at Dubuque, and the least, 0.80 inch, occurred at Sanborn. The greatest amount in 24 consecutive hours, 4.25 inches, occurred at Fort Dodge on the 9th.

MISCELLANEOUS PHENOMENA

Aurora: 14th. Fog: 7th, 8th, 13th, 26th, 30th. Hail: 3d, 6th, 8th, 12th, 13th, 14th, 15th, 19th, 24th, 25th, 26th, 28th, 30th. Halos: 9th, 10th, 12th. Rainbows: 5th, 15th, 16th, 19th, 30th, 31st. Thunderstorms: All dates except 1st, 17th, 21st, 22d, 28th. Winds (damaging): 2d, 3d, 5th, 8th, 13th, 14th.

Daily Precipitation for July, 1925—Continued

Table with columns for Stations, Drainage Basin, Day of Month (1-31), and Totals. Rows include various stations like Afton, Albia, Atlantic, Bonaparte, Burlington, etc.

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.
Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.
Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.
Incomplete.
Precipitation included in the next following measurement.
T. Precipitation is less than .01 inch rain or melted snow.

RIVERS

There was considerable fluctuation on the Mississippi River during the first half of the month and a general falling tendency thereafter, the highest stages occurring, except in the upper reaches, on the first and the lowest stages on the last. On the Missouri there was considerable slight fluctuation till about the middle of the third week and a falling tendency during the rest of the month.

TORNADOES IN IOWA, JUNE, 1925

Arthur H. Christensen, Observer

(Weather Bureau Office, Des Moines, Iowa, July 28, 1925)

June, 1925, was marked by an unusually large number of tornadoes in Iowa, some of which caused great damage to property, amounting in the aggregate to nearly two million dollars.

tions, arranged in chronological order have been prepared from the available data, and it is believed cover those which caused appreciable destruction. The tornadoes of greatest destruction occurred on the 2d, 3d and 11th.

Tornado Near Milford

On June 1, at a late hour in the afternoon a small tornado occurred west of Milford, Iowa, in Dickinson county. The path was short and about 150 feet in width.

Tornado at Glenwood and Silver City

The tornado which struck Glenwood (Mills county) at 4 p. m., and Silver City at 5 p. m., on June 2, originated in Nebraska. The following is from the Omaha Bee:

"The tornado was first seen near Douglas, Otoe County, and swept northward between Avoca and Weeping Water, passed a little to the north of Murray, went directly over Plattsmouth, and struck with all its violence on the Iowa side of the river, directly opposite Plattsmouth. Plattsmouth citizens saw the twisting funnel pass directly over the main part of the town, its tail whipping about high in the air. The air was filled with flying boards and straw.

In Iowa the tornado traveled northeastward from its place of entrance, but it did not touch the ground until just before it reached Pacific Junction. After touching the ground for a short distance it lifted again as it passed over the town and struck again on the east side, about two miles from the town. As it lifted again a little farther on, it divided, one smaller cloud going north until it spent itself, and the other passing through the north outskirts of Glenwood and continuing on to Silver City, 7 miles northeast of Glenwood, leaving a path of destruction between the two towns. Its force was soon spent after leaving Silver City. The total distance covered in both Nebraska and Iowa was about 45 miles, and the path when it passed Glenwood was about 200 yards in width, and at Silver City was nearly one-half mile in width. It was accompanied throughout much of its distance by heavy hail and rain. Four persons were injured northeast of Glenwood; none were killed in Iowa but three were killed in Nebraska. The damage in Iowa was estimated at \$50,000.

Tornado in Monona and Woodbury Counties

On the same day and nearly at the same time of day a tornado started 4 miles west of Onawa in Monona county, and traveled northeastward to Whiting, then to Ticonic, and then followed the Little Sioux valley northward to Smithland in Woodbury county, and through Oto, thence traveling more to the northeast and striking Cushing, also in Woodbury county at about 5 p. m. An observer at Grant Center in Grant township, Monona county, describes it as follows:

"When we first saw it there were two funnel shaped clouds; they would rise and lower, but one of them never seemed to reach the ground. They traveled north and east and when about one mile west of the township line seemed to rise entirely into the clouds. The clouds then moved east and when just a little east of the township line a cylindrical cloud formed and moved east to the center of the township and then north. When it reached the north side of the township the pendant took on the form of a funnel. Trees blown down were lying either to the north or west."

The length of the path was about 40 miles, and from 200 feet to a half mile in width. The rate of movement was about 40 miles per hour. It is not known whether destruction occurred along the entire path but the following points report damage: Whiting, about \$75,000 damage and 2 persons injured. In the vicinity of Ticonic, \$65,000 damage and one person injured. At Smithland \$50,000 damage, none injured. About \$200,000 damage occurred at Oto. The damage at Cushing amounted to \$75,000 and one person was slightly injured. At Grant Center the damage was \$16,000.

Tornado Near Red Oak

The next tornado on June 2, occurred at about 6:10 p. m. A funnel-shaped cloud first appeared slightly to the west of Red Oak, in Montgomery county, and passed a little to the north of Red Oak, then going northeast toward Wallin, the length of the path being about 11 miles. No destruction occurred in Red Oak, but most of it was in the farming section between the two towns. Five persons were injured and the total damage was probably about \$100,000.

Tornado at Adair and Casey

At about 8:30 p. m. on June 2, 1925, a tornado which had traveled from Anita in Cass county struck Adair, in Adair county, and passed to the east-northeast to the town of Casey.

Before reaching Adair no appreciable damage occurred, but the damage was considerable at Adair and Casey, and also on the path intervening. The length of the path was about 20 miles and the width about 40 rods. John Harris, age 75 of Adair, and his two daughters were killed, three persons were severely injured, and the damage is estimated at \$100,000.

Tornado in Iowa County

On June 2, at 10:15 p. m. a small tornado developed in the northwest part of Iowa county, traveling in a north-easterly direction for a short distance. The width of the path was 20 rods and the damage was very light.

Tornado at Neola and Persia

About 5:30 p. m. on June 3, 1925, two tornadoes occurred between Neola in Pottawattamie county, and Persia in Harrison county. The first tornado was of short duration and its chief destruction was about four miles north and east of Neola where is caused severe damage to about thirty farms. The following is taken from the Neola Gazette-Reporter:

"The storms broke without much warning and followed a day whose morning was as near ideal for spring and early summer as could be desired. There had been a rather heavy blow the evening before, with a light fall of rain. Wednesday morning was fairly cool, but little wind and no dust. Toward noon the weather turned to sultry and the atmosphere seemed oppressive as the temperature rose. As early as three o'clock, clouds began to mass in the west and southwest, but there was not much indication of immediate storm or rain. At a quarter past five the wind rose and its direction changed; darkness fell and there was a steady shower, the wind lulling to zepfers. Then without warning hailstones of huge proportions began to fall, crashing on roofs and windows with terrific force and sound. This lasted but a few minutes and the rain ceased. It was then that attention was drawn to the sky where seemingly to the west, a huge funnel-shaped cloud was seen to form and swirl, taking a northeasterly direction. So near to Neola the storm approached that its roar could be distinctly heard by those in the north part of town."

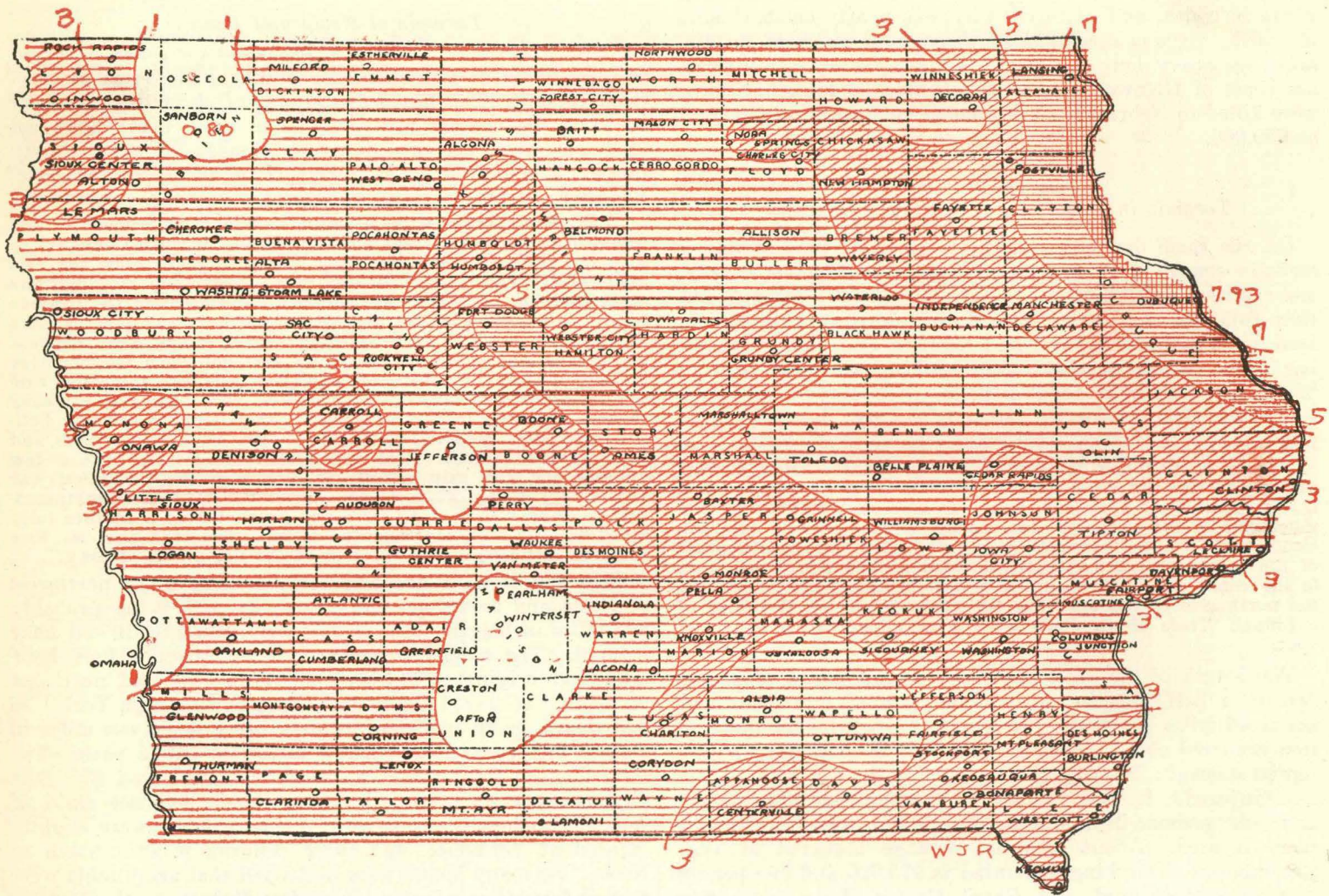
This first tornado had originated a little to the northwest of Neola and moved northeastward, its path being probably five miles in length. No persons were killed by it and none injured. The second tornado occurred about a half hour later and originated southeast of Yorkshire, and northeast of Neola. It moved almost due north and through Yorkshire and thence north to Persia its path being about ten miles in length, and caused destruction along its entire path. The total damage from these two tornadoes was about \$750,000. Eighteen persons were injured at Persia and one child of Archie Hammond was killed. A few persons were slightly injured at Yorkshire, and three children injured north of Neola. So many homes were destroyed that army tents were rushed from Camp Dodge, (near Des Moines) to the stricken area between Neola and Persia where about 200 persons were homeless.

Tornado in Greene County

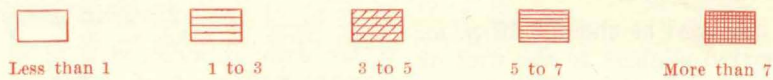
On June 3, 1925, at 9 p. m. a tornado struck in Greene county northwest of Jefferson, and traveled to the northeast passing two miles north of Jefferson. The tornado then divided, the south wing passing more to the east, its path being south of Dana, and disappeared a short distance southeast of Dana, while the other wing continued in a more northerly direction, passing about two miles west of Paton and on in the direction of Webster county, but evidently lost its force before reaching the county line. The length of the path was about 15 miles. One person was injured and the damage was not great, probably not exceeding \$10,000.

(Continued in August Report)

TOTAL PRECIPITATION, JULY, 1925



Scale of Shades—In Inches



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, AUGUST, 1925 No. 8

GENERAL SUMMARY

The mean temperature for August averaged very near the normal, all divisions being above normal, with the most decided excess in the northwest portion of the State. However, there were several areas in the eastern and southern portions that were considerably deficient. Fluctuations were rather numerous though they did not vary much from the normal. A rather protracted warm spell occurred during the last ten days in the western portion, while in the central and eastern portions it lasted from six to eight days. This was the 6th time during August that the maximum temperature did not reach 100° and at only one station did it fail to reach 90°. The lowest temperature occurred generally on the 21st and one station, Estherville, reported a light frost. Light frost was also unofficially reported from near Alta.

The average precipitation was also very near normal, but there was great variation even within short distances. The principal excess was confined to a strip running diagonally northeastward across the State, varying in width from over 100 miles in the southwest portion to less than 25 in the central and northeastern portions. There was a deficiency in a large area in the southeast section, but the principal deficient area was mostly north of a line running from the western portion of Pottawattamie county to Winneshiek county. There was very little rain during the last 10 days and this was aggravated by generally high temperatures over almost the entire State. In the northwestern portion the drouth was especially severe. A large area reported less than one inch of rain and the corn crop suffered to such an extent that it will be a complete failure in places. Corn in many portions of the State was injured somewhat by being hastened to maturity too rapidly by the dry hot conditions, and in many places the ground was too dry to plow. Pastures that had been revived by the rains during the early part of the month, were failing in all portions of the State at the close. Large areas in the northwestern portion were completely bare. Late truck crops also were injured. Local flood conditions developed in the southwestern portion following the heavy rains of the 6th-7th, with the worst condition in the smaller streams emptying into the Raccoon River in Cass, Audubon, and Guthrie counties. Some damage also occurred from overflows in the extreme southwestern counties. Hail was reported from a few localities in Dallas county on the 2d, causing no damage; on the 4th rather severe hail occurred in Humboldt county; on the 8th in Hardin and Story counties moderate hail occurred; and on the 16th destructive hail occurred over a large area in Pottawattamie county, causing damage to the extent of \$75,000. What is believed to have been the worst hail storm in the history of the State occurred on the 18th. The storm apparently developed in the southeast corner of Poweshiek county and moved southwestward over portions of Iowa, Keokuk, Washington, Jefferson,

person, Henry, Des Moines and Lee counties, and crossed the Mississippi river into Illinois where the damage continued. The approximate damage was \$50,000 in Iowa county, \$400,000 in Keokuk, \$360,000 in Washington, \$250,000 in Jefferson, and \$1,000,000 in Henry county. The damage could not be approximated in Poweshiek, Des Moines and Lee counties, but the damage in the whole area was estimated as high as \$5,000,000, and it undoubtedly amounted to \$2,500,000. Another storm occurred on the 19th over a portion of the same area, but no additional damage was reported. Some of the stones were reported of unbelievable size, some disc shaped were four inches across and two inches thick. Many shingle roofs were pierced and stock of various kinds were killed. Passenger trains caught in the storm did not have a whole window glass left, and all windows on the exposed side of homes were broken. Fields of corn up to 75 acres did not have a single stalk standing. The damage to crops was so complete that many tenant farmers abandoned their leases and sought other employment.

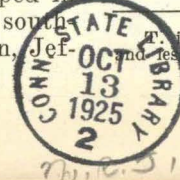
The water supply in various parts of the State continued to fail and some railroads were compelled to haul water long distances for their own use. Water trains were run out of Des Moines to towns in the vicinity and some suburban residents of Des Moines were hauling city water by truck.

