ture, surcharge, depth of cover and other variables. James F. Haley described in the previous paper cold-room studies presently being made in the Frost Effects Laboratory to investigate some of these effects with the objective of deriving improved design criteria (8). Actual field performance data and certain basic theoretical studies are needed in addition to the cold-room studies.

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Soil-Temperature Comparisons Under Varying Covers

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● THE Michigan Hydrologic Research Station was established at East Lansing in 1940 as a cooperative study between the Soil Conservation Service of the U. S. Department of Agriculture and the Michigan Agricultural Experiment Station to study the effect of land use on the hydrology of farm lands under varying types of snow cover and frozen soil. As additional objectives, it was planned for the station to: (1) determine the manner in which freezing and thawing of soils on watersheds with varying types of land use contribute to runoff, erosion, and flood flow under northern winter conditions, and (2) to determine the fundamental hydrologic relationships of typical Michigan soils under varying types of land use, with especial emphasis upon the movement of water through the soil profile during the fall and winter months. In order to accomplish these objectives, one of the most complete hydrologic instrumentations in this country was devised and installed on lands of Michigan State College and the Rose Lake Wildlife Experiment Station, near East Lansing (14).

The multiplicity of climatic and hydrologic factors working together to cause runoff, erosion and flood flow, and controlling the hydrologic relationships of soils requires a broad program of basic research to include investigations in many little known fields of climatology that are of considerable interest to highway engineers, agronomists, agricultural engineers, and many other specialists, as well as hydrologists. One set of relationships which interests both the hydrologist and the highway engineer is the air-soil temperature relationship.

Daily records of soil temperatures at depths up to 60 in., as well as air temperatures, are kept on the watersheds of the Michigan Hydrologic Research Station. These watersheds, three in number, consist of two cultivated watersheds and a wooded watershed. All three watersheds are quite similar in size, slope, soils, and exposure. Their primary difference is a variation in land cover; the two cultivated watersheds being planted to a rotation of corn, wheat, and alfalfa brome, which permits ready comparison between the hydrologic effects of close growing and row crops and wooded cover. Among other differences found in the hydrologic relationships of these watersheds, are soil temperature differences occurring under different vegetal cover. This paper will discuss these differences in some detail, and attempt to present causes for the differences.

Soil temperatures play an important part in determining the hydrologic relations of soils. Soil moisture changes are almost always marked by an accompanying soil temperature change. Soil temperatures also play an important part in the actual measurement of soil moisture. At the East Lansing station, soil moisture on the cultivated watersheds is measured by the Bouyoucos method, with plaster-of-paris electrical-resistance blocks. This method utilizes variations in the electrical resistance of porous units buried in the soil (14). The resistance of such units is directly related to the moisture content and temperature of the blocks. The gathering of daily records of soil moisture content also gives a daily record of soil temperature. This paper will take such a record for several years (1947-51) and show temperature variations in the soil in relation to depth, cover, and air temperature.

LOCATION OF WORK AND DESCRIPTION OF INSTRUMENTS

The studies here reported were conducted near East Lansing, Michigan, which has an average January temperature of 22.9 F., and an average July temperature of 71.1 F. The average date of last killing frost in the spring is May 5, and the average date of first killing frost in the fall is October 10. Average annual precipitation at East Lansing amounts to 31.43 in., while the normal annual amount of insolation received is 102,602 langleys.[1]

The three watersheds upon which this study is based consist of two cultivated areas on the lands of Michigan State College, approximately 3 mi. south of East Lansing, Michigan, and a wooded watershed on the lands of the Rose Lake Wildlife Experiment Station, approximately 10 mi. northeast of East Lansing. These three watersheds, varying in size from 1.3 acres to 1.9 acres, have overall, average, weighted slopes of from 6.0 percent to 6.5 percent. Soils of the two cultivated watersheds are of the Hillsdale, Miami, and Spinks series, while those of the wooded watershed are of the Hillsdale and Miami series. Although these soils differ in characteristics sufficiently to justify separate classification, they are similar. Their major difference is the presence, in certain sections of the cultivated watersheds, of an area of soil underlain at from 30 to 60 in. by a 2- to 8-in. layer of silty clay loam which is relatively impervious. Station A, in Watershed B, is not affected by this layer, whereas deeper readings at Station B, in Watershed A, indicate its presence. Therefore temperatures for Station B are shown only at the 1-in. and 6-in. layers. The soils are generally classified as gray-brown podzolic, and have textures of loamy fine sand and fine sandy loam. Physiographically, they are classed as consisting of undulating and rolling till, moderately good to well drained.

