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## Weather records at State College, Miss.

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## WEATHER RECORDS

At State College, Miss.


The coolest year on record at State College was 1940, with an average temperature of 61.1 degrees. The year 1921 produced the warmest temperatures when an average of 67.3 degrees was recorded. This was 3.2 degrees above the 45 -year average of 64.1; whereas, the 1940 temperature was 3 degrees below average.

The yearly rainfall varied from 31.32 inches in 1952 to 76.27 inches in 1912. The 66 -year average is 50.84 inches.

Average annual temperature and total annual rainfall.


# Weather Records At State College, Miss. 

By J. C. McWHORTER

The weather is of interest to every inhabitant of the world, since it affects his comfort, health, work, and many other activities. The farmer has a particular interest in weather and its variations. It affects practically every aspect of his operations from day to day; therefore, he regards the daily and long range weather forecast as a guide to planning.
It would be invaluable if future weather conditions could be foretold with certainty. Although this is not now possible, analysis and study of past records may reveal various weather trends. Frequently studies indicate how often a given quantity of precipitation in a certain period of time, and drought periods of certain duration, may be expected.

## Weather Observation

The weather station at State College, Mississippi, is one of thousands of cooperative observation stations in the United States furnishing data to the U. S. Weather Bureau. Operated by the Mississippi Agricultural Experiment Station, it has records of precipitation and temperatures dating from January, 1910. Monthly precipitation records are available beginning with January, 1889.
It is generally conceded that annual rainfall in this area is sufficient, but distribution throughout the year frequently is unfavorable for crop production. Therefore, the value of annual records can be enhanced greatly by a

## ACKNOWLEDGMENTS

Throughout the years many Experiment Station staff members have accumulated this weather data. The list includes: W. R. Perkins, E. R. Lloyd, J. R. Ricks, Charles F. Briscoe, T. N. Jones, Russell Woodburn, and R. F. Dudley.
study of weather conditions by months. For this reason the Mississippi Agricultural Experiment Station has assembled and is publishing this long-time record of temperature and rainfall. By showing what the weather has been each month throughout the years, the records indicate what may reasonably be expected in the future.

## Temperature Records

Temperature records are presented in degrees Fahrenheit as average monthly maximum, average monthly minimum, mean monthly, and average annual temperature; and are determined as follows:
Average monthly maximum is the sum of daily maximums divided by the number of days in month.
Average monthly minimum is the sum of daily minimums divided by the number of days in month.

The mean monthly temperature is the mean of the average monthly maximums and minimums. The average annual temperature is the mean of the 12 monthly mean values.

## Precipitation Records

The term precipitation includes rain, snow, hail, and sleet-all forms of moisture that fall from the clouds. For all practical purposes, precipitation as reported at State College means rainfall as there is little snow, hail or sleet. Rainfall is expressed in inches and hundredths of inches of water depth; and snow, hail and sleet are converted to their equivalent depth of water.
Rainfall records (meaning total precipitation in this report) are presented as monthly, annual, average monthly, and average annual amounts.

Temperature records at State College, 1910-1954.