F. L. D.

COMPARATIVE DATA FOR THE STATE—AUGUST

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 68.4 | -3.3 | 102 | 36 | 3.41 | -0.03 | 6.44 | 1.02 | ----- | 8 | 15 | 10 | 6 |
| 1891 | 69.1 | -2.6 | 106 | 34 | 4.24 | +0.80 | 13.02 | 1.23 | ----- | 8 | 13 | 12 | 6 |
| 1892 | 71.4 | -0.3 | 102 | 40 | 2.24 | -1.20 | 4.69 | 0.65 | ----- | 5 | 18 | 9 | 4 |
| 1893 | 69.4 | -2.3 | 101 | 30 | 2.32 | -1.12 | 6.22 | 0.40 | ----- | 5 | 19 | 9 | 3 |
| 1894 | 74.6 | +2.9 | 108 | 38 | 1.58 | -1.86 | 4.53 | T. | ----- | 4 | 21 | 9 | 3 |
| 1895 | 71.9 | +0.2 | 103 | 37 | 4.43 | +0.99 | 10.63 | 0.67 | ----- | 7 | 17 | 9 | 5 |
| 1896 | 71.7 | 0.0 | 104 | 34 | 3.52 | +0.08 | 12.25 | 0.86 | ----- | 8 | 15 | 11 | 5 |
| 1897 | 68.9 | -2.8 | 104 | 35 | 1.86 | -1.58 | 4.98 | 0.47 | ----- | 6 | 15 | 11 | 5 |
| 1898 | 71.2 | -0.5 | 103 | 40 | 3.44 | 0.00 | 10.55 | 0.58 | ----- | 6 | 17 | 9 | 5 |
| 1899 | 74.4 | +2.7 | 100 | 41 | 3.68 | +0.24 | 10.45 | 1.12 | ----- | 7 | 17 | 10 | 4 |
| 1900 | 77.4 | +5.7 | 103 | 44 | 4.65 | +1.21 | 10.43 | 1.26 | ----- | 6 | 18 | 10 | 3 |
| 1901 | 73.8 | +2.1 | 105 | 40 | 1.29 | -2.15 | 4.46 | T. | ----- | 5 | 20 | 9 | 2 |
| 1902 | 69.1 | -2.6 | 98 | 37 | 6.58 | +3.14 | 15.47 | 1.57 | ----- | 11 | 11 | 11 | 9 |
| 1903 | 69.1 | -2.6 | 101 | 41 | 6.64 | +3.20 | 17.74 | 2.55 | ----- | 11 | 12 | 10 | 9 |
| 1904 | 69.1 | -2.6 | 97 | 35 | 3.43 | -0.01 | 6.75 | 0.66 | ----- | 7 | 17 | 8 | 6 |
| 1905 | 74.3 | +2.6 | 104 | 44 | 4.05 | +0.61 | 8.47 | 1.04 | ----- | 9 | 16 | 9 | 6 |
| 1906 | 74.1 | +2.4 | 101 | 33 | 3.95 | +0.51 | 10.51 | 0.92 | ----- | 9 | 17 | 9 | 5 |
| 1907 | 71.1 | -0.6 | 99 | 37 | 4.33 | +0.89 | 9.67 | 1.05 | ----- | 9 | 17 | 9 | 5 |
| 1908 | 70.0 | -1.7 | 101 | 38 | 4.77 | +1.33 | 10.55 | 1.35 | ----- | 9 | 17 | 9 | 5 |
| 1909 | 76.1 | +4.4 | 103 | 33 | 1.81 | -1.63 | 8.21 | T. | ----- | 5 | 21 | 8 | 2 |
| 1910 | 71.9 | +0.2 | 104 | 36 | 3.88 | +0.44 | 11.22 | 0.37 | ----- | 8 | 15 | 10 | 6 |
| 1911 | 71.7 | 0.0 | 107 | 34 | 3.32 | -0.12 | 9.47 | 0.44 | ----- | 9 | 16 | 10 | 5 |
| 1912 | 71.0 | -0.7 | 101 | 40 | 3.78 | +0.34 | 7.90 | -0.89 | ----- | 10 | 15 | 10 | 6 |
| 1913 | 76.6 | +4.9 | 108 | 40 | 2.08 | -0.76 | 7.13 | 0.08 | ----- | 6 | 17 | 10 | 4 |
| 1914 | 73.7 | +2.0 | 103 | 40 | 2.19 | -1.25 | 4.90 | 0.42 | ----- | 7 | 17 | 10 | 4 |
| 1915 | 65.9 | -5.8 | 91 | 30 | 2.81 | -0.63 | 9.14 | 0.27 | ----- | 8 | 16 | 8 | 7 |
| 1916 | 74.0 | +2.3 | 106 | 35 | 2.58 | -0.86 | 6.23 | 0.49 | ----- | 7 | 18 | 9 | 4 |
| 1917 | 69.4 | -2.3 | 102 | 31 | 2.29 | -1.15 | 6.31 | 0.70 | ----- | 7 | 19 | 8 | 4 |
| 1918 | 76.0 | +4.3 | 113 | 38 | 3.61 | +0.17 | 8.38 | 0.54 | ----- | 8 | 16 | 10 | 5 |
| 1919 | 71.5 | -0.2 | 103 | 38 | 2.59 | -0.85 | 5.72 | 0.97 | ----- | 7 | 19 | 9 | 3 |
| 1920 | 69.3 | -2.4 | 98 | 39 | 3.35 | -0.09 | 8.52 | 0.44 | ----- | 7 | 18 | 8 | 5 |
| 1921 | 72.1 | +0.4 | 102 | 37 | 5.04 | +1.60 | 9.04 | 2.20 | ----- | 8 | 16 | 11 | 4 |
| 1922 | 73.8 | +2.1 | 102 | 42 | 3.06 | -0.38 | 9.80 | 0.33 | ----- | 8 | 19 | 8 | 4 |
| 1923 | 70.6 | -1.1 | 102 | 38 | 5.42 | +1.98 | 13.14 | 1.46 | ----- | 12 | 15 | 9 | 7 |
| 1924 | 71.7 | 0.0 | 100 | 40 | 5.35 | +1.91 | 12.38 | 1.90 | ----- | 10 | 16 | 10 | 5 |
| 1925 | 72.4 | +0.7 | 99 | 39 | 3.47 | +0.03 | 8.36 | 0.31 | ----- | 8 | 18 | 9 | 4 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



Daily Precipitation for August, 1925—Continued

Table with columns: Stations, Drainage Basin, Day of Month (1-31), and Totals. Rows include various stations like Afton, Centerville, Corydon, Glenwood, Lacona, Mt. Pleasant, etc.

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.

***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.

**Incomplete.

*Precipitation included in the next following measurement.

T. Precipitation is less than .01 inch rain or melted snow.

MISCELLANEOUS PHENOMENA

- Aurora: 22d, 23d.
Fog: 2d, 3d, 11th, 13th, 14th, 18th.
Frost (light): 21st; 1 station.
Hail: 2d, 4th, 8th, 9th, 12th, 18th, 19th.
Halos (lunar and solar): 10th, 21st, 29th, 31st.
Rainbows: 4th, 22d, 29th, 30th.
Thunderstorms: 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 11th, 12th, 16th, 17th, 18th, 19th, 20th, 22d, 29th, 30th.
Winds (high): 18th, 23d.

RIVERS

Low stages prevailed on the Mississippi River during the entire month. There was a slight rise following the heavy rains of the 6th-7th and a gradual fall till the end of the month.

ERRATA

Report for July, 1925. Dubuque, Page 50; mean temperature reported, 72.4°, should be 72.5°; departure reported -1.7°, should be, -1.6°; Page 54; maximum temperature on the 16th reported 78°, should be 79°, mean maximum reported 82.4°, should be 82.5°.

TORNADOES IN IOWA, JUNE, 1925

Arthur H. Christensen, Observer

(Continued from July report)

Tornadoes at Alexander and Vicinity

On June 11, 1925, a series of tornadoes occurred in the following four counties: Franklin, Floyd, Butler and Chickasaw. The greatest destruction was wrought in Franklin county, where the damage amounted to approximately \$350,000, the damage being greatest in the town of Alexander, where it was estimated at \$150,000.

Daily Maximum and Minimum Temperature for the Month of August, 1925

Table with columns for Stations, days 1-31, and Mean. Rows are categorized by Northern Division, Central Division, and Southern Division, listing various Iowa cities and their daily temperature ranges.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

local twisters appeared at various places in these four counties at nearly the same time of day, the appearance being earlier in the southwest and later in the northeast. In Butler county, Dumont and Greene reported tornadoes, the one in Dumont occurring at about 4:30 p. m. It was about one mile in length, the damage was small, and no injuries occurred. A little later a tornado struck west of Greene and it is possible that it was a continuation of the one which passed over Dumont. Its direction was from the southwest to the northeast, and its path of destruction 2 miles long and about a half mile wide, the damage amounting to between \$50,000 and \$75,000. Several persons were slightly injured. At about 6:30 p. m. on the same day, a small tornado occurred at Carrville, which is about 15 miles northeast of Greene, and it is also possible that this was a continuation of the same tornado which may have lifted in the intervening distance. The following account of the Carrville tornado is from the Charles City Weather Bureau Office.

"The funnel-shaped cloud was clearly seen and gave warning of the approach of the storm, so that people had time to seek safety in cellars. No one was injured. The cloud was described as whitish in color. There were also reliable reports of two clouds coming together from the northwest and the southeast. There was a heavy rain before the storm and some afterward. There was considerable hail. The direction of the storm was from the west-southwest to east-northeast. Trees were blown and debris carried in all directions, but mostly toward the west or east,

with most damage by the westerly wind. Trees with several trunks had the several members blown down in different directions. The path of greatest destruction was about 600 feet in width and one quarter mile in length. The total damage is estimated at \$25,000."

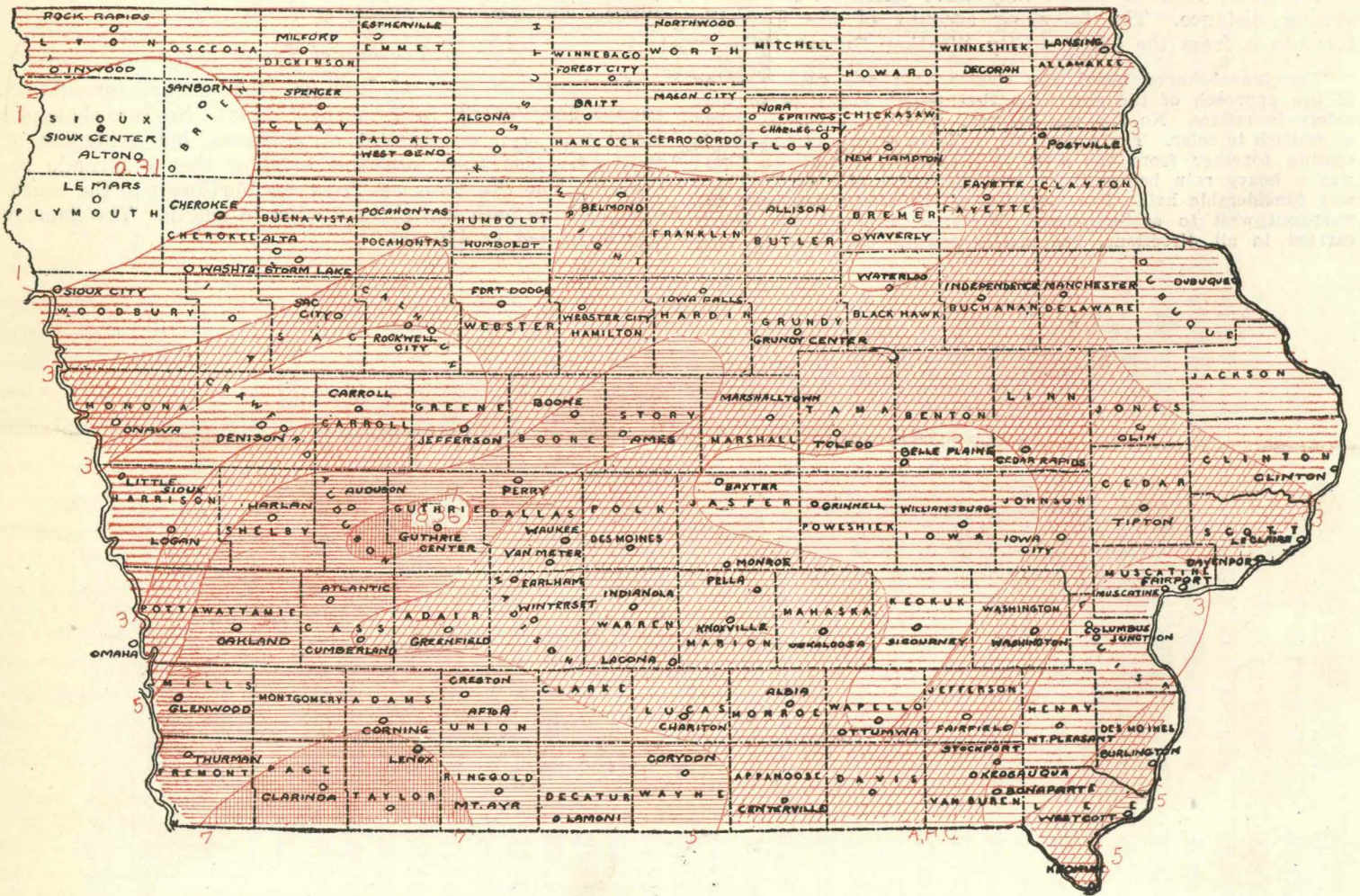
The total damage resulting from this series of tornadoes would probably be near \$500,000 and about thirty persons were injured, of whom at least two were seriously injured, one resulting in a fatality as previously mentioned.

As a part of this same series of tornadoes, a small tornado was reported at Nashua, in Chichasaw county on the evening of the 11th, the direction of movement being from the southwest to the northeast. It was seen by a party of tourists at about 6:30 p. m., the funnel-shaped cloud being well defined and alternately swirling aloft and dipping to earth. The damage in this case was negligible and no persons were injured. The path was evidently short.

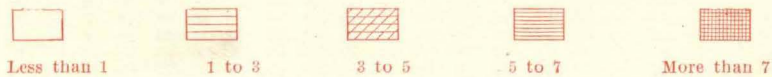
Tornado at Tabor

At about 2:00 a. m. of June 28, 1925, a small tornado occurred near Tabor, in Fremont county. No funnel-shaped cloud was seen on account of darkness, but evidences of twisting action were sufficient to show that a tornado occurred. The direction was from the northwest to the southeast, and the path was about 6 miles in length. The damage was estimated at \$10,000.

TOTAL PRECIPITATION, AUGUST, 1925



Scale of Shades—In Inches



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, SEPTEMBER, 1925 No. 9

GENERAL SUMMARY

Abnormally high temperature prevailed during the first ten days of September. While no records for the state were broken, a large number of stations reported the highest maxima for the year, and several stations reported the highest of record for the month. After the first ten days there were numerous fluctuations in the temperature, with the two chief cool periods extending from the 11th to the 15th, and from the 20th to the 24th, but the last cool spell was less pronounced over the eastern portion of the state. The month closed with a rather warm period during the last four days. Light frost was reported from several stations on three days, but the damage, if any, was slight, though a temperature of 32 degrees was reached in the extreme northwest corner. The mean temperature for the state, 69.0° is 4.7° higher than the normal, and with the exception of 1897, when the mean was 70.9°, is the highest mean of record for September.