The general instrumentation of the three watersheds basically follows the standard hydrologic instrumentation pattern of the Soil Conservation Service, with facilities for measuring precipitation, runoff, erosion losses, wind movement, and relative humidity. In addition to these basic measurements, comparative precipitation measurements are determined with different types of raingages; evaporation rates with standard and experimental types of equipment; soil moisture at different depths and

[1] A langley is defined as 1 gm. cal. per cu. cm. (13).

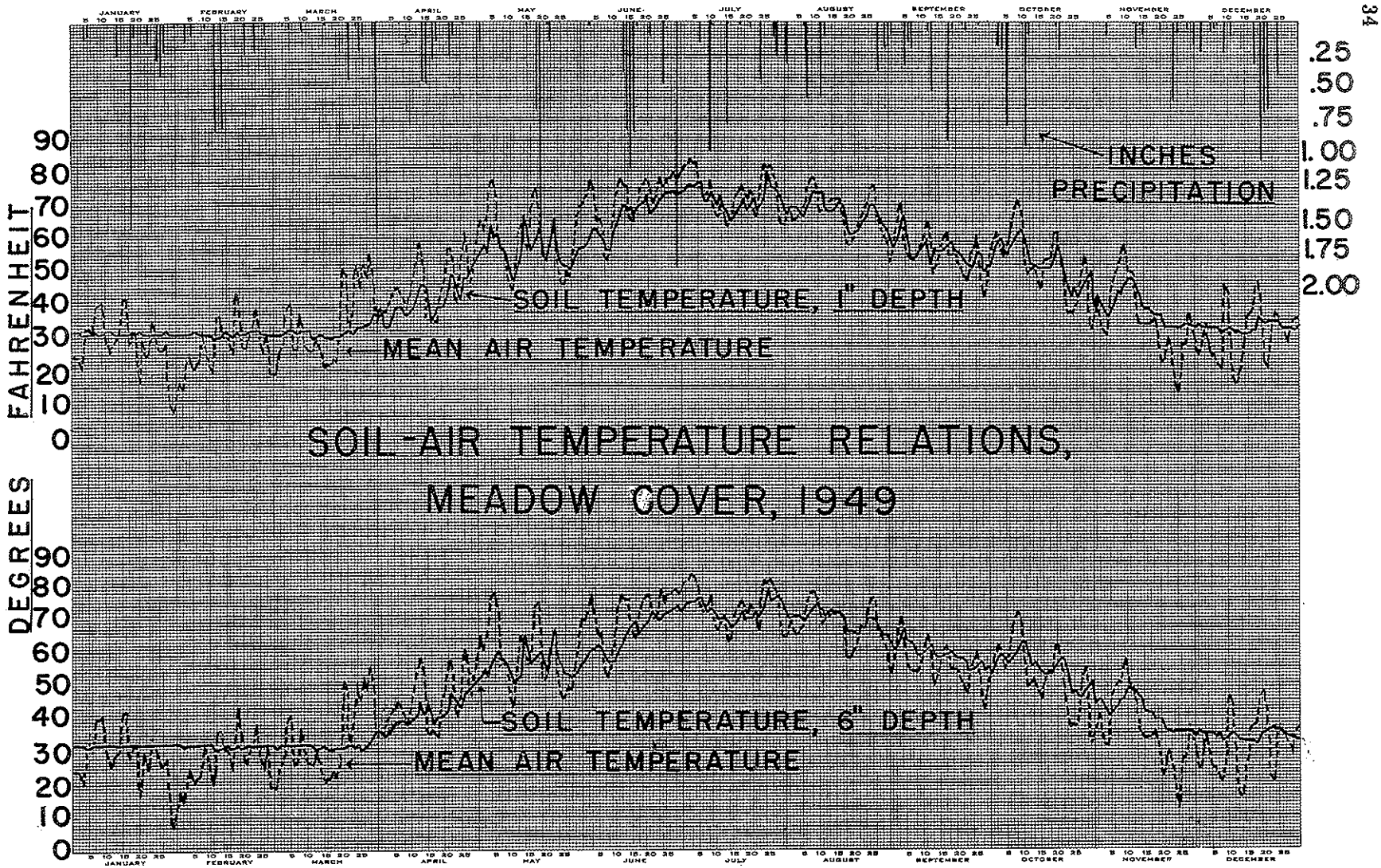

Figure 1. Comparison of mean daily air temperatures with 1- and 6-in. soil temperatures under meadow cover at East Lansing, Michigan, 1949.

under different covers, utilizing the electrical resistance and gravimetric methods; air and soil temperatures by electrical resistance, thermocouples, bimetallic and mercurial thermometers; and insolation. In view of the fact that this paper deals only with variations in soil and air temperatures, specific descriptions will be given only for those instruments which deal with this phase of the study.

Air temperatures are measured at the watersheds by means of standard USWB maximum-minimum thermometer sets, supplemented by mercurial current-reading thermometers, thermographs, and resistance thermometers. Mean air temperature (that used for comparative purposes) is obtained by averaging the maximum and minimum air temperatures of any one day, at the cultivated watersheds. In addition to this record, the instrumentation at each watershed includes a hygrothermograph, which simultaneously records air temperature and relative humidity by means of a bourdon-tube thermal unit and moisture-sensitive hair element.

Soil temperatures at the wooded watershed are recorded automatically by a three-pen, bimetallic, soil thermograph which simultaneously records the temperature at the 1-in. and 6-in. soil depths, and at a point 6 in. above the soil surface. At the cultivated watersheds soil temperatures are measured by thermocouples and resistance thermometers. The thermocouple temperatures are read and recorded manually each day at 8 a. m. The resistance thermometers are connected to a recorder which automatically records, at 15-min. intervals, soil temperatures at each of 14 different locations, and air temperature 3 in. above the soil. For the purposes of this paper, study will be made of the 8 a. m. soil temperatures at all three of the watersheds.

Temperature records are available for both soil and air, at each of the watersheds, continuously since 1942. This paper will deal only with daily records from the years 1947 through 1951 (see Appendix B).

SOIL AND ATMOSPHERIC CLIMATE: DISCUSSION