|  | January |  | February |  | March |  | April |  | May |  | June |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Ave. Max. | Ave. Min. | Ave. Max. | Ave. Min. | Ave. Max. | Ave. Min. | Ave. Max. | Ave. Min. | Ave. Max. | Ave. Min. | Ave. Max. | Ave. Min. |
| 1910 | 57 | 34 | 55 | 32 | 78 | 50 | 77 | 49 | 86 | 52 | 87 | 63 |
| 1911 | 60 | 40 | 64 | 45 | 71 | 46 | 74 | 52 | 87 | 60 | 90 | 69 |
| 1912 | 51 | 22 | 56 | 31 | 61 | 41 | 76 | 53 | 85 | 60 | 85 | 63 |
| 1913 | 61 | 40 | 54 | 36 | 65 | 43 | 74 | 51 | 84 | 59 | 93 | 67 |
| 1914 | 59 | 37 | 56 | 35 | 62 | 41 | 76 | 52 | 84 | 60 | 97 | 72 |
| 1915 | 52 | 33 | 60 | 38 | 58 | 36 | 80 | 52 | 86 | 61 | 83 | 68 |
| 1916 | 59 | 41 | 58 | 33 | 68 | 46 | 74 | 51 | 85 | 62 | 83 | 65 |
| 1917 | 59 | 41 | 59 | 39 | 65 | 45 | 75 | 52 | 79 | 51 | 90 | 66 |
| 1918 | 46 | 24 | 63 | 35 | 75 | 47 | 64 | 48 | 85 | 61 | 93 | 71 |
| 1919 | 55 | 30 | 61 | 30 | 68 | 38 | 75 | 45 | 79 | 59 | 88 | 68 |
| 1920 | 56 | 36 | 55 | 37 | 63 | 42 | 71 | 52 | 82 | 63 | 88 | 67 |
| 1921 | 60 | 39 | 62 | 39 | 75 | 52 | 77 | 51 | 83 | 59 | 94 | 69 |
| 1922 | 55 | 36 | 61 | 42 | 66 | 45 | 78 | 54 | 85 | 61 | 91 | 65 |
| 1923 | 60 | 40 | 54 | 37 | 64 | 41 | 71 | 51 | 76 | 58 | 88 | 64 |
| 1924 | 53 | 28 | 59 | 36 | 62 | 39 | 75 | 53 | 81 | 56 | 94 | 69 |
| 1925 | 5.6 | 35 | 64 | 38 | 71 | 44 | 78 | 56 | 81 | 56 | 94 | 73 |
| 1926 | 54 | 33 | 64 | 38 | 60 | 38 | 72 | 45 | 83 | 57 | 90 | 65 |
| 1927 | 61 | 38 | 64 | +7 | 66 | 43 | 81 | 49 | 82 | 55 | 91 | 68 |
| 1928 | 58 | 36 | 61 | 37 | 69 | 46 | 74 | 48 | 83 | 60 | 88 | 67 |
| 1929 | 57 | 37 | 51 | 34 | 70 | 49 | 78 | 56 | 83 | 61 | 91 | 61 |
| 1930 | 53 | 34 | 67 | 43 | 64 | 43 | 79 | 54 | 83 | 63 | 92 | 66 |
| 1931 | 56 | 36 | 62 | 40 | 61 | 40 | 85 | 50 | 80 | 57 | 95 | 67 |
| 1932 | 63 | 42 | 70 | 48 | 64 | 40 | 79 | 54 | 82 | 59 | 93 | 69 |
| 1933 | 64 | 43 | 58 | 38 | 68 | 43 | 76 | 54 | 88 | 68 | 94 | 68 |
| 1934 | 61 | 39 | 57 | 33 | 69 | 42 | 79 | 53 | 84 | 60 | 93 | 70 |
| 1935 | 57 | 39 | 60 | 39 | 75 | 51 | 75 | 54 | 83 | 62 | 89 | 67 |
| 1936 | 52 | $32^{\circ}$ | 53 | 29 | 74 | 48 | 76 | 49 | 86 | 61 | 98 | 69 |
| 1937 | 62 | 45 | 57 | 37 | 60 | 40 | 76 | 53 | 85 | 63 | 92 | 69 |
| 1938 | 58 | 34 | 68 | 44 | 76 | 53 | 76 | 53 | 86 | 62 | 90 | 67 |
| 1939 | 62 | 38 | 79 | +0 | 72 | 47 | 74 | 52 | 83 | 60 | 90 | 67 |
| 1940 | 41 | 20 | 54 | 34 | 67 | 43 | 74 | 51 | 80 | 56 | 86 | 66 |
| $1941$ | 59 | 35 | 52 | 33 | 60 | 38 | 77 | 55 | 86 | 60 | 91 | 67 |
| 1942 | 55 | 30 | 52 | 34 | 66 | 44 | 78 | 52 | 83 | 59 | 89 | 68 |
| 1943 | 58.4 | 35 | 63.1 | 39.2 | 63.5 | 40.8 | 77.3 | 51.9 | 86.6 | 63.7 | 93.7 | 71.5 |
| 1944 | 55 | 36 | 61 | 44 | 67 | 45 | 72.4 | 51 | 83 | 61 | 93.8 | 69.6 |
| 1945 | 54 | 35.7 | 60.4 | 40.8 | 74.9 | 52.9 | 76.8 | 54.1 | 80.3 | 57.8 | 90.1 | 67.5 |
| 1946 | 54.6 | 37.4 | 64.1 | 38.3 | 71.1 | 50.3 | 79 | 55.5 | 78.9 | 59.8 | 86.2 | 66.3 |
| 1947 | 57.5 | 38.5 | 54.3 | 26.6 | 59.1 | 37.1 | 75.6 | 53.7 | 81.5 | 57.4 | 87.4 | 66.1 |
| 1948 | 48.5 | 28.7 | 572 | 38.6 | 67.9 | 47.5 | 79.2 | 56.1 | 84.9 | 59.7 | 92.7 | 68.3 |
| 1949 | 62.9 | 44.3 | 61.3 | 43.2 | 66.6 | 44.9 | 72.6 | 52.3 | 84.2 | 61.6 | 87.4 | 68.8 |
| 1950 | 68.1 | 48.4 | 65 | 41.3 | 65.2 | 41.6 | 72.2 | 47.2 | 84.2 | 66.7 | 87.6 | 68.1 |
| 1951 | 58.2 | 35.6 | 60.1 | 36.6 | 67.3 | 46.6 | 73.6 | 50.0 | 84.4 | 58.4 | 88.3 | 69.0 |
| 1952 | 63.3 | 44.2 | 62.8 | 43.6 | 65.8 | 43.0 | 73.4 | 49.3 | 84.1 | 59.8 | 95.9 | 70.8 |
| 1953 | 59.8 | 39.9 | 61.1 | 38.7 | 70.7 | 48.5 | 74.1 | 49.1 | 83.5 | 64.1 | 95.1 | 71.9 |
| 1954 | 57.8 | 36.6 | 67.8 | 41.6 | 67.9 | 43.4 | 79.6 | 56.7 | 77.7 | 56.0 | 93.4 | 68.2 |
| Ave. | 57.1 | 36.2 | 60.2 | 37.9 | 67.1 | 44.1 | 75.5 | 51.8 | 83.1 | 59.7 | 90.7 | 67.7 |