The precipitation was above normal in all divisions, and was rather uniform in all divisions, but the excess was due mostly to heavy to excessive downpours that occurred over portions of the northern and central divisions on the last day of the month. There were no damaging storms reported, but a severe local electrical storm occurred on the night of the 17th in Taylor county that damaged telephone and electric wires and poles, and a severe local wind storm damaged farm buildings considerably in Clay county. Hail damage was light, with several storms in the southeastern portion of the state on the 8th and 10th, and a rather severe storm occurred on the 16th in Cerro Gordo and Worth counties. Stones one and one-half inches in diameter were reported, but the heaviest hail fell where it could do little or no damage, so the total damage from storms was not over \$5,000.

The intense heat during the first week caused corn to dry too rapidly, causing slight damage to the crop in some sections, but in the state generally the effect was beneficial, and by the end of the month the crop was practically safe from frost, and the prospects were that there would be no soft corn. The heat also injured pastures, but rains in the latter part of the month greatly benefited them, and at the end of the month they were generally in good condition. Fall plowing made good progress, but was temporarily suspended in small areas in the southeast portion on account of being too wet, and in the northwest portion where it was too dry in areas. Winter wheat was up in many fields and making good growth. Silo filling was completed in all sections of the state, but the frequent rains delayed clover hulling in the eastern portion and caused dirt roads to be in bad condition most of the time after the first week.

F. L. D.

TEMPERATURE

The mean temperature for State, as shown by the records of 105 stations, was 69.0°, or 4.7° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 67.5°, or 4.6° higher than the normal; Central, 69.1°, or 4.6° higher than the normal; Southern, 70.4°, or 4.8° higher than the normal. The highest monthly mean was 72.8°, at Keokuk, and the lowest was 64.4°

at Postville. The highest temperature reported was 105° at Inwood on the 2d and Cedar Rapids on the 4th, and the lowest was 32°, at Sanborn, on the 21st. The temperature range for the State was 73°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 112 stations, was 5.04 inches, or 1.39 inches more than the normal. By divisions, the averages were as follows: Northern, 4.76 inches, or 1.33 inches more than the normal; Central, 5.32 inches, or 1.63 inches more than the normal; Southern, 5.05 inches, or 1.22 inches more than the normal. The greatest amount, 9.13 inches, occurred at Washington, and the least, 1.54 inches, occurred at Storm Lake. The greatest amount in twenty-four consecutive hours, 4.65 inches, occurred at Belmond on the 30th.

RIVERS

Low stages prevailed on all rivers; the heavy rains that occurred during the month affected the stages very little. A slight rise occurred during the latter part of the first week and the first part of the second week on the Mississippi and all interior rivers, but the monthly range of stages did not exceed 1.5 feet at any station and on most interior rivers the range did not exceed 0.5 feet. Falling stages prevailed during the last half of the month.

MISCELLANEOUS PHENOMENA

Aurora: 19th, 20th, 21st, 23d, 24th.

Fog: 7th, 8th, 9th, 14th, 15th, 16th, 23d, 27th, 28th.

Frost (light): 20th, 21st, 23d.

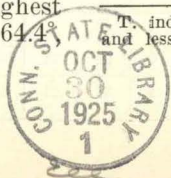
Hail: 8th, 10th, 16th, 19th.

Halos (lunar and solar): 10th, 17th, 24th, 25th.

COMPARATIVE DATA FOR THE STATE—SEPTEMBER

| YEAR | Temperature | | | | Precipitation | | | | | Number of Days | | | |
|------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------|---------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 59.3 | -5.0 | 96 | 23 | 2.97 | -0.68 | 4.85 | 1.36 | ----- | 7 | 13 | 10 | 7 |
| 1891 | 67.3 | +3.0 | 104 | 28 | 1.33 | -2.32 | 3.60 | 0.13 | ----- | 4 | 20 | 7 | 3 |
| 1892 | 64.7 | +0.4 | 99 | 29 | 1.53 | -2.12 | 4.15 | 0.16 | ----- | 4 | 16 | 8 | 0 |
| 1893 | 64.7 | +0.4 | 102 | 18 | 2.34 | -1.31 | 5.49 | 0.74 | ----- | 4 | 20 | 6 | 4 |
| 1894 | 65.1 | +0.8 | 100 | 26 | 3.57 | -0.08 | 7.43 | 0.67 | ----- | 8 | 15 | 10 | 5 |
| 1895 | 66.8 | +2.5 | 103 | 22 | 3.03 | -0.62 | 7.43 | 0.85 | ----- | 5 | 18 | 8 | 4 |
| 1896 | 58.5 | -5.8 | 95 | 22 | 4.09 | +0.44 | 9.96 | 1.82 | ----- | 10 | 11 | 9 | 10 |
| 1897 | 70.9 | +6.6 | 106 | 26 | 2.04 | -1.63 | 5.88 | 0.00 | ----- | 4 | 23 | 5 | 2 |
| 1898 | 65.3 | +1.0 | 99 | 29 | 2.69 | -0.96 | 8.45 | 0.41 | ----- | 7 | 16 | 9 | 5 |
| 1899 | 62.5 | -1.8 | 104 | 15 | 0.93 | -2.72 | 4.32 | T. | ----- | 4 | 16 | 9 | 5 |
| 1900 | 64.4 | +0.1 | 99 | 26 | 4.98 | +1.33 | 8.82 | 2.48 | ----- | 9 | 15 | 8 | 7 |
| 1901 | 63.3 | -1.0 | 102 | 26 | 4.77 | +1.12 | 13.62 | 1.71 | ----- | 9 | 13 | 9 | 8 |
| 1902 | 59.1 | -5.2 | 88 | 23 | 4.35 | +0.70 | 10.41 | 1.65 | ----- | 9 | 15 | 6 | 9 |
| 1903 | 60.8 | -3.5 | 94 | 28 | 3.81 | +0.16 | 8.79 | 1.42 | ----- | 10 | 14 | 6 | 10 |
| 1904 | 64.0 | -0.3 | 94 | 30 | 2.78 | -0.87 | 8.33 | 0.09 | ----- | 7 | 13 | 8 | 9 |
| 1905 | 65.8 | +1.5 | 96 | 36 | 3.81 | +0.16 | 13.18 | 0.50 | ----- | 8 | 14 | 8 | 8 |
| 1906 | 67.2 | +2.9 | 100 | 27 | 4.16 | +0.51 | 11.10 | 0.64 | ----- | 8 | 16 | 8 | 6 |
| 1907 | 62.8 | -1.5 | 98 | 25 | 2.75 | -0.90 | 6.06 | 1.38 | ----- | 8 | 15 | 9 | 6 |
| 1908 | 67.9 | +3.6 | 98 | 20 | 1.20 | -2.45 | 3.46 | 0.25 | ----- | 3 | 21 | 6 | 3 |
| 1909 | 62.4 | -1.9 | 94 | 30 | 3.58 | -0.07 | 7.34 | 1.39 | ----- | 9 | 14 | 8 | 8 |
| 1910 | 63.2 | -1.1 | 99 | 30 | 3.59 | -0.06 | 7.43 | 1.18 | ----- | 9 | 14 | 7 | 9 |
| 1911 | 65.8 | +1.5 | 103 | 32 | 5.12 | +1.47 | 13.73 | 1.19 | ----- | 10 | 11 | 9 | 10 |
| 1912 | 62.1 | -2.2 | 104 | 24 | 3.98 | +0.33 | 10.12 | 0.28 | ----- | 11 | 12 | 8 | 10 |
| 1913 | 64.5 | +0.2 | 107 | 19 | 3.31 | -0.34 | 7.44 | 0.45 | ----- | 9 | 15 | 8 | 7 |
| 1914 | 64.5 | +0.2 | 99 | 30 | 7.88 | +4.23 | 16.24 | 2.48 | ----- | 10 | 16 | 7 | 7 |
| 1915 | 63.7 | -0.6 | 91 | 30 | 6.03 | +2.38 | 12.45 | 2.88 | ----- | 11 | 11 | 8 | 11 |
| 1916 | 62.5 | -1.8 | 98 | 21 | 3.89 | +0.24 | 9.71 | 1.45 | ----- | 7 | 17 | 8 | 5 |
| 1917 | 62.6 | -1.7 | 97 | 28 | 2.90 | -0.75 | 8.68 | 0.39 | ----- | 7 | 15 | 7 | 8 |
| 1918 | 58.6 | -5.7 | 93 | 20 | 1.87 | -1.78 | 4.62 | 0.48 | ----- | 6 | 16 | 8 | 6 |
| 1919 | 67.5 | +3.2 | 99 | 33 | 5.34 | +1.69 | 11.82 | 1.49 | ----- | 8 | 16 | 6 | 8 |
| 1920 | 66.5 | +2.2 | 98 | 24 | 3.30 | -0.35 | 7.21 | 0.69 | ----- | 8 | 17 | 8 | 5 |
| 1921 | 67.8 | +3.0 | 99 | 31 | 6.72 | +3.07 | 11.95 | 1.72 | ----- | 11 | 14 | 8 | 8 |
| 1922 | 67.1 | +2.8 | 103 | 31 | 2.03 | -1.62 | 4.34 | 0.31 | ----- | 6 | 20 | 6 | 4 |
| 1923 | 64.2 | -0.1 | 92 | 28 | 5.79 | +2.14 | 12.14 | 1.88 | ----- | 11 | 14 | 8 | 8 |
| 1924 | 59.1 | -5.2 | 91 | 25 | 3.13 | -0.52 | 5.68 | 1.01 | ----- | 8 | 16 | 7 | 7 |
| 1925 | 69.0 | +4.7 | 105 | 32 | 5.04 | +1.39 | 9.13 | 1.54 | ----- | 9 | 14 | 10 | 6 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



Daily Precipitation for September, 1925—Continued

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Totals |
|--------------------------|----------------|--------------|---|---|-----|-----|-----|------|-----|-----|------|------|------|------|------|-----|-----|----|----|-----|------|------|-----|-----|-----|------|-----|-----|------|------|------|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| <i>Southern Division</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afton | Grand | | | | | | T. | .12 | .08 | .08 | 1.02 | .08 | | T. | .08 | | | | | T. | .72 | | .36 | | | | .50 | .23 | | .08 | | 3.30 |
| Albia | Des Moines | | | | | | T. | T. | T. | .09 | .57 | 2.05 | .45 | | T. | .46 | .01 | | | | .10 | .68 | .05 | .04 | .14 | | .61 | .07 | | | 5.32 | |
| Atlantic | Nishnabotna | | | | | | T. | .52 | .15 | | | .11 | | | T. | | | | | | .19 | | | | | | .31 | | | .49 | T. | 3.10 |
| Bonaparte | Des Moines | | | | | | T. | | | | .32 | 3.40 | 1.40 | .08 | .09 | | | | | | T. | .60 | | T. | | T. | .41 | .10 | | 1.83 | 7.78 | |
| Burlington | Mississippi | | | | | | | | .17 | .23 | 1.56 | .53 | 2.06 | .73 | 1.04 | | | | | | .01 | .45 | .25 | T. | .01 | T. | .44 | .53 | | .23 | 8.24 | |
| Centerville | Chariton | | | | | T. | T. | | .08 | .03 | .64 | 2.05 | .30 | .05 | .32 | .02 | | | | .12 | .74 | | .37 | | | T. | .63 | .11 | | 1.17 | 6.63 | |
| Chariton (near) | Chariton | | | | | T. | | T. | | T. | T. | 1.50 | .48 | | | | | | | .15 | .75 | T. | .20 | T. | | .48 | | | 1.05 | 4.61 | | |
| Clarinda | Nodaway | | | | | | | .94 | | | .08 | .25 | .71 | | | | | | | | 1.63 | 1.33 | | .55 | .34 | | .40 | .03 | | 6.43 | | |
| Columbus Jct. | Iowa | | | | | | | .42 | .01 | .11 | 2.88 | .39 | .11 | .20 | .78 | | | | | | | .32 | | T. | .10 | | .84 | .01 | | .50 | 6.57 | |
| Corning | Nodaway | | | | | | .10 | T. | T. | .89 | | | | | | | | | | | | 1.32 | | .54 | | | .50 | | | 3.35 | | |
| Corydon | Chariton | | | | | | | .51 | .02 | .18 | 1.82 | 1.57 | .13 | .02 | | | | | | .19 | 1.04 | | .21 | | | | .53 | .07 | | 1.17 | 7.46 | |
| Creston | Missouri | | | | | | .05 | .07 | | .08 | .15 | .86 | | | | | | | | | | .74 | | .12 | .16 | | .40 | .05 | | 2.63 | | |
| Cumberland (near) | Nodaway | | | | | | T. | | T. | .22 | T. | .16 | | | | | | | | T. | | .62 | T. | .26 | | | .39 | | T. | .25 | 1.90 | |
| Earlham | Des Moines | | | | | | .17 | .16 | .06 | .38 | .01 | | | | T. | | | | | | | .67 | T. | .10 | | | .27 | | | 2.00 | | |
| Fairfield | Skunk | | | | | | | T. | .07 | .20 | 2.65 | .3 | | 1.15 | .05 | | | | | | | .64 | | | | | | | | .53 | 5.63 | |
| Glenwood | Missouri | | | | | | .07 | | .27 | | .32 | .04 | | .04 | | | | | | .10 | 1.30 | | .40 | | | | .60 | | T. | | 3.14 | |
| Indianola | Des Moines | | | | | | T. | .04 | .13 | .04 | .44 | .02 | | .07 | T. | | | | | | | .11 | | | | | .59 | .72 | | .86 | 3.54 | |
| Keokuk*** | Mississippi | | | | | | | T. | .18 | .37 | .90 | .59 | T. | 1.02 | T. | | | | | | | .56 | T. | .02 | | .31 | .89 | T. | | 2.15 | 6.99 | |
| Keosauqua | Des Moines | | | | | | T. | T. | .03 | .40 | 3.50 | .50 | .08 | .05 | .07 | | | | | .03 | .64 | | .06 | T. | | T. | .75 | .10 | | 2.21 | 8.42 | |
| Knoxville | Des Moines | | | | | | | T. | .05 | .04 | .08 | .58 | | | T. | .55 | | | | | T. | .38 | | .14 | | | .08 | .05 | | 1.39 | 3.94 | |
| Lacona | Des Moines | | | | .01 | | .01 | .01 | .01 | .01 | .01 | 1.02 | .01 | .01 | .28 | | | | | .01 | | .42 | | .16 | | | .52 | .01 | | 1.20 | 3.70 | |
| Lamoni | Grand | | | | | | .07 | .18 | .25 | | .02 | .89 | 2.00 | .29 | | | | | | .17 | .04 | 1.27 | | .02 | .50 | | .86 | .30 | | 6.85 | | |
| Lenox | Missouri | | | | | | T. | .10 | | .05 | .05 | 1.00 | .08 | | | | | | | .15 | 1.50 | | .68 | | | .35 | .05 | | 4.01 | | | |
| Mt. Ayr | Grand | | | | | | .04 | .10 | .09 | T. | .11 | 1.91 | .45 | | | | | | | | .55 | 1.17 | T. | .52 | | | .51 | .14 | .24 | .26 | 6.09 | |
| Mt. Pleasant | Skunk | | | | | | | .02 | .43 | .32 | 2.98 | 1.30 | .05 | .72 | .06 | | | | | T. | .50 | | .04 | | | T. | .41 | .06 | | .48 | 7.37 | |
| Oakland | Nishnabotna | | | | | | .14 | .25 | .20 | | .18 | | | .06 | | | | | | | | .96 | | .42 | | | .30 | | .03 | 2.54 | | |
| Oskaloosa | Des Moines | | | | | | | T. | .14 | .06 | .07 | .91 | .27 | .44 | .13 | .12 | | | | T. | .57 | | .08 | | T. | .07 | .02 | | .40 | 3.88 | | |
| Ottumwa | Des Moines | | | | | | | .06 | T. | .05 | 2.00 | .23 | .43 | .47 | .33 | | | | | .22 | .79 | | .15 | | | T. | .46 | .04 | | .49 | 5.72 | |
| Red Oak (near) | Missouri | | | | | | | T. | .10 | | .08 | .50 | | | | | | | | .10 | 1.20 | .39 | | | | | .49 | | T. | 2.86 | | |
| Sigourney | Skunk | | | | | | T. | .37 | T. | .20 | 1.34 | .18 | .74 | 1.53 | .32 | | | | | T. | .58 | | .07 | | | | .49 | | | .51 | 6.33 | |
| Stockport | Skunk | | | | | .03 | | T. | T. | .40 | .25 | 2.82 | .64 | .12 | .36 | .05 | | | | .04 | | .69 | | .08 | | T. | .66 | .10 | | 1.23 | 7.47 | |
| Thurman | Missouri | | | | | | | T. | | .08 | T. | .47 | T. | | T. | | | | | .21 | 1.62 | T. | .32 | | | .64 | | T. | T. | 3.34 | | |
| Tingley | Platt | | | | | | | T. | .10 | T. | .08 | 1.56 | .25 | | T. | | | | | .23 | 1.31 | | .84 | | | .48 | .23 | | .03 | 5.11 | | |
| Washington | Skunk | | | | | | | 1.06 | T. | T. | 3.75 | .33 | .88 | T. | .60 | | | | | T. | .78 | | .04 | | | .72 | .06 | | .91 | 9.13 | | |
| Wescott (near) | Mississippi | | | | | | | .35 | | | 1.92 | .71 | | .90 | .10 | | | | | | .62 | | | | | 1.18 | | .15 | .80 | 6.73 | | |
| Winterset | Des Moines | | | | | | .01 | | .03 | .10 | .07 | .54 | | | .09 | | | | | T. | .33 | | .17 | | | .54 | | | .28 | 2.16 | | |
| Omaha, Neb.*** | Missouri | | | | | | .11 | .04 | .11 | .19 | | .07 | | | .09 | T. | | | | | .04 | 1.02 | | .18 | .19 | | .05 | .38 | | .22 | T. | 2.69 |