The atmospheric climate of the East Lansing area of Michigan alternates between continental and semimarine with changing meteorologic conditions (12). The semimarine type of climate is primarily occasioned by the influence of the Great Lakes, which surround the state on three sides. This lake influence is controlled by the force and direction of the winds. During periods of slight wind movement over the area the climate follows the continental pattern, with sharp variation in temperatures, ranging from hot summers to severely cold winters. These extremes, however, may be sharply and quickly modified by a strong wind from the lakes (12).

It has been shown by many technicians that soil climate is largely dependent upon the basic factors of atmospheric climate, such as barometric pressure, temperature, and humidity. Aeration of soils, as influenced by these phenomena, is also a major factor in soil climate. Camp and Walker (5), Harrington (6), Smith (9, 10), and Taylor (11), have demonstrated that atmospheric temperatures affect soil climate, and that this in turn has a pronounced effect on plant growth.

Atmospheric climate is one of the five major factors in soil formation. It affects the characteristics of soils over broad areas (12). Soil climate is modified by the atmospheric climate immediately above it, and vegetation further modifies the soil climate. The effect of vegetation depends to some extent upon its height and density. Wooded cover is generally most effective in modifying the climate of the soil, although the effect of grass cover is also marked. Topography has a modifying effect. Soil climate is particularly affected by direct radiation from the sun, particularly in summer. Soil cover affects this solar modification by interception of the sun's rays. Soil temperature variations from season to season are somewhat dependent upon the angle of the sun's rays to the soil surface, cloudiness, and air temperature. The effect of the latter

is much more apparent in the upper layers of the soil. It is generally believed that the average temperature of the surface soil is higher than that of the air above it, but the data at East Lansing indicate this to be true only in cases of little or no cover. The daily fluctuations of soil temperature are generally less than those of air temperature, and soil-temperature changes lag behind atmospheric-temperature changes, especially in the lower soil depths. Daily variations are largely in the surface layers and decrease with depth, so that below approximately 42 in., the soil temperature does not readily reflect daily changes at the surface. There is usually a lag in soil temperature following seasonal variations in the air temperatures. The maximum temperature of the lower horizons is reached many days after the average air temperature has passed the seasonal maximum. The amount of these variations also descreases rapidly with depth, and at a depth of 4 to 10 ft. most soils are nearly constant in temperature (12).