Temperature records at State College, 1910-1954.

Rainfall by months at State College, Mississippi, 1889-1954.





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## JANUARY



January is the coldest month of the year, although the average temperature is less than one degree below that of December. The graph reveals that 1940 produced the coldest January on record. The mean temperature for the month was 30.5 degrees, 16.2 degrees below the normal mean of 46.7 degrees. The warmest Janu ary on record occurred in 1950 with a mean of 58.3 degrees, 11.6 degrees above the normal.

The range of monthly precipitation varied from .96 inches in 1943 to 13.85 inches in 1949. The 66 -year average for January is 5.22 inches.

## FEBRUARY



The average temperature of February is about two degrees above that of December. The graph shows that 1947 produced the coldest February on record. The mean temperature for the month was 40.5 degrees, 8.6 degrees below the normal mean of 49.1 degrees. The warmest February occurred in 1939 with a mean of 59.5 degrees, 10.4 degrees above the normal.

The range of monthly precipitation varied from 1.80* inches in 19?0 to 9.51 inches in 1939. The 66 -year average for February is 4.86 inches.
*1.57 inches in 1892. not shown on graph
1.75 inches in 1895, not shown on graph

## MARCH



There is a rather pronounced rise in temperatures in March with the average being about 6.5 degrees above that of February. The graph shows that 1915 produced the coldest March temperatures on record. The mean temperature for the month was 47 degrees, 8.6 degrees below the normal mean of 55.6 . The warmest March occurred in 1938 with a mean of 64.5 degrees, 8.9 degrees above the normal.

The range of monthly precipitation varied from .93 inches in 1910 to 13.52* inches in 1951. The 66 -year average for March is 6.22 inches which is the highest average for any month.
*15.34 inches in 1902, not shown on graph

## APRIL



Normally, April brings a very decided increase in temperatures resulting in an average temperature of slightly over 8 degrees above that of March. The graph shows that 1918 produced the coldest April on record. The mean temperatures for the month was 56 degrees, 7.7 degrees below the normal mean of 63.7 degrees. The warmest April occurred in 1954 with a mean of 68.2 degrees, 4.5 degrees above normal.

The range of monthly precipitation varied from .73* inches in 1915 to 12.90 inches in 1912. The 66 -year average for April is 4.49 inches.
*. 45 inches in 1903, not shown on graph

## MAY



Temperatures continue to rise rather rapidly during May, being about 7.7 degrees above the average of April. The graph reveals that 1917 produced the coldest May on record. The mean temperatures for that month was 65 degrees, 6.4 degrees below the normal mean of 71.4 degrees. The second coldest May on record occurred in 1954 with a mean of 66.9 degrees. The warmest May occurred in 1933 with a mean temperature of 78 degrees, 6.6 degrees above normal.

The range of monthly precipitation varied from . 22 inches in 1941 to 9.16* inche: in 1930. The 66 -year average for May is 4.11 inches.

* 10.29 inches in 1909, not shown on graph


Average June temperature is about 7.8 degrees above that of May. The graph shows 1912 and 1916 to be the years in which the coolest June temperatures on record were recorded. The mean temperature for these months was 74 degrees, 5.2 degrees below the normal mean of 79.2 degres. The warmest June occurred in 1914 when the mean was 84.5 degrees, 5.3 degrees above normal.

The range of monthly precipitation varied from . 29 inches in 1952 to $10.53^{*}$ inches in 1928. The 66 -year average for June is 3.92 inches.
*14.39 inches in 1900, not shown on graph

## JULY



July is the hottest month of the year; however, the average temperature is less than a half degree above that of August and about 2.1 degrees above that of June. The graph for July reveals 1940 to be the year in which the coolest July occurred. The mean temperature for the month was 76.5 degrees, 4.8 degrees below the normal mean of 81.3 degrees. The hottest July occurred in 1930 when the mean was 86.5 degrees, 5.2 degrees above the normal mean.