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

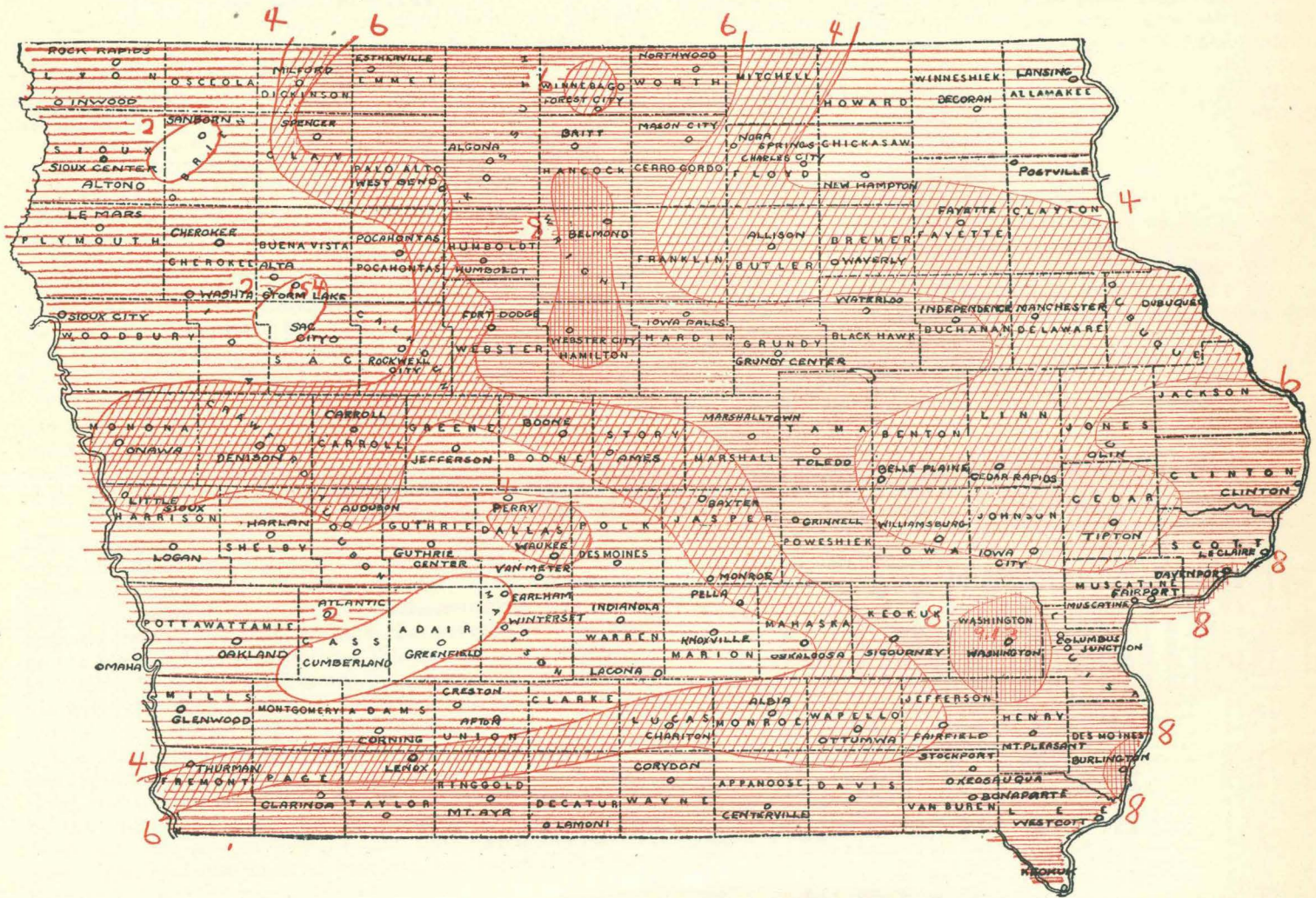
- |||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.
- ***Regular Weather Bureau Station; precipitation is for 24-hour period, midnight to midnight.
- **Incomplete.
- *Precipitation included in the next following measurement.
- T. Precipitation is less than .01 inch rain or melted snow.

Daily Maximum and Minimum Temperature for the Month of September, 1925

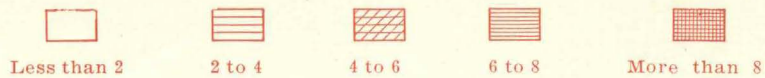
Table with 31 columns (1-30 for days, Mean for average) and rows for stations in Northern, Central, and Southern Divisions. Each station row lists maximum and minimum temperatures for each day.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

TOTAL PRECIPITATION, SEPTEMBER, 1925



Scale of shades in inches



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with IOWA WEATHER AND CROP BUREAU

CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, OCTOBER, 1925 No. 10

GENERAL SUMMARY

There was a decided contrast in the weather during October, 1925, and that of a year ago. October, 1924, was, with one exception, the warmest in the history of the State, and this October is by far the coldest ever experienced, being 2.7° colder than in 1917, which was the coldest previous to this year in more than a half century of record. The average snowfall was the greatest ever recorded in the State, ranging from 1.2 inches in the extreme eastern portion to more than 8.0 inches in some northern stations, and over most of the State the amounts were remarkably uniform; the humidity was high, sunshine decidedly deficient, and both the number of cloudy days and days with 0.01 inch or more of precipitation equalled the record for the month; the opposite conditions prevailed a year ago. Aside from a day or two at the beginning of the month, the temperature was continuously below the normal, and "Indian Summer" was entirely absent. The first light frost occurred at a few northern stations on the 5th and the first killing frost occurred at a number of stations on the 7th, and by the 10th killing frost had visited the entire State. Owing to the advanced state of vegetation there was very little damage to staple crops, but there was considerable damage to truck crops. There was a tendency to warmer weather till the 15th, after which a gradual decline began and culminated during the last week in the coldest weather ever experienced in the State in October. The minimum temperatures were much lower at all stations than the previous record for October, and at a large number of stations the previous minimum was lowered on several days, and zero weather, which heretofore was practically unknown in October, occurred in more than half of the State, reaching a minimum of -15 at Inwood, which is 13° lower than the previous minimum. Zero occurred as far south as the Missouri line.

The precipitation averaged 0.49 inch above the normal, being deficient over the northwest, extreme southwest, and a narrow strip along the northern border, and gradually increasing to the south and east where there was a marked excess. While precipitation was recorded on a large number of days, most of the monthly total occurred on the 3d and 27th. The prevailing moist condition of the atmosphere, excessive cloudiness and lack of sunshine prevented the proper drying of corn, and rendered husking more difficult. The quality of the corn was reduced somewhat by mold and the high per cent of moisture made cribbing difficult and turning was necessary. Many fields were too wet to permit wagons to enter and the heavy snowfall on the 25th and 27th made a large amount of "down" corn, causing it to be covered with mud, and further impaired the quality of the crop. Husking was started generally about the middle of the month, but owing to the unfavorable conditions that prevailed poor progress was made, so that at the end of the month less than 20 per cent had been harvested. The excellent condition of the corn at the beginning of October caused procrastination in seed corn sav-

ing. Subsequent moist weather and severe temperature rendered much corn unfit for planting and imperiled the 1926 crop. The weather conditions interfered seriously with the hulling of clover, and it was necessary to abandon many fields ready to hull in the eastern and southern portions of the State. There was considerable loss to tubers of turnips and beets that were covered with snow were exposed to zero weather without suffering injury.

There were no storms of consequence during the month. Light hail occurred on the 3d and 7th at a number of stations, and a local storm of limited extent, said to have been a "twister" occurred in the south-central portion of Mahaska County during the early morning of the 3d. It unroofed buildings and destroyed trees in its path.

F. L. D.

TEMPERATURE

The mean temperature for the State, as shown by the records of 106 stations, was 40.2°, or 11.7° lower than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 38.1°, or 12.2° lower than the normal; Central, 40.3°, or 11.8° lower than the normal; Southern, 42.2°, or 11.2° lower than the normal. The highest monthly mean was 44.5°, at Ottumwa, and the lowest was 36.2°, at Estherville. The highest temperature reported was 78°, at Stockport, on the 2nd, and the lowest was -15°, at Inwood on the 29th. The temperature range for the State was 93°, which is the greatest range of record for the month of October.

COMPARATIVE DATA FOR THE STATE—OCTOBER

Table with columns: YEAR, Temperature (Mean, Departure, Highest, Lowest), Precipitation (Total, Departure, Greatest, Least, Snowfall), and Number of Days (With pre. .01 in. or more, Clear, Partly cloudy, Cloudy). Rows list years from 1890 to 1925.

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

Climatological Data for October, 1925—Continued

Main table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers.

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table with columns: Stations, Barometric Pressure (Mean, Highest, Date, Lowest, Date), Relative Humidity (Mean, 7 a. m., 12 Noon, 7 p. m., Lowest, Date), Wind (Total movement, Average hourly velocity, Maximum: Miles, From, Date), Sunshine (Per cent of possible, Departure from normal).

*Davenport. §Omaha. †Sioux City. ‡Local mean time. †And other dates.

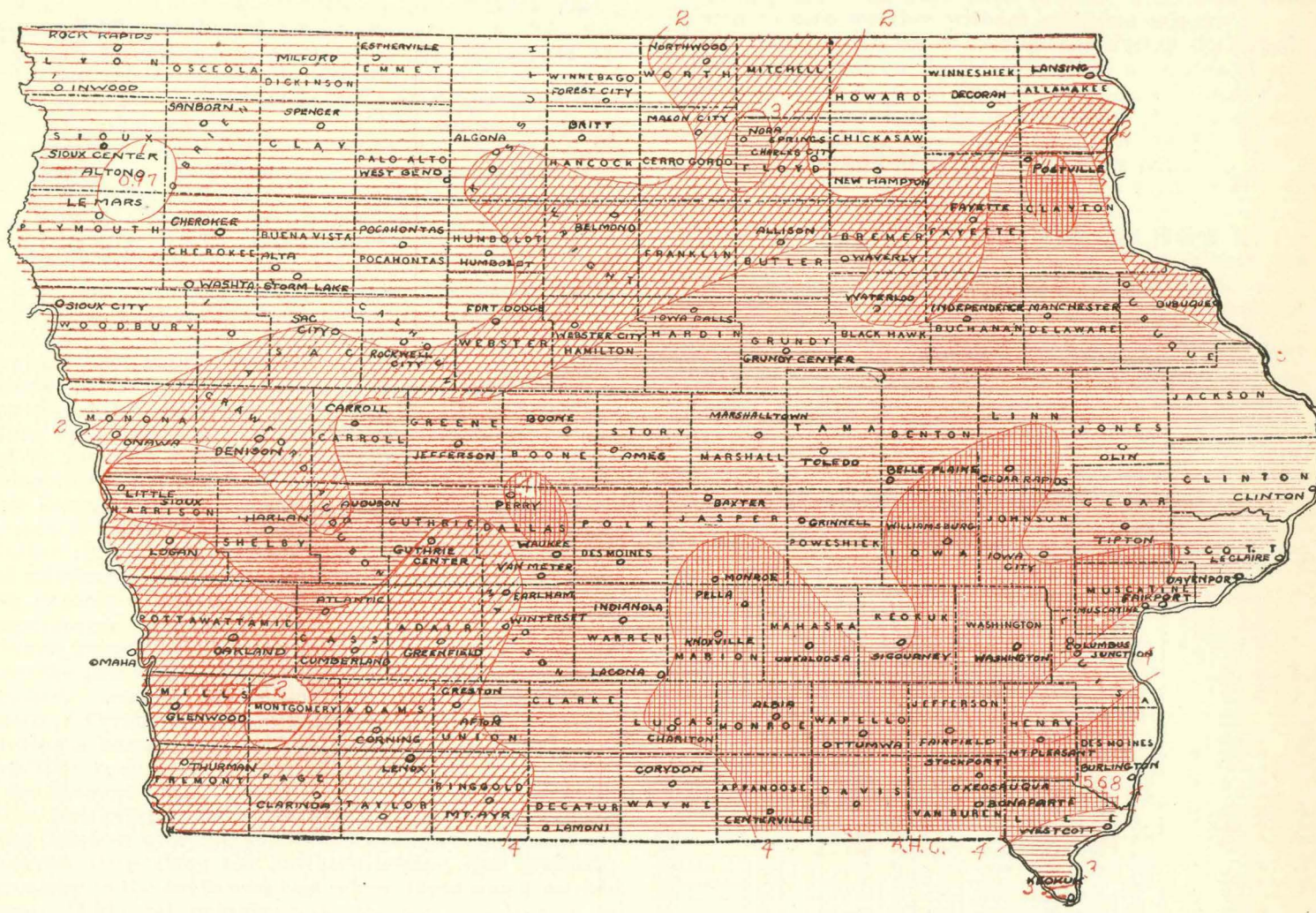
PRECIPITATION

The average precipitation for the State, as shown by the records of 114 stations, was 2.91 inches, or 0.49 inch more than the normal. By divisions, the averages were as follows: Northern, 1.93 inches, or 0.39 inch less than the normal; Central, 3.31 inches, or 0.83 inch more than the normal; Southern, 3.49 inches, or 1.03 inches more than the normal. The greatest amount, 5.68 inches, occurred at Burlington, and the least, 0.97 inch, occurred at Alton. The greatest amount in any 24 consecutive hours, 2.70 inches, occurred at Oskaloosa, on the 3d.

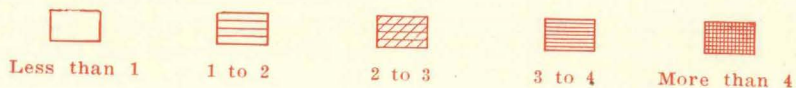
SNOWFALL

The average snowfall for the State was 4.9 inches, or 4.3 inches more than the normal. This is by far the greatest snow fall of record for the State. Most of the snow occurred during a general storm on the 27th but numerous light falls occurred over the northern half of the State beginning during the first part of the 2d week. The northern and portions of the central and southern divisions were mostly snow covered at the close of the month.