Although some minor differences in the amount of heat absorbed by soils are due directly to the color and conductivity of the soil material, by far the most important differences result from variations in moisture content and organic matter. In order to change the temperature of soil, so much heat is required to change the temperature of the water in it, that other differences in specific heat are relatively insignificant. Porous, well-drained soils, such as sandy soils or those with well-developed porespaces through which the water may pass rapidly, warm up earliest in the spring; that is, they follow more closely the changes in the average air temperature. Soils with poorly developed structure such as massive clays and clay loams, are frequently so moist that they warm very slowly in the springtime (12).

SOIL-MOISTURE VARIATIONS

Soil-moisture determinations were made in all three watersheds at regular intervals. The wooded watershed, subject to much less change in moisture content and being rather difficult of access, was sampled at 2-week intervals for soil moisture determinations, utilizing the gravimetric method. This was accomplished through use of a Veihmeyer Tube for sampling at three depths, 0 to 6 in., 12 to 18 in., and 30 to 36 in. The samples were reduced to oven dryness and the soil moisture percentages were calculated. At the cultivated watersheds, however, a much more intensive study has been made of soil moisture variations at different depths. Here, daily determinations were made at 8 a.m. of soil moisture and temperature at different depths ranging to 60 in. Soil moisture was determined by means of the electrical resistance method (14). In view of the fact that the electrical resistance of plaster-of-paris moisture units is affected by both moisture and soil temperature, soil temperatures were determined through use of copper-constantan thermocouples and a portable potentiometer calibrated in degrees Fahrenheit. The electrical resistance method is one of the most successful yet devised for determination of soil moisture in situ (3, 7).

INTERPRETATION OF FIGURES

Previous studies of soil temperature (10) have tended to utilize data as to sky conditions, cloudiness, etc., in the interpretation of the temperature data. However, in view of the fact that pyrheliometric data, showing actual amounts of solar heat received in the area, are available, this information will be used in interpretation of results.

Precipitation records are available for the period of the life of the study from both areas of record. In the graphic presentation, actual daily precipitation for the watershed in question is plotted above the temperature data. In Appendix B daily amounts of precipitation at the cultivated watersheds are tabulated with each day's temperature record from each watershed so as to provide a measure of this climatic effect on temperature.

TEMPERATURE RECORDS

Temperature records are given in tabular form in Appendix B for the period 1947 through 1951. Similar records are

generally available for the period of 1941 to date. In Appendix B, daily entries show air-soil temperature relations for 1-in. depths at Watersheds A and B, and the wooded watershed; 6-in. depths for Watersheds A and B, and the wooded watershed; 12-, 18-, 42-, and 60-in. depths for Watershed B; all in relation to the mean air temperature at the cultivated watersheds for that day. The mean air temperature was used as being most indicative of average daily air temperatures, and that of the cultivated watersheds was accepted as typical for all