The monthly precipitation for July varied from .62* inches in 1930 to 16 inches in 1940 . The 66 -year a verage is 4.80 inches.
*. 60 inches in 1901, not shown on graph

## AUGUST



The average August temperature is slightly below that of July. The August graph shows that 1950 produced the coolest August temperatures on record. The mean temperature was 76.8 degrees, 4.2 degrees below the normal mean of 81.0 degrees. The hottest August occurred in 1954 when the mean was 86 degrees, 5 degrees above the normal mean.

The monthly precipitation for August varied from .70 inches in 1945 to 9.53 inches in 1950. The 66 -year average is 3.71 inches.

## SEPTEMBER



The temperature begins to recede during September. The average temperature is about 4.7 degrees below that of August. The graph reveals that the coldest September on record occurred in 1918 when the mean temperature was 71 degrees, 5.3 degrees below the normal of 76.3 degrees. The hottest September temperatures were produced in 1921 and 1936 when the mean temperature was 83.5 degrees. 7.2 degrees above normal.

The monthly precipitation for September, as shown by the graphs, has varied from .15* inches in 1926 to $7.93^{* *}$ inches in 1913. The 66 -year average for September is 2.71 inches.
*Only a trace of precipitation was noted in September 1897, 1903, and 1908; and 15 inches in 1899, not shown on graph.
**8.34 inches in 1893 and 8.87 inches in 1906, not shown on graph.

## OCTOBER



There is a very decided decline in temperature during October. The average is about 11.9 degrees below that of September. The graph shows 1937 and 1952 to be the years in which coolest October temperatures occurred. The mean for each month was 58.5 degrees, 5.9 degrees below the normal mean of 64.4 degrees The warmest October on record occurred in 1919 when the mean temperature was 73 degrees, 8.6 degrees above normal. The broken lines indicate that temperature records for October 1926 are not available.

The monthly precipitation varied from zero in 1920 to 10.76 inches in 1918 The 66-year average for October is 2.38 inches which is the lowest average for any month.

## NOVEMBER



The temperature continues to decline rapidly during November with the aver age being about 10.4 degrees below that of October. The graph reveals that the coldest November on record occurred in 1926 when the mean temperature for the month was 45.5 degrees, 8.5 degrees below the normal of 54 degrees. The warmest November was in 1931 when the mean temperature was 61.5 degrees, 7.5 degrees above normal.

Monthly precipitation varied from zero in 1924 to 11.2 inches in 1948. The 66 year average for November is 3.46 inches.

## DECEMBER



The average December temperature is about 6.8 degrees below that of November and about a half degree above that of January. The graph shows that the year 1917 produced the coldest December temperatures on record. The mean temperature for this month was 40 degrees, 7.2 degrees below the normal of 47.2 degrees. The warmest December temperatures were produced in 1933 when the mean temperature was 56 degrees, 8.8 degrees above normal.

The monthly precipitation varied from 1.68* inches in 1917 to $12.65^{* *}$ inches in 1926. The 66 -year average for December is 4.97 inches.
$* .77$ inches in 1889 and 1.00 inch 1896 , not shown on graph
$* * 12.72$ inches in 1897 , not shown on graph.

## SUMMARY FOR AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION



The curve in this graph represents the 45 -year average temperature for each month. The vertical graph represents the 66 -year average precipitation by months.

Average monthly temperature and precipitation.

| Month | Temperature* in degrees |  |  | Precipitation** in inches |
| :---: | :---: | :---: | :---: | :---: |
|  | Max. | Min. | Mean |  |
| January | 57.1 | 36.2 | 46.7 | 5.22 |
| February | 60.2 | 37.9 | 49.1 | 4.86 |
| March | 67.1 | 44.1 | 55.6 | 6.22 |
| April | 75.5 | 51.8 | 63.7 | 4.49 |
| May | 83.1 | 59.7 | 71.4 | 4.11 |
| June | 90.7 | 67.7 | 79.2 | 3.92 |
| July | 92.2 | 70.3 | 81.3 | 4.80 |
| August | 92.4 | 69.6 | 81.0 | 3.71 |
| September | 88.3 | 64.3 | 76.3 | 2.71 |
| October | 76.9 | 51.9 | 64.4 | 2.38 |
| November | 65.7 | 42.2 | 54.0 | 3.46 |
| December | 57.4 | 36.9 | 47.2 | 4.97 |
| Average | 75.5 | 52.7 | 64.1 | 50.84 |

*45-ycar average.
**66-year average.