TOTAL PRECIPITATION, OCTOBER, 1925



Scale of shades in inches



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

IOWA SECTION
In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, NOVEMBER, 1925 No. 11

GENERAL SUMMARY

Following the coldest October of record, nearly normal temperature prevailed during November but there was a decided deficiency in precipitation over each division of the State. There were numerous fluctuations in temperature so that there were neither protracted periods of warm or cold weather. The coldest weather prevailed generally on the 7th and 8th, and another cool period occurred during the last week. The warmest period occurred during the third week and another rather warm spell occurred in the second week. Zero weather occurred in each division but a rather singular situation prevailed in that only one station in the northern division reported as low as zero, while six stations in the central division and seven in the southern reported zero or lower.

Conditions were favorable for all out door work, except for short periods following the heavy falls of snow over the eastern and most of the southern divisions on the 7th and the last week of the month. Corn husking which had made very poor progress was pushed rapidly after the first week, and with sunshine considerably above normal and very little precipitation during the rest of the month, only about 15 per cent was still in the fields at the end of the month. Building operations were carried on during most of the month with little interruption but road construction was interrupted by hard freezing weather and was carried on under difficulties and some construction had to be suspended. Plowing, which had been suspended because of frozen soil in October, was resumed when frost left the ground before the middle of November.

There was a decided deficiency in precipitation, and only two stations in the entire State showed an excess. Most of the precipitation was snow, which occurred in two principal storms. The first storm, in the last part of the first week, occurred mostly south of a line running from Mills to Clayton counties, and the other, during the last week, occurred north of a line running from Des Moines to Plymouth counties, leaving a large area in the west-central portion of the state with practically no snow. There is still a shortage of water in portions of the western half of the State, where the drouth had been only partially relieved, and additional wells failed during the month.

Rather strong winds occurred on the 21st and 22nd that blew down some corn and frail buildings and, also, caused some drifting of soil, but the month was generally free from damaging storms and what drifting snow occurred was not sufficient to interrupt railway traffic and caused only slight inconvenience to motor travel.

Because of the unfavorable fall, considerable acreage intended for winter wheat could not be seeded, and considerable late seeded wheat failed to germinate or made little showing above ground. In general, the crop did not enter the winter in resistant condition.

TEMPERATURE

The mean temperature for the State, as shown by the records of 106 stations, was 36.1°, or 0.5° lower than the normal. By divisions, approximately three tiers to the division, the means were as follows: Northern, 34.3°, or 0.1° lower than the normal; Central, 36.4°, or 0.3° lower than the normal; Southern, 37.7°, or 1.0° lower than the normal. The highest monthly mean was 39.6°, at Keokuk, and the lowest was 32.6°, at Northwood. The highest temperature reported was 68°, at Little Sioux on the 20th and Tipton on the 21st, and the lowest was -6 at Thurman and Williamsburg on the 8th. The temperature range for the State was 74°.

PRECIPITATION

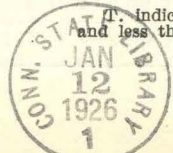
The average precipitation for the State, as shown by the records of 110 stations, was 0.71 inch, or 0.85 inch less than the normal. By divisions, the average were as follows: Northern, 0.86 inch, or 0.66 inch less than the normal; Central, 0.65 inch, or 0.93 inch less than the normal; Southern, 0.62 inch, or 0.95 inch less than the normal. The greatest amount, 2.30 inches, occurred at Maquoketa, and the least, 0.10 inch occurred at Logan. The greatest amount in any 24 consecutive hours, 1.26 inches, occurred at Decorah on the 4th.

COMPARATIVE DATA FOR THE STATE—NOVEMBER

| YEAR | Temperature | | | | Precipitation | | | | | Number of Days | | | |
|------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------|---------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890 | 38.6 | +2.0 | 78 | -2 | 1.46 | -0.10 | 3.55 | 0.71 | --- | 3 | 15 | 8 | 7 |
| 1891 | 30.5 | -6.1 | 84 | -24 | 1.70 | +0.14 | 3.64 | 0.66 | --- | 7 | 10 | 8 | 12 |
| 1892 | 33.3 | -3.3 | 70 | -3 | 1.10 | -0.46 | 3.16 | 0.05 | 1.8 | 4 | 11 | 8 | 11 |
| 1893 | 34.0 | -2.6 | 86 | -13 | 1.17 | -0.39 | 2.56 | 0.05 | 4.6 | 4 | 16 | 8 | 6 |
| 1894 | 32.7 | -3.9 | 72 | -5 | 0.92 | -0.64 | 2.42 | T. | 0.4 | 4 | 9 | 11 | 10 |
| 1895 | 34.3 | -2.3 | 86 | -12 | 1.51 | -0.05 | 3.01 | 0.45 | 4.9 | 6 | 9 | 8 | 13 |
| 1896 | 29.6 | -7.0 | 82 | -15 | 1.83 | +0.27 | 4.51 | 0.16 | 2.9 | 6 | 9 | 8 | 13 |
| 1897 | 34.3 | -2.3 | 81 | -19 | 0.66 | -0.90 | 2.24 | T. | 1.2 | 5 | 12 | 8 | 10 |
| 1898 | 32.2 | -4.4 | 78 | -17 | 1.50 | -0.06 | 3.61 | 0.33 | 8.7 | 6 | 14 | 8 | 8 |
| 1899 | 43.9 | +7.3 | 86 | 8 | 1.20 | -0.36 | 2.97 | 0.13 | 0.5 | 5 | 12 | 8 | 10 |
| 1900 | 33.5 | -3.1 | 79 | -6 | 1.06 | -0.50 | 3.35 | T. | 3.7 | 6 | 12 | 7 | 11 |
| 1901 | 35.8 | -0.8 | 77 | 2 | 0.86 | -0.70 | 2.30 | 0.20 | 2.6 | 3 | 18 | 6 | 6 |
| 1902 | 41.2 | -4.6 | 79 | 4 | 2.13 | +0.57 | 4.19 | 0.16 | 1.8 | 7 | 9 | 7 | 14 |
| 1903 | 34.2 | -2.4 | 76 | -5 | 0.52 | -1.04 | 1.74 | T. | 1.1 | 3 | 13 | 8 | 9 |
| 1904 | 41.0 | +4.4 | 80 | 4 | 0.15 | -1.41 | 0.50 | 0.00 | 0.5 | 1 | 20 | 6 | 4 |
| 1905 | 38.4 | +1.8 | 70 | -12 | 2.84 | +1.28 | 5.30 | 0.90 | 0.6 | 5 | 16 | 7 | 7 |
| 1906 | 35.4 | -1.2 | 76 | -5 | 2.03 | +0.47 | 3.86 | 0.35 | 4.4 | 8 | 9 | 7 | 14 |
| 1907 | 36.7 | +0.1 | 68 | -4 | 1.03 | -0.53 | 2.27 | 0.05 | 0.9 | 4 | 17 | 6 | 7 |
| 1908 | 39.3 | +2.7 | 80 | 5 | 1.56 | 0.00 | 3.31 | 0.21 | 1.4 | 5 | 14 | 7 | 9 |
| 1909 | 42.4 | +5.8 | 84 | -3 | 5.39 | +3.83 | 1.48 | 2.07 | 6.8 | 10 | 10 | 7 | 13 |
| 1910 | 33.4 | -3.2 | 76 | 5 | 0.84 | -1.22 | 1.03 | T. | 0.7 | 3 | 13 | 9 | 8 |
| 1911 | 29.9 | -6.7 | 79 | -8 | 1.42 | -0.14 | 4.99 | 0.11 | 1.6 | 6 | 11 | 8 | 11 |
| 1912 | 40.1 | +3.5 | 77 | 6 | 0.98 | -0.58 | 2.33 | 0.00 | T. | 2 | 18 | 8 | 4 |
| 1913 | 44.1 | +7.5 | 78 | 10 | 1.18 | -0.38 | 3.49 | 0.20 | 0.4 | 6 | 11 | 7 | 12 |
| 1914 | 41.0 | +4.4 | 80 | -4 | 0.22 | -1.34 | 0.95 | 0.00 | T. | 2 | 19 | 6 | 5 |
| 1915 | 40.2 | +3.6 | 83 | -5 | 1.94 | +0.38 | 4.86 | 0.30 | 1.2 | 6 | 11 | 10 | 9 |
| 1916 | 37.3 | +0.7 | 80 | -8 | 1.61 | +0.05 | 3.65 | 0.05 | 3.6 | 5 | 16 | 6 | 8 |
| 1917 | 40.7 | +4.1 | 77 | 3 | 0.28 | -1.23 | 1.02 | T. | 1.4 | 3 | 14 | 6 | 10 |
| 1918 | 39.9 | +3.3 | 76 | 0 | 2.11 | +0.55 | 5.10 | 0.70 | 4.4 | 7 | 13 | 5 | 7 |
| 1919 | 33.6 | -3.0 | 68 | -12 | 3.40 | +1.84 | 6.22 | 1.97 | 6.3 | 8 | 11 | 7 | 12 |
| 1920 | 35.4 | -1.2 | 71 | 5 | 2.18 | +0.62 | 4.45 | 0.73 | 1.2 | 8 | 10 | 5 | 15 |
| 1921 | 33.6 | -3.0 | 70 | -5 | 0.58 | -0.98 | 1.61 | T. | 3.4 | 5 | 10 | 5 | 15 |
| 1922 | 42.2 | +5.6 | 74 | 11 | 3.54 | +1.98 | 5.28 | 1.96 | 0.3 | 9 | 11 | 6 | 13 |
| 1923 | 40.1 | +3.5 | 72 | 9 | 0.58 | -0.98 | 1.84 | 0.00 | 1.2 | 3 | 16 | 6 | 8 |
| 1924 | 38.9 | +2.3 | 82 | 0 | 0.58 | -0.98 | 1.55 | T. | 0.4 | 4 | 15 | 7 | 8 |
| 1925 | 36.1 | -0.5 | 68 | -6 | 0.71 | -0.85 | 2.30 | 0.10 | 4.0 | 4 | 15 | 6 | 9 |

F. L. D.

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



Climatological Data for November, 1925

Table with columns: Stations, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers. The table is divided into Northern and Central Divisions.

Daily Precipitation for November, 1925—Continued

| Stations | Drainage Basin | Day of Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Totals | | | | |
|--------------------------|----------------|--------------|----|-----|-----|-----|------|-----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|----|----|--------|-----|-----|------|------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | | | | |
| <i>Southern Division</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afton | Grand | | | .11 | .05 | | | .20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.39 |
| Albia | Des Moines | | T. | T. | T. | | .50 | .01 | | | | | | T. | T. | T. | | | | | | | | | | | | | | | | T. | | | 0.51 | |
| Atlantic | Nishnabotna | | | .01 | .07 | | .10 | | | | | | .02 | | | .01 | | | | | | | | | | | | | .04 | | T. | | | | 0.25 | |
| Bonaparte (near) | Des Moines | | | T. | .15 | | .67 | .03 | | | | | | | .11 | T. | | | | | | | | | | | | T. | | | T. | | | | 0.96 | |
| Burlington | Mississippi | | | | .12 | | 1.13 | .02 | | | | | | | .06 | .01 | | | | | | | | | | | | .02 | T. | T. | | .02 | | | 1.38 | |
| Centerville | Chariton | | | .01 | .06 | | .41 | | | | | | T. | .01 | .06 | T. | | | | | | | | | | | | | T. | T. | | .02 | | | 0.57 | |
| Chariton (near) | Chariton | | | T. | T. | | .38 | | | | | | T. | | | T. | | | | | | | | | | | | T. | | | T. | | | | 0.38 | |
| Clarinda | Nodaway | | | .03 | .05 | | .33 | | | | | | .03 | | | | | | | | | | | | | | | | | | | | | | 0.44 | |
| Columbus Jet | Iowa | | | | .15 | | .53 | .20 | | | | | | | | T. | | | | | | | | | | | | | | | | | .33 | | 1.21 | |
| Corning | Nodaway | | | T. | .50 | | .30 | | | | | | | | | T. | | | | | | | | | | | | | | | | | | | 0.80 | |
| Corydon | Chariton | | | T. | T. | | .50 | | | | | | | | T. | T. | | | | | | | | | | | | | | | | T. | | T. | 0.50 | |
| Creston | Missouri | | | | .05 | | .16 | | | | | | | | | T. | | | | | | | | | | | | | | | | | | T. | 0.21 | |
| Cumberland (near) | Nodaway | | | .05 | T. | | .08 | | | | | | T. | | | T. | | | | | | | | | | | | | | | | | | T. | 0.18 | |
| Earlham | Des Moines | | | T. | .31 | | .40 | | | | | | T. | | T. | T. | | | | | | | | | | | | | | | | | | T. | 0.71 | |
| Fairfield | Skunk | | | | .22 | .01 | .62 | | | | | | | | .02 | T. | T. | | | | | | | | | | | | T. | | | | .02 | | 0.89 | |
| Glenwood | Missouri | | | .15 | .08 | | .05 | | | | | | | | | | | | | | | | | | | | | | | | | | .02 | | 0.30 | |
| Indianola | Des Moines | | | T. | T. | | .30 | | | | | | T. | | | T. | | | | | | | | | | | | | | | | .01 | | T. | 0.31 | |
| Keokuk** | Mississippi | | | T. | .04 | T. | .01 | .83 | | | | | T. | | .14 | T. | | | | | | | | | | | | | | | | .02 | | T. | 1.04 | |
| Keosauqua | Des Moines | | | T. | T. | | .60 | T. | | | | | T. | | .25 | .02 | T. | | | T. | | | | | | | | | | | | .02 | | | 0.89 | |
| Knoxville | Des Moines | | | T. | .06 | T. | .40 | T. | | T. | | | T. | | .25 | T. | T. | | | | | | | | | | | | | | | | T. | T. | 0.46 | |
| Lacona | Des Moines | | | .01 | .11 | | .60 | | | | | | .02 | .01 | | .02 | | | | | | | | | | | | | | | | | .01 | | 0.79 | |
| Lamoni | Grand | | | .01 | .01 | | .54 | | | | | | | | T. | | | | | | | | | | | | | | | | | | .01 | | 0.57 | |
| Lenox | Missouri | | | .05 | .20 | | .25 | | | | | | .02 | | | T. | | | | | | | | | | | | | | | | | T. | | 0.52 | |
| Mt. Ayr | Grand | | | T. | .03 | | .55 | | | | | | T. | | T. | .01 | | | | | | | | | | | | | | | | | T. | | 0.59 | |
| Mt. Pleasant | Skunk | | T. | | .19 | | .50 | | | | | | | | .19 | | | | | | | | | | | | | | | | | | T. | T. | 0.88 | |
| Oakland | Nishnabotna | | T. | .22 | | | .22 | | | | | | T. | | | | | | | | | | | | | | | | | | | | | | 0.44 | |
| Oskaloosa | Des Moines | | | T. | .07 | | .38 | T. | | | | | T. | | T. | T. | T. | | | | | | | | | | | | | | | | T. | | 0.47 | |
| Ottumwa | Des Moines | | | T. | .24 | | .61 | T. | | | | | T. | | T. | T. | T. | | | | | | | | | | | | | | | | .02 | | 0.87 | |
| Red Oak (near) | Missouri | | | .20 | .20 | | T. | .30 | T. | T. | | | T. | | | | | | | | | | | | | | | | | | | | T. | | 0.70 | |
| Sigourney | Skunk | | | T. | .16 | T. | .60 | .05 | | T. | | | T. | | T. | T. | | | | | | | | | | | | | | | | | T. | T. | 0.87 | |
| Stockport | Skunk | | | T. | .26 | | .41 | T. | | | | | T. | | .08 | T. | T. | | | | | | | | | | | | | | | | .04 | | 0.84 | |
| Thurman | Missouri | | | T. | .22 | | .22 | | | | | | | | | T. | | | | | | | | | | | | | | | | | | | 0.22 | |
| Tingley | Platt | | | T. | .09 | | .23 | | | | | | | | | T. | | | | | | | | | | | | | | | | | | T. | T. | 0.32 |
| Washington | Skunk | | | T. | .41 | | .68 | | | | | | .01 | | | T. | | | | | | | | | | | | | | | | | T. | T. | 1.30 | |
| Wescott (near) | Mississippi | | | | | | 1.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.05 | |
| Winterset | Des Moines | | | T. | .03 | | .40 | | | | | | | | | | | | | | | | | | | | | | | | | | | T. | T. | 0.43 |
| Omaha, Neb.*** | Missouri | | | | .09 | .02 | | T. | | | | | | T. | T. | T. | | | | | | | | | | | | | | | | | | .01 | | 0.12 |

Except as otherwise indicated, observations are generally made late in the afternoon, near sunset, and precipitation recorded is for 24 hours ending at the time of observation.

|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.
 ***Regular Weather Bureau Station: precipitation is for 24-hour period, midnight to midnight.
 **Incomplete.
 *Precipitation included in the next following measurement.
 T. Precipitation is less than .01 inch rain or melted snow.