TABLE 1

SOIL-AIR TEMPERATURE EXTREMES, 1947-51

Year	Mean Air Temp.	1" A Temp. (°F.)	1"B Temp. (°F.)	1" W Temp. (°F.)	6" A Temp. (°F.)	6" B Temp. (°F.)	6" W Temp. (°F.)	12" A Temp. (°F.)	18" A Temp. (°F.)	42" A Temp. (°F.)	60" A Temp. (°F.)
						MAXIMUM					
1947	84	86	82	71	77	77	71	75	74	69	66
1948	84	87	85	70	86	78	68	75	75	69	65
1949	84	84	75	78	79	79	71	78	76	79	66
1950	80	78	79	68	74	74	65	73	69	67	62
1951	79	75	74	66	70	74	65	70	68	63	60
Max. of period:	84	87	85	78	86	79	71	78	76	79	66
						MINIMUM					
1947	6	23	22	21	28	28	30	28	30	33	36
1948	-3	24	28	22	23	31	25	25	28	33	36
1949	6	27	29	23	29	30	30	31	31	38	43
1950	5	22	26	21	26	30	28	28	30	25	35
1951	2	25	27	17	28	29	28	30	32	35	36
Min. of period:	-3	22	22	17	23	28	25	25	28	25	35
						RANGE					
1947	6-84	23-86	22-82	21-71	28-77	28-77	30-71	28-75	30-74	33-69	36-66
1948	-3-84	24-87	28-85	22-70	23-86	31-78	25-68	25-75	28-75	33-69	36-65
1949	6-84	27-84	29-75	23-78	29-79	30-79	30-71	31-78	31-76	38-79	43-66
1950	5-80	22-78	26-79	21-68	26-74	30-74	28-65	28-73	30-69	25-67	35-62
1951	2-79	25-75	27-74	17-66	28-70	29-74	28-65	30-70	32-68	35-63	36-60
Range of period:	-3-84	22-87	22-85	17-78	23-86	28-79	25-71	25-78	28-76	25-79	35-66

Extremes of period, all depths: 17-87

Extremes of period, mean air: -3-84

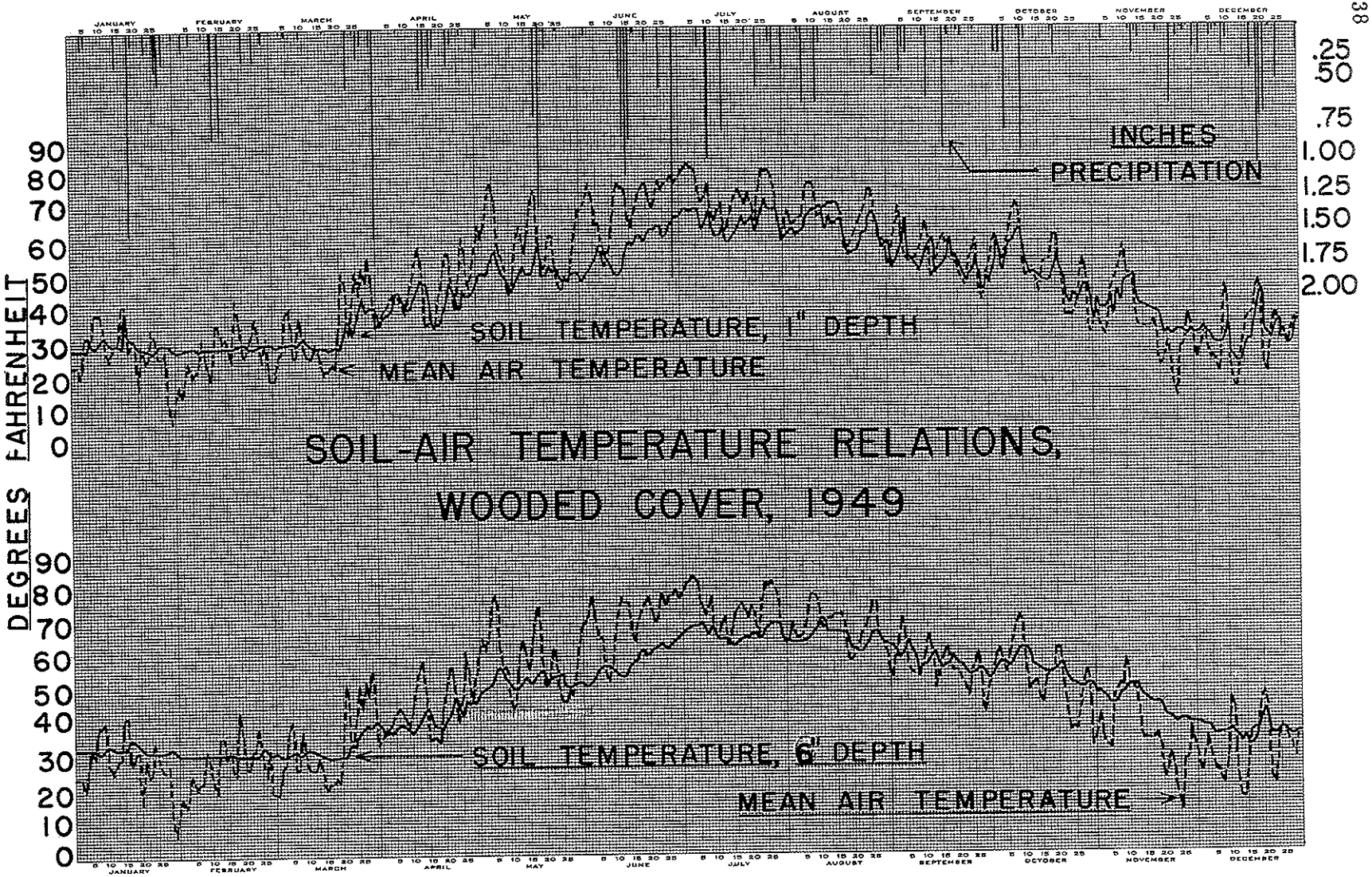

Figure 2. Comparison of mean daily air temperatures with 1- and 6-in. soil temperatures under deciduous forest cover at East Lansing, Michigan, 1949.

watersheds after consultation with climatologists of the U. S. Weather Bureau. In addition, Appendix B shows, for each day, the precipitation received at the cultivated watersheds, and the amount of insolation received, thereby clearly relating the cooling effect of precipitation, and the heating effect of solar radiation.

Temperature extremes, by years, for air and soil are summarized in Table 1. These should be used with caution, as they are undated values. Dates may be obtained by consulting Appendix B.

DAILY THERMOGRAPHS

Daily thermographs have been prepared, graphically presenting temperature fluctuations by 30-min. intervals for 24-hr. periods, at times of seasonal change. Although temperature data from the recording resistance thermometer are available for depths of 1, 4, 10, 12, 18, 21, 27, and 33 in. in Watershed A, 1 in. in Watershed B, and air temperature at a point 3 in. above ground level between the two watersheds, comparison by thermograph was made only for air temperature, and depths of 1, 12, 18, and 33 in.

The most noticeable attribute of the daily thermographs is the relative constancy of the temperatures found at the 18- and 33-in. levels. Almost no hourly variation of temperature was found at these depths, and what little there was occurred in the "dead hours" of predawn, when the heat stored in the soil the previous day tended to dissipate itself to some extent. Temperatures at the 1- and 12-in. levels showed the hourly effect of atmospheric temperatures and insolation but, nonetheless, were surprisingly stable. Analysis of these thermographs points to the conclusion that soil temperature variations, at the lower depths, are not so much the product of hourly, or even daily, air temperatures, but of accumulations of heat gradually stored in the soil profile. Preliminary plottings of thermal data, wherein soil temperatures were plotted cumulatively on an annual basis in comparison with cumulative mean air temperatures and insolation values, illustrate this very clearly. The curve resulting from mean air temperature reflects the insolation curve with remarkable accuracy, and the soil temperature curves follow the mean air curve almost exactly. In fact, the only reason this curve was not used as an illustration for this paper was the lack of separation between the 1-in. and 6-in. soil temperatures when plotted cumulatively and the fact that thermal curves for other depths were so close as to be confusing.

INTERPRETATION OF CHARTS

During January of 1949 at cultivated Watershed A, under meadow cover, the 1-in. depth showed the most stable temperature; the 8 a. m. average reading being 31. 0 F. Watershed B had a slightly higher average temperature under small grain and stubble cover. The average 1-in. soil temperature here was 31. 3 F. The wooded watershed had the lowest average temperature for the period: 30. 3 F. Mean air temperature for the period was 28. 1 F.

Wooded-soil temperatures at the 1-in. depth were more variable than the corresponding cultivated soil temperatures. On days when snow covered the ground, a lag of approximately one day between air and soil temperature changes was noted. However, on days with no snow cover, the lag could be measured in hours. It was noted that the percentage of moisture in the soil was consistently greater under wooded cover than under cultivation.