RIVERS

Low and nearly stationary stages prevailed on the Mississippi River during the entire month. Floating ice was present during the first part and again at the close of the month. Low stages also prevailed on all interior rivers, with only slight fluctuations and the extreme stages generally differed less than one foot. On the Missouri River moderate stages prevailed with generally little daily fluctuations except a rather marked rise occurred during the last half of the 3d week and a moderate rise at the beginning of the 2d week.

ERRATA

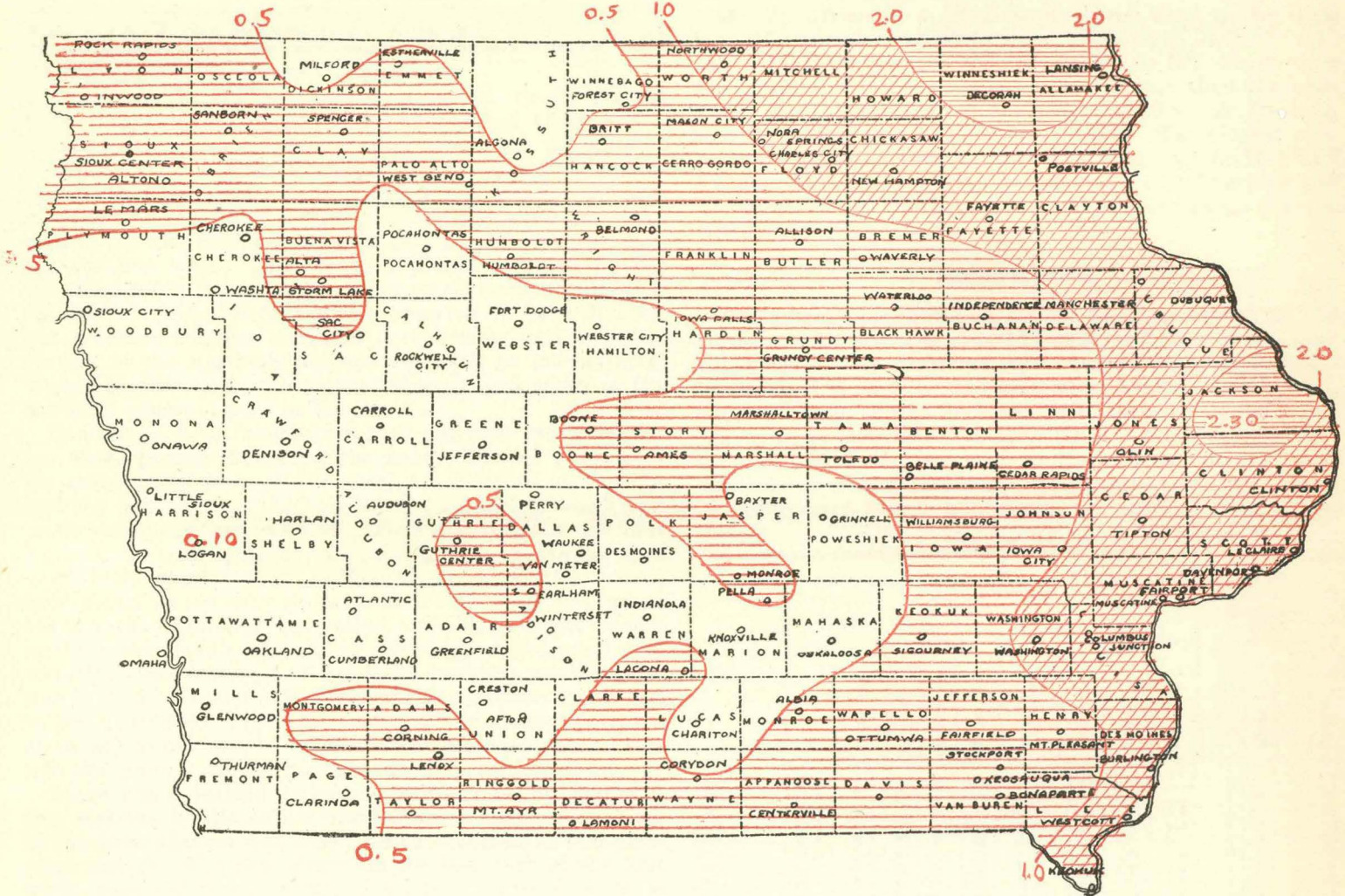
Report for October, 1925. Page 73. In the table "Comparative data for the State," the greatest precipitation for 1925 recorded 2.70 inches, should be 5.68 inches.

Daily Maximum and Minimum Temperature for the Month of November, 1925

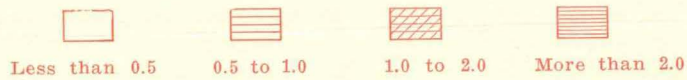
Table with columns for Stations, days (1-30), and Mean. Rows are categorized by Northern Division, Central Division, and Southern Division, listing various Iowa cities and their daily temperature ranges.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

TOTAL PRECIPITATION, NOVEMBER, 1925



Scale of shades in inches



CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP BUREAU
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, DECEMBER, 1925 No. 12

GENERAL SUMMARY

While the mean temperature for December was slightly more than three degrees below the normal, mild winter weather prevailed most of the month. There was a decided excess in temperature during the first three days and most of the second week, with numerous fluctuations until the 20th, after which a protracted cold period set in that prevailed during the rest of the month. Up until this period there had been a little zero weather over a limited portion of the State but over a large area in the northeastern portion zero was reached on nearly every day of the last ten; and at a few stations on the 27th, the temperature did not rise above zero. The deficiency was quite uniform over each division, but there was a decided contrast in the eastern and western portions of the State. At a few stations in the eastern portion the deficiency ranged from seven to eight degrees, while in the extreme western portion the deficiency was less than one degree at several stations; and two stations in the southwest reported a slight excess.

Precipitation was slightly above normal and the averages were remarkably uniform for all divisions of the State, but there were areas in nearly all portions of the State that had deficiencies. There were three periods of precipitation that were general over most of the State, the first occurred from the 3rd to 5th, the second on the 15th and the third occurred on the 20th. On the 24th another period was general over the northern division. The precipitation was mostly in the form of snow, though there was considerable rain or sleet during the beginning of the first storm. As the cold weather set in during this storm the precipitation changed to snow and the strong wind that accompanied, caused the snow to drift badly and the storm developed into a "blizzard." Deep drifts formed over large areas in the eastern and southern portions of the State, causing many highways to be temporarily blocked and resulting in some delay to railway traffic, but as the snow packed solidly and a heavy crust soon formed the cuts did not fill up again after being opened.

The snow that occurred on the 15th drifted very little and resulted in very little inconvenience, but there was considerable drifting in the storm of the 20th with many roads blocked temporarily and some minor delay resulted to railway traffic. Sleet was reported on a large number of days but it was generally light and the only inconvenience resulting was the skidding of automobiles. No glaze was reported that injured trees or wires.

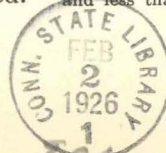
During the most severe weather the ground was well protected by snow except over a few small areas in the southeastern portion, so it is likely that winter grain and grasses have not been damaged. The heavy snowfall interfered with belated corn husking, and there was still some corn to be gathered in the southeastern portion of the State at the end of the month. The ice gradually increased in thickness and over most of the State it was ready to harvest but in places the heavy snow prevented it from freezing sufficiently and unless favorable conditions follow there will be an inferior quality harvested in localities.

F. L. D.

COMPARATIVE DATA FOR THE STATE—DECEMBER

| YEAR | Temperature | | | | Precipitation | | | | Number of Days | | | | |
|-----------|-------------|-----------|---------|--------|---------------|-----------|----------|-------|----------------|---------------------------|-------|---------------|--------|
| | Mean | Departure | Highest | Lowest | Total | Departure | Greatest | Least | Snowfall | With pre. .01 in. or more | Clear | Partly cloudy | Cloudy |
| 1890..... | 29.1 | +5.0 | 72 | -13 | 0.45 | -0.69 | 1.40 | 0.00 | | 3 | 17 | 7 | 7 |
| 1891..... | 32.3 | +8.2 | 72 | -14 | 2.41 | +1.27 | 4.50 | 1.21 | | 6 | 14 | 9 | 8 |
| 1892..... | 18.9 | -5.2 | 68 | -29 | 1.65 | +0.51 | 3.04 | 0.20 | 10.9 | 8 | 9 | 8 | 14 |
| 1893..... | 22.0 | -2.1 | 70 | -21 | 1.31 | +0.17 | 2.80 | 0.46 | 7.6 | 7 | 10 | 9 | 12 |
| 1894..... | 30.1 | +6.0 | 73 | -17 | 0.95 | -0.19 | 1.75 | 0.25 | 1.3 | 3 | 15 | 6 | 10 |
| 1895..... | 25.4 | +1.3 | 63 | -16 | 1.63 | +0.49 | 5.74 | 0.00 | 4.1 | 5 | 11 | 9 | 11 |
| 1896..... | 30.8 | +6.7 | 70 | -10 | 0.65 | -0.49 | 1.79 | T. | 1.6 | 4 | 10 | 8 | 13 |
| 1897..... | 18.0 | -6.1 | 60 | -25 | 1.65 | +0.51 | 3.22 | 0.61 | 15.9 | 6 | 11 | 7 | 13 |
| 1898..... | 18.1 | -6.0 | 60 | -25 | 0.48 | -0.66 | 1.70 | T. | 3.9 | 3 | 15 | 8 | 8 |
| 1899..... | 22.6 | -1.5 | 75 | -19 | 1.61 | +0.47 | 4.28 | 0.10 | 4.3 | 5 | 12 | 9 | 10 |
| 1900..... | 26.9 | +2.8 | 63 | -10 | 0.45 | -0.69 | 2.70 | T. | 2.4 | 4 | 13 | 6 | 12 |
| 1901..... | 20.5 | -3.6 | 64 | -31 | 0.93 | -0.21 | 2.75 | 0.05 | 5.4 | 6 | 10 | 9 | 12 |
| 1902..... | 20.1 | -4.0 | 59 | -20 | 2.23 | +1.09 | 5.51 | 0.67 | 12.9 | 8 | 9 | 6 | 16 |
| 1903..... | 19.6 | -4.5 | 58 | -27 | 0.41 | -0.73 | 1.96 | T. | 3.7 | 4 | 11 | 9 | 11 |
| 1904..... | 23.4 | -0.7 | 67 | -19 | 1.44 | +0.30 | 3.68 | 0.06 | 12.3 | 5 | 12 | 7 | 12 |
| 1905..... | 27.0 | +2.9 | 62 | -11 | 0.52 | -0.62 | 1.69 | T. | 4.2 | 3 | 19 | 6 | 6 |
| 1906..... | 25.7 | +1.6 | 65 | -9 | 1.43 | +0.29 | 2.81 | 0.37 | 1.4 | 6 | 11 | 7 | 13 |
| 1907..... | 28.8 | +4.7 | 62 | -9 | 1.00 | -0.14 | 2.28 | 0.05 | 4.7 | 5 | 10 | 7 | 14 |
| 1908..... | 27.2 | +3.1 | 67 | -17 | 0.57 | -0.57 | 2.07 | 0.05 | 3.8 | 3 | 15 | 8 | 8 |
| 1909..... | 15.1 | -9.0 | 60 | -26 | 2.18 | +1.94 | 6.10 | 0.89 | 13.7 | 11 | 10 | 5 | 16 |
| 1910..... | 23.4 | -0.7 | 57 | -14 | 0.37 | -0.77 | 1.39 | 0.01 | 3.0 | 3 | 15 | 7 | 9 |
| 1911..... | 27.9 | +3.8 | 60 | -24 | 2.57 | +1.43 | 4.43 | 0.62 | 12.6 | 7 | 13 | 6 | 12 |
| 1912..... | 29.2 | +5.1 | 64 | -13 | 0.74 | -0.40 | 1.75 | 0.10 | 1.1 | 3 | 18 | 7 | 6 |
| 1913..... | 32.0 | +7.9 | 65 | -13 | 1.02 | -0.12 | 4.73 | 0.00 | 1.3 | 4 | 15 | 5 | 11 |
| 1914..... | 15.7 | -8.4 | 63 | -31 | 1.30 | +0.16 | 2.24 | 0.57 | 11.1 | 9 | 10 | 6 | 15 |
| 1915..... | 25.0 | +0.9 | 56 | -10 | 0.69 | -0.45 | 1.70 | T. | 4.6 | 5 | 11 | 8 | 12 |
| 1916..... | 18.7 | -5.4 | 67 | -25 | 1.04 | -0.10 | 2.00 | 0.35 | 6.7 | 6 | 15 | 8 | 8 |
| 1917..... | 14.5 | -9.6 | 62 | -40 | 0.56 | -0.58 | 1.70 | 0.14 | 6.7 | 6 | 10 | 9 | 12 |
| 1918..... | 32.7 | +8.6 | 68 | -7 | 1.30 | +0.16 | 3.30 | 0.37 | 5.1 | 8 | 9 | 8 | 14 |
| 1919..... | 15.0 | -9.1 | 52 | -36 | 0.54 | -0.60 | 1.55 | 0.08 | 5.8 | 4 | 11 | 7 | 13 |
| 1920..... | 26.4 | +2.3 | 65 | -26 | 1.16 | +0.02 | 2.64 | 0.26 | 7.4 | 5 | 10 | 8 | 13 |
| 1921..... | 28.2 | +4.1 | 69 | -22 | 1.02 | -0.12 | 3.72 | T. | 2.9 | 4 | 14 | 9 | 8 |
| 1922..... | 24.0 | -0.1 | 65 | -25 | 0.37 | -0.77 | 0.97 | T. | 2.2 | 3 | 16 | 7 | 8 |
| 1923..... | 33.5 | +9.4 | 68 | -21 | 0.76 | -0.38 | 2.22 | T. | 4.4 | 4 | 14 | 6 | 11 |
| 1924..... | 15.4 | -8.7 | 62 | -33 | 1.79 | +0.65 | 2.93 | 0.90 | 8.1 | 8 | 12 | 6 | 13 |
| 1925..... | 21.0 | -3.1 | 64 | -25 | 1.30 | +0.16 | 3.52 | 0.30 | 10.6 | 5 | 12 | 8 | 11 |

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.



Climatological Data for December, 1925

Table with columns: STATIONS, COUNTIES, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall), Number of Days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, OBSERVERS. Rows include Northern Division (Algona to West Bend) and Central Division (Ames to Williamsburg).

Climatological Data for December, 1925—Continued

Main table of climatological data for December 1925, listing stations, counties, elevations, temperatures, precipitation, and observers. Includes sub-sections for Southern Division, Means and extremes, and State means and extremes.

The departure from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete records are used in determining means. Reference letters, a, b, c, etc., appearing in the table indicate the number of days missing; for example b represents two days, etc.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Table of pressure, relative humidity, wind, and sunshine data for various Iowa stations, including Charles City, Davenport, Des Moines, Dubuque, Keokuk, Sioux City, Omaha, and Nebraska. Includes sub-sections for Means and extremes and Normals and records.

*Sioux City. §Dubuque. ¶Keokuk. ‡Local mean time. †And other dates.

TEMPERATURE

The mean temperature for the State, as shown by the records of 104 stations, was 21.0°, or 3.1° lower than the normal. By divisions, approximately three tiers of counties to the division the means were as follows: Northern, 18.2°, or 3.3° lower than the

normal; Central, 21.0°, or 3.3° lower than the normal; Southern 23.9°, or 2.6° lower than the normal. The highest monthly mean was 27.0°, at Thurman, and the lowest was 13.8°, at Postville. The highest temperature recorded was 64°, at Clarinda, on the 9th, and the lowest was -25°, at Waverly, on the 29th. The monthly range for the State was 89°.

PRECIPITATION

The average precipitation for the State, as shown by the records of 109 stations, was 1.30 inches, or 0.16 inch more than the normal. By divisions, the averages were as follows: Northern, 1.27 inches, or 0.24 inch more than the normal; Central, 1.27 inches, or 0.20 inch more than the normal; Southern, 1.27 inches, or 0.05 inch more than the normal. The greatest amount, 3.52 inches, occurred at Fairfield, and the least 0.30 inch, occurred at Red Oak and Corning. The greatest amount in 24 consecutive hours, 1.60 inches, occurred at Fairfield on the 5th.

SNOWFALL

The average snowfall for the State was 10.6 inches or 4.4 inches more than the normal. The greatest amount 24.2 inches occurred at Siggourney, and the least, 2.5 inches occurred at Thurman. The snowfall was uniform in all divisions, but there were great differences in the amounts in the eastern and western portions of the State.

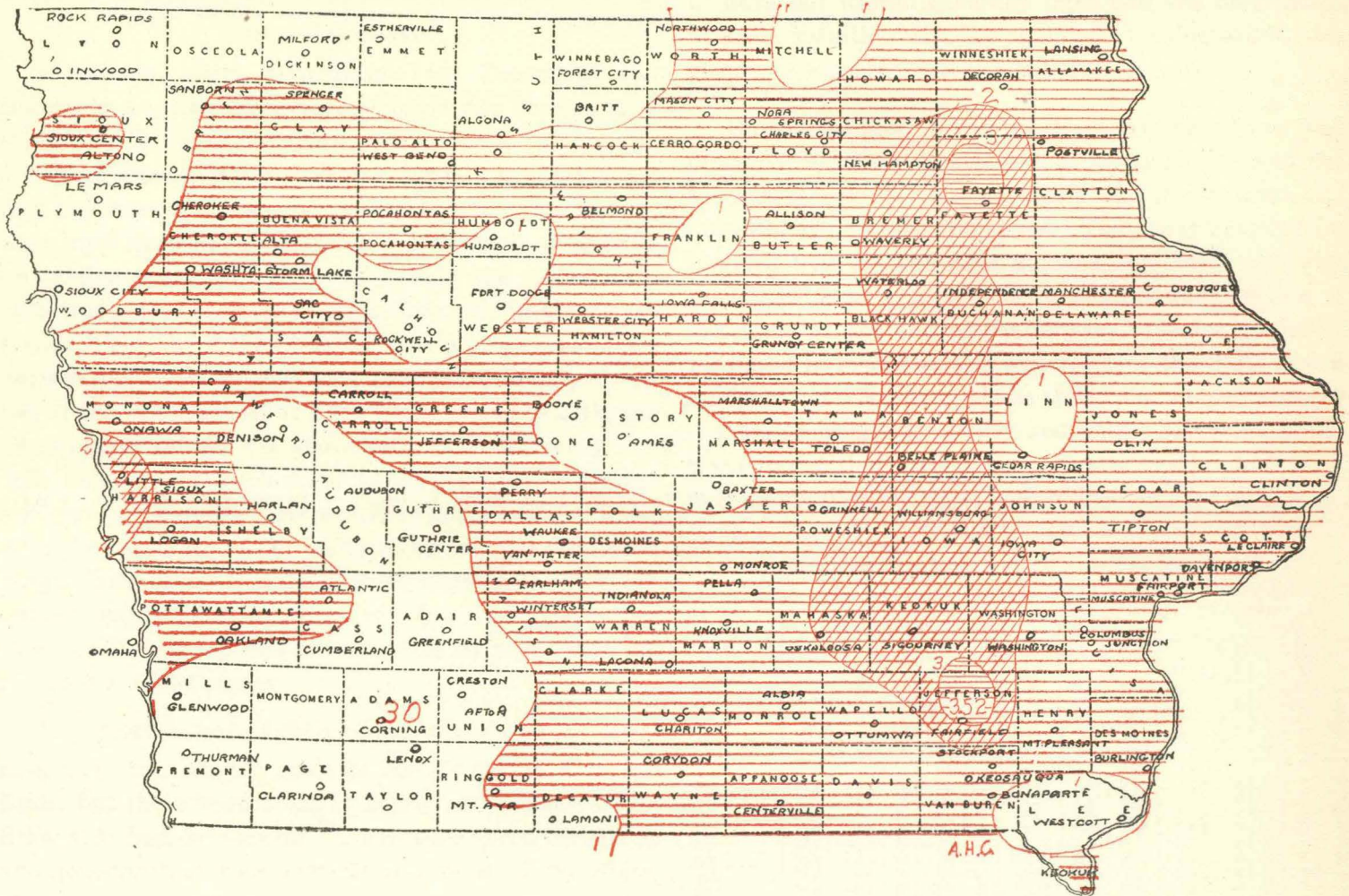
An area in the northeastern portion was snow covered the entire month, and nearly the entire State was covered from the 15th till the end of the month. The seasonal snowfall till the end of December, amounting to 19.5 inches for the State is the greatest in the history of the State except in 1909, when 20.5 inches fell.

Daily Maximum and Minimum Temperature for the Month of December, 1925

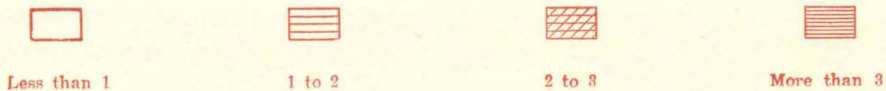
Table with columns for Stations, days 1-31, and Mean. Rows are categorized by Northern, Central, and Southern Divisions, listing various Iowa cities and their daily temperature ranges.

a, b, c, etc., indicates respectively 1, 2, 3, etc., days missing.

TOTAL PRECIPITATION, DECEMBER, 1925



SCALE OF SHADES—IN INCHES



CLIMATOLOGICAL DATA.

IOWA SECTION

In co-operation with
IOWA WEATHER AND CROP SERVICE
CHARLES D. REED, Meteorologist

VOL. XXXVI DES MOINES, IOWA, ANNUAL, 1925 No. 13

GENERAL SUMMARY

The mean temperature of the year 1925, 48.8°, is 0.8° above normal. All the months averaged warmer than usual except May, October, November and December. October was notably cold—the coldest of record with record breaking low temperatures on the 29th. The precipitation of 1925 averaged 28.24 inches or 3.98 inches below normal. The first five months were the driest of record. July and November were also deficient. Only June and September had notable excesses. Drouth was at times serious in the western portion of the State where wells and streams failed.

Hay, pastures and small grains were damaged by the early drouth but small grains largely recovered. Corn was injured some by drouth and heat in July and by rather continuous drouth in the northwest counties. Conditions were unusually favorable for corn in the eastern portion of the State where about twelve counties reported the largest yields per acre in the history of the State. Unusually cold, cloudy weather with frequent rain and a heavy snow in October made corn too moist to crib and injured seed corn.

SYNOPSIS BY MONTHS

January averaged nearly normal in temperature but was deficient in precipitation and snowfall. In the western portion of the State from the 9th to the 18th, temperatures were mostly below normal and there was a cold period, 26th-27th, throughout the State. The usual outdoor activities were uninterrupted except on the coldest days. Building operations and ice harvest made good headway and some corn husking was done.

February mean temperature, 28.4°, made the month one of the warmest of record. There were no prolonged cold spells and the temperature was below normal for only three brief periods. In about 85 per cent of the State, precipitation was deficient, while in small areas in the extreme southwest and extreme southeast portions, there was an excess. A wide belt running east and west across the State began to show need of more moisture. Snowfall was generally deficient and caused no interference with traffic, but thawing made many dirt roads nearly impassable during the first half of the month.

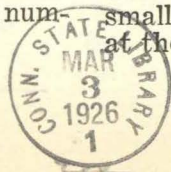
Mild weather continued in March, aside from cold spells, 1st-2nd, and 14th-15th. Trees and fruit buds were advanced about two weeks ahead of normal. Precipitation was well distributed through the month but mostly too light to penetrate the soil except on the 13th. Frost left the ground much earlier than usual and the preparation of the soil and seeding of oats and spring wheat progressed with practically no interruption during the last half of the month, to a stage much ahead of the average. Drouth, low humidity and windy days were unfavorable to certain kinds of vegetation. Dry soil drifted and covered up some winter wheat, leaving the roots exposed in spots. It was too dry for oats to germinate much and grasses were generally dormant. A number of small streams were completely dry and an unusually large number of wells failed.

Unusually mild weather prevailed practically the entire month of April, which was the warmest of record except April, 1915. At a number of stations the temperature did not reach the freezing point, although a decided change to colder occurred at the close of the month. The night of April 21st-22nd was more like a July night. Vegetation advanced far beyond the average. Under ideal conditions fruit trees blossomed in some parts of the State nearly three weeks ahead of the average date. Strawberries were damaged somewhat by frost at the end of the month but most tree fruit escaped injury. The weather was ideal for all farm work. The preparation of the soil for corn was pushed rapidly and considerable planting was done in the southern half of the State. Precipitation was generally deficient except in the southeast and south-central portions and wells and streams continued to go dry and crops in large areas were badly in need of rain. A number of severe local electric, wind and hail storms occurred from the 18th to 21st.

May was characterized by great extremes and numerous changes in temperatures. While neither the maximums nor minimums equalled the record for the State for May, a great many stations in the northwestern and central divisions reported the highest of record for May; and the low temperatures that occurred during the last week in May were the lowest ever recorded so late in the season. Following the abnormally high temperature on the 22nd, the temperature made the most remarkable drop ever recorded in the State except in winter. Over a large area in northeastern Iowa the drop amounted to more than 65° in a period of thirty-six hours. In this short period, both the high and low May temperature records for this section of the State were broken. Frosts of varying degrees occurred with unusual frequency until the 27th, causing severe damage to all vegetation susceptible to frost. All fruit and truck crops were seriously injured. Considerable corn was cut down by the hard freeze of the 25th but practically all recovered without replanting. Besides being the driest May of record, the current five-month period was the driest similar period of record. Although remarkably favorable for all outdoor work, the month was detrimental to practically all crops. Further failures of wells, streams and general water supply were reported.

The persistent drouth was broken in June. Some stations reported amounts exceeding the total for eight months preceding. There were many destructive hail, wind and electrical storms. Fifteen minor tornadoes were reported. Temperatures averaged slightly above normal, with a cool period during the last week. Crops made a wonderful recovery; oats, which had started to head "short," lengthened greatly and filled well during the cool period at the close of the month; and corn made unusual growth.

Hot weather prevailed the first half of July, followed by rather cool the last half. Precipitation was generally deficient and unevenly distributed. Drouth became severe over the western half of the State and limited areas in other sections. While corn made some progress, its relative condition at the close of July was not as good as at the beginning. However, the cool weather toward the close of the month lessened the drouth damage. Severe wind squalls and hail storms were frequent. Conditions were favorable for haying, harvesting and threshing and small grains turned out much better than seemed possible at the close of May.



August temperature averaged slightly above normal, with a rather protracted warm spell toward the close of the month. Precipitation was very nearly normal, but much localized in distribution. In the northwest portion of the State, drouth was especially severe and corn was seriously damaged. Water trains were run out of Des Moines to towns in the vicinity. What is believed to be the worst hail storm in the history of the State occurred on the 18th. This storm extended from the southeast corner of Poweshiek county southeastward over Iowa, Keokuk, Washington, Jefferson, Henry, Des Moines and Lee counties. The damage is conservatively estimated at \$2,500,000.

Abnormally high temperature prevailed during the first ten days of September. The average temperature was the highest of record except in 1897. While no State records were broken, a number of stations report the highest maximum temperatures of the year and several stations reported the highest of record for the month. Cool periods occurred from the 11th to the 15th and from the 20th to the 24th. Precipitation was above normal and rather uniform in all divisions. Downpours occurred in the northern and central divisions on the 1st. The intense heat during the first week caused the corn to mature too rapidly in some portions of the State but in the eastern portion, where the crop was rank and rather late, the warm weather was beneficial. By the end of the month, the crop was practically safe from frost. The heat, also, injured pastures but the rain, at the close of the month, was of great benefit.

October mean temperature, 41.2°, was 11.7° below normal and the coldest in fifty-three years, in striking contrast to 1924 which was the warmest in forty-seven years. The minimum temperatures were much lower at all stations than previously recorded for October and zero weather heretofore practically unknown in October occurred in more than one-half of the State, the lowest reported being -15° at Inwood. Zero temperature reached to the Missouri line. The first killing frost occurred at a number of stations on the 7th and by the 10th killing frost had visited the entire State. Owing to the advanced state of vegetation, there was very little damage to staple crops, but considerable damage to late truck crops. Precipitation was above normal and unusually frequent, with very little sunshine so that corn which was of unusually high quality at the beginning of the month failed to dry out and was much damaged by mold. Heavy snowfall on the 25th-27th damaged down corn. Husking started about the middle of the month but much of the early husked corn heated in the cribs and less than 20% had been husked by the close of the month. The excellent condition of the corn at the beginning of the month caused procrastination in seed corn saving and subsequent moist weather and severe temperature rendered much corn unfit for planting and imperilled the 1926 crop.

Nearly normal temperature prevailed in November but there was a decided deficiency in precipitation. More zero weather was reported in the central and southern divisions than in the northern division of the State. Corn husking was pushed rapidly after the first week although there were continued reports of corn heating in the cribs. Plowing was resumed about the middle of the month when frost left the ground. Water shortage continued in the western half of the State where additional wells were reported failing. Because of the unfavorable fall, considerable acreage intended for winter wheat could not be seeded and considerable late seeded wheat failed to germinate or made little showing above the ground.

Although December temperature average 3° below normal, the month could not be regarded as severe. Precipitation was uniformly distributed and averaged slightly above normal. It was mostly in the form of snow, and

blizzard conditions occurred on the 24th. Deep snow drifts formed over large areas in the east and south portions of the State, blocking highways and delaying railway traffic. During the more severe weather, winter grains and grasses were well protected by an evenly distributed snow covering. The heavy snowfall interfered with be-lated corn husking and there was still considerable to be gathered in the southeast portion of the State at the end of the month.

SUPPLEMENTAL PRECIPITATION TABLE, YEAR 1925

| STATIONS | January | February | March | April | May | June | July | August | September | October | November | December | Annual |
|--------------------------|---------|----------|-------|-------|------|-------|------|--------|-----------|---------|----------|----------|--------|
| <i>Northern Division</i> | | | | | | | | | | | | | |
| Lansing..... | | | 1.73 | 2.19 | 1.16 | 8.20 | 7.48 | 3.54 | 5.27 | 1.85 | 1.34 | | |
| Milford (near)..... | 0.83 | 1.48 | 1.10 | 1.89 | 0.30 | 3.39 | 2.31 | | 3.88 | 1.48 | 0.18 | | 0.80 |
| New Hampton..... | 0.15 | 0.58 | 0.98 | 1.64 | 2.39 | 7.69 | 3.77 | 4.01 | | 1.78 | 1.32 | | 1.07 |
| Oelwein..... | | | 1.00 | 0.80 | 1.20 | 13.30 | 4.30 | 2.80 | | 5.25 | 2.85 | 0.81 | 1.60 |
| Sheldon..... | | | | | | | 0.90 | 0.51 | 3.37 | 1.09 | 0.70 | | 0.89 |
| Waverly..... | | 0.39 | 1.55 | 1.31 | 1.18 | 10.10 | | 3.60 | 5.99 | 3.14 | 0.85 | | 2.06 |
| <i>Central Division</i> | | | | | | | | | | | | | |
| Grundy Center..... | 0.05 | 0.82 | 1.60 | 1.01 | 1.43 | 5.99 | 4.41 | 4.08 | 7.03 | 3.24 | 0.98 | | |
| Harlan..... | 0.48 | | 0.10 | 0.36 | 0.75 | 5.91 | 1.42 | 5.42 | 3.52 | 3.37 | 0.35 | 0.63 | |
| Kalo..... | | | | 2.37 | 0.67 | 6.62 | 4.87 | 3.42 | 7.44 | 2.93 | 0.20 | | |
| Le Claire..... | | | 1.51 | 3.54 | 0.92 | 6.69 | 1.98 | 3.36 | 7.52 | 3.98 | | | |
| Maquoketa..... | | | | 3.48 | 1.04 | 7.49 | 3.99 | 2.34 | 6.36 | 3.43 | 2.30 | 1.46 | |
| Muscatine..... | 0.38 | 1.39 | 1.01 | 4.11 | 0.90 | 4.99 | 2.14 | 2.51 | 7.77 | 4.05 | 1.38 | 2.54 | 33.17 |
| Rockwell City..... | 0.50 | | | | 0.96 | 4.25 | 2.35 | 2.37 | 2.75 | 1.62 | 0.21 | 0.90 | |
| Van Meter..... | 0.20 | 0.41 | 0.79 | 1.67 | 0.68 | 4.82 | 1.69 | 4.31 | 3.01 | 3.80 | 0.30 | 1.10 | 22.78 |
| <i>Southern Division</i> | | | | | | | | | | | | | |
| Columbus Jet..... | | | | | 1.06 | 4.93 | 1.53 | 2.70 | 6.57 | 3.69 | 1.21 | 2.33 | |
| Pella..... | 0.10 | | | | | | | | | | | | |

COMPARATIVE DATA FOR THE STATE—Annual

| Year | Temperature | | | | Precipitation in Inches | | | | |
|------|-------------|---------|------------------|--------|-------------------------|-----------------|--------------|------------------|------|
| | Mean annual | Highest | Date | Lowest | Annual | Greatest annual | Least annual | Average snowfall | |
| 1890 | 48.0 | 110 | July 13..... | -27 | January 22..... | 31.30 | 45.74 | 16.00 | |
| 1891 | 47.3 | 106 | August 9..... | -31 | February 4..... | 32.90 | 49.05 | 23.48 | |
| 1892 | 46.6 | 104 | July 11..... | -38 | January 19..... | 36.58 | 48.77 | 24.78 | 34.2 |
| 1893 | 45.7 | 102 | July* 13..... | -36 | January 14..... | 27.59 | 33.27 | 19.19 | 37.2 |
| 1894 | 49.7 | 109 | July 26..... | -37 | January 25..... | 21.94 | 29.81 | 15.65 | 19.2 |
| 1895 | 47.2 | 104 | May 25..... | -33 | February 1..... | 26.77 | 35.25 | 18.57 | 26.0 |
| 1896 | 48.6 | 104 | July 3..... | -20 | January 4..... | 37.23 | 51.60 | 28.68 | 22.6 |
| 1897 | 47.8 | 106 | July* 23..... | -30 | January 25..... | 26.98 | 36.18 | 20.21 | 38.8 |
| 1898 | 47.7 | 103 | August 20..... | -25 | December 31..... | 31.34 | 55.47 | 19.51 | 40.3 |
| 1899 | 47.3 | 104 | September 6..... | -40 | February 11..... | 28.68 | 42.06 | 21.79 | 23.4 |
| 1900 | 49.3 | 103 | August 3..... | -27 | February 15..... | 35.05 | 47.33 | 25.05 | 25.8 |
| 1901 | 49.0 | 113 | July 22..... | -31 | December 15..... | 24.41 | 37.69 | 16.35 | 38.5 |
| 1902 | 47.7 | 98 | July 30..... | -31 | January 27..... | 43.82 | 58.80 | 20.14 | 28.0 |
| 1903 | 47.2 | 101 | August 24..... | -27 | December 13..... | 35.39 | 50.53 | 26.41 | 19.4 |
| 1904 | 46.3 | 100 | July 17..... | -32 | January 27..... | 28.51 | 38.93 | 19.34 | 29.2 |
| 1905 | 47.2 | 104 | August 11..... | -41 | February* 2..... | 36.56 | 52.26 | 24.66 | 38.3 |
| 1906 | 48.4 | 102 | July 21..... | -32 | February 10..... | 31.60 | 44.34 | 20.63 | 32.8 |
| 1907 | 47.4 | 102 | July 5..... | -31 | February 5..... | 31.61 | 43.90 | 19.93 | 24.0 |
| 1908 | 49.4 | 101 | August 3..... | -18 | January 29..... | 35.26 | 49.98 | 21.11 | 22.7 |
| 1909 | 47.4 | 103 | August* 15..... | -26 | February* 15..... | 40.01 | 53.48 | 27.20 | 23.4 |
| 1910 | 48.6 | 108 | July 16..... | -35 | January 7..... | 19.87 | 27.99 | 12.11 | 23.4 |
| 1911 | 49.5 | 111 | July* 3..... | -35 | January 3..... | 31.37 | 46.77 | 19.74 | 35.3 |
| 1912 | 46.3 | 104 | September 8..... | -47 | January 12..... | 28.89 | 33.13 | 15.25 | 39.5 |
| 1913 | 49.7 | 108 | July* 16..... | -25 | January 8..... | 29.95 | 45.18 | 20.31 | 25.4 |
| 1914 | 49.1 | 109 | July 12..... | -31 | December 26..... | 31.93 | 44.11 | 23.30 | 27.5 |
| 1915 | 47.8 | 99 | May 14..... | -32 | January 28..... | 39.53 | 51.15 | 27.29 | 31.3 |
| 1916 | 47.2 | 106 | August 4..... | -34 | January 13..... | 28.90 | 46.34 | 22.48 | 29.5 |
| 1917 | 44.8 | 106 | July 30..... | -40 | December 29..... | 27.81 | 36.00 | 20.78 | 32.4 |
| 1918 | 49.2 | 113 | August 4..... | -36 | February 4..... | 32.78 | 47.53 | 25.03 | 35.4 |
| 1919 | 48.6 | 104 | July* 30..... | -36 | December 10..... | 36.76 | 48.16 | 26.88 | 26.6 |
| 1920 | 48.2 | 102 | July 23..... | -26 | January* 4..... | 31.75 | 44.11 | 26.00 | 21.7 |
| 1921 | 52.2 | 104 | July* 11..... | -22 | December 25..... | 32.03 | 46.47 | 20.44 | 30.7 |
| 1922 | 50.2 | 104 | June 23..... | -29 | January 6..... | 29.98 | 44.20 | 19.08 | 13.5 |
| 1923 | 49.0 | 102 | July* 22..... | -23 | February* 3..... | 29.50 | 37.47 | 21.36 | 36.3 |
| 1924 | 46.4 | 100 | August* 21..... | -36 | January 5..... | 31.39 | 43.85 | 19.41 | 37.2 |
| 1925 | 48.8 | 105 | July* 1..... | -25 | December 29..... | 28.24 | 45.53 | 13.77 | 29.2 |

*And other dates.

MEAN MONTHLY AND ANNUAL TEMPERATURES, WITH DEPARTURES FROM THE NORMAL, FOR 1925.

Table with columns for months (January-December) and Annual, and rows for stations grouped into Northern, Central, and Southern Divisions. Each station has two columns for Temperature and Departure for each month and year.

Reference letters a, b, c, etc., appearing in the table indicate the number of days missing; for example, b represents two days, etc.

MONTHLY AND ANNUAL PRECIPITATION WITH DEPARTURES FORM THE NORMAL, FOR 1925

Table with columns for months (January-December) and Annual, each with sub-columns for Precipitation and Departure. Rows are categorized by Northern Division (Algona to West Bend), Central Division (Ames to Williamsburg), and Southern Division (Afton to Omaha, Neb.).

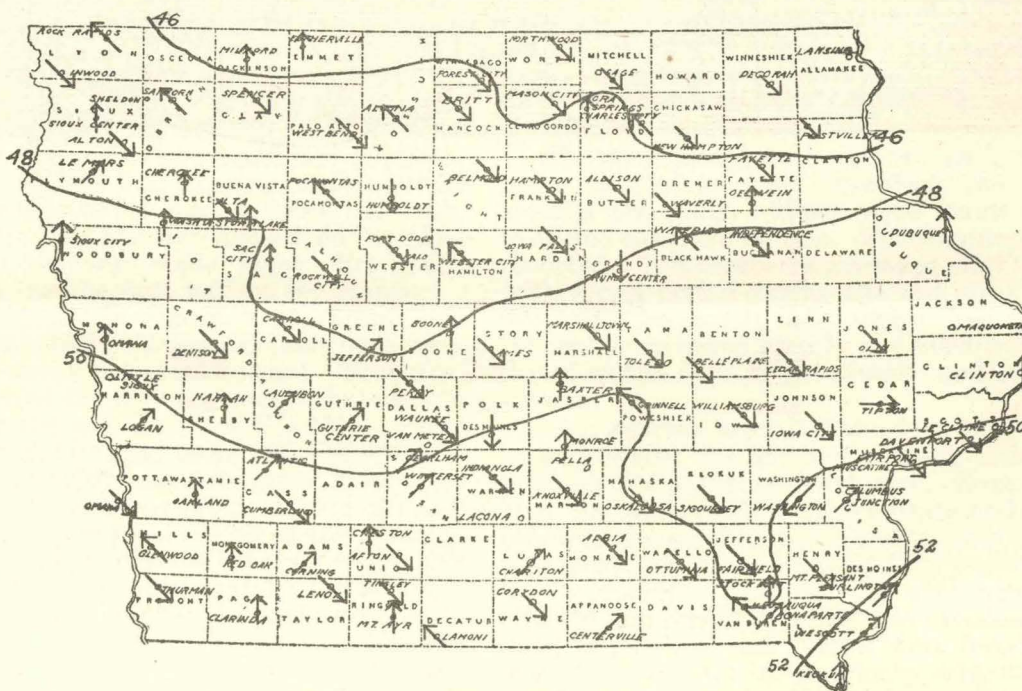
DATES OF KILLING FROSTS, 1925

Charles City, Davenport, Des Moines, Dubuque, Keokuk, Sioux City, Omaha, and Marshalltown excluded from averages because of city influences

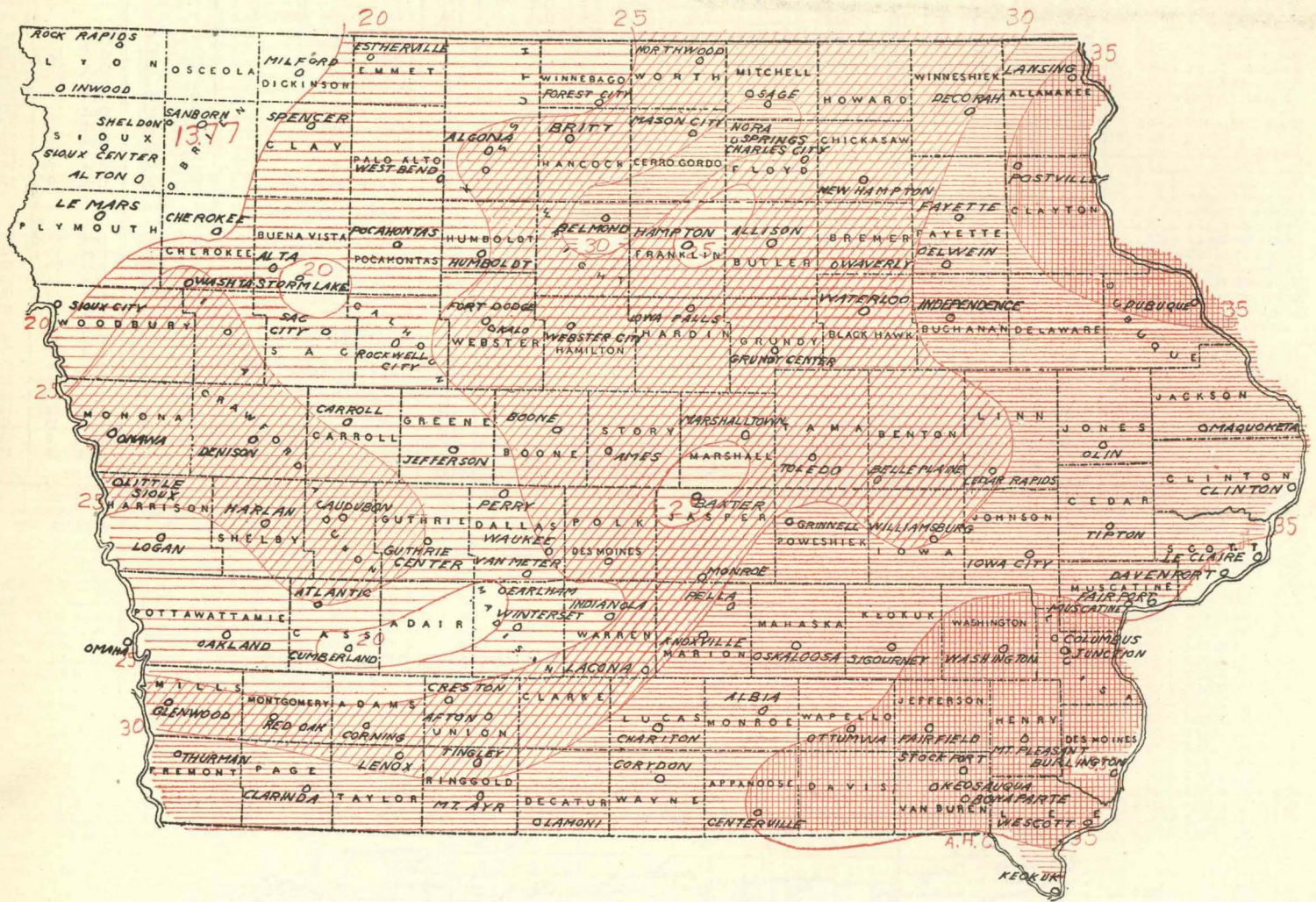
Table with 12 columns: STATIONS, Last in Spring, First in Autumn, Days in Growing Season, STATIONS, Last in Spring, First in Autumn, Days in Growing Season, STATIONS, Last in Spring, First in Autumn, Days in Growing Season. Rows are categorized by district: Northwest, West Central, Southwest, North Central, Central, South Central, Northeast, East Central, Southeast.

†Date of last temperature of 32° or lower in the spring, or first temperature of 32° or lower in the autumn (as the case may be) when frost was not reported.

MEAN ISOTHERMS AND PREVAILING WINDS, YEAR, 1925



TOTAL PRECIPITATION, YEAR, 1925



SCALE OF SHADES IN INCHES



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