On January 26, the wooded area had a 4-in. blanket of snow on the surface and a 1-in. soil temperature of 30 F. Air temperature took a slight drop, and very slight rise, and then a sharp drop from 28 F. to 6 F. within 48 hr. One day after the air reached this low temperature, the wooded soil reached a low of 28 F.

An appreciation of the insulating effect of snow upon soil temperature can be gained by a comparison of the data for January with that for late November and December of the same year. In late November, with 8 in. of snow cover, an air temperature drop to 12 F. lowered the wooded soil temperature to 32 F. at the 1-in. level, in a period of 3 days. Previously, an air low of 22 F. without snow cover brought about a soil low temperature

of 32 F. within one day. From a rather constant lag of less than a day under snow-free conditions, a change to a lag of three days under snow cover was noted.

The same period under meadow cover in Watershed A showed a low reading of only 33 F., with a time lag of one day. The effect of snow was here minimized by cover. However, soil moisture was greater at the wooded watershed than at Watershed A, where moisture conditions were more favorable for heat transfer. It must also be remembered that under wooded cover, the tree stems deflect and slow down air velocity, and minimize snow blowing. On meadow, however, wind has full play in moving and drifting snow, and at times large areas are blown almost completely clear.

Watershed B during the same period showed an average 1-in. soil depth low temperature of 31 F. This watershed was under small grain stubble and meadow cover. The soil temperature changes were very erratic.

Average monthly temperature for the watersheds for December were: 31.2 F., wooded watershed; 32.2 F., Watershed B; 33.3 F., Watershed A; and 31.1 F., mean air. The wooded watershed, without snow cover, had the most variable temperature, while Watershed A, under a heavy meadow cover, showed the most uniform temperature.

A comparison of the 6-in. depths shows that for the period of rapid temperature drop, the soils of the wooded watershed cooled much slower than those of the two cultivated watersheds. Meadow cover was next, with small grain showing rapid response to a drop in air temperature. The 6-in. low at the wooded watershed for the month of December was 32 F., that for small grain was 32 F., and for meadow 32 F. It is of interest to note that the wooded-watershed temperature reacted more sharply than the cultivated watersheds when snow was not present.

On December 13, a drop in air temperature to 16 F. brought a corresponding drop in 1-in. soil temperature to 23 F. with a time lag of less than a day at the wooded watershed. Small grain registered 28 F., while meadow recorded 31 F. in response to this change.

On December 20, a rise in average air temperature to a peak of 48 F. brought a corresponding increase in 1-in. temperature to 45 F. within one day at the wooded watershed. Small grain cover for the same period showed a lag of less than a day with a peak of 37 F. Meadow cover recorded a peak of 37 F. with a lag of a few hours.

Under small grain cover, for the first 6 mo., temperatures were quite stable for the month of January, and generally more erratic during February than in either of the other two watersheds. The modified cover conditions found there caused a lag of from 1 to 3 days. There was a lag of 3 days in connection with the air temperature drop to 6 F. in late January. This change occasioned a drop of 1 F. in soil temperature, bringing the 1-in. soil temperature to 30 F. under small grain cover. There was a snow blanket at the time. Wooded cover allowed a 2 F. drop to 28 F., while meadow cover permitted a 1 F. drop to 31 F.

After the disappearance of snow at the cultivated watersheds on February 11, a drop in air temperature to 19 F. brought a corresponding change in soil temperature from 30 F. to 26 F. under small grain cover. During this period the wooded watershed showed no reaction to the change in air temperature because of continued snow cover. Meadow cover showed a reduction in soil temperature of 2 F. to 29 F.

The period of March 1 to 20 was one of winter air temperatures. The soil temperature under the small, grain-covered watershed was most erratic, while the wooded watershed was the most stable of the three for this period.

Watershed B, with small grain cover, on March 19, one day after the last snow melt of the winter season, showed the effect of the beginning of spring weather. In two days the air temperature rose from 22 F. to 52 F. The soil temperature at the 1-in. depth rose from a low of 29 F. to 31 F. the same day. There were less radical changes in soil temperature occasioned by air temperature changes than at any time during summer or autumn. A fall in air temperature from 56 F. to 35 F. during this period produced a fall in the slowly rising soil temp-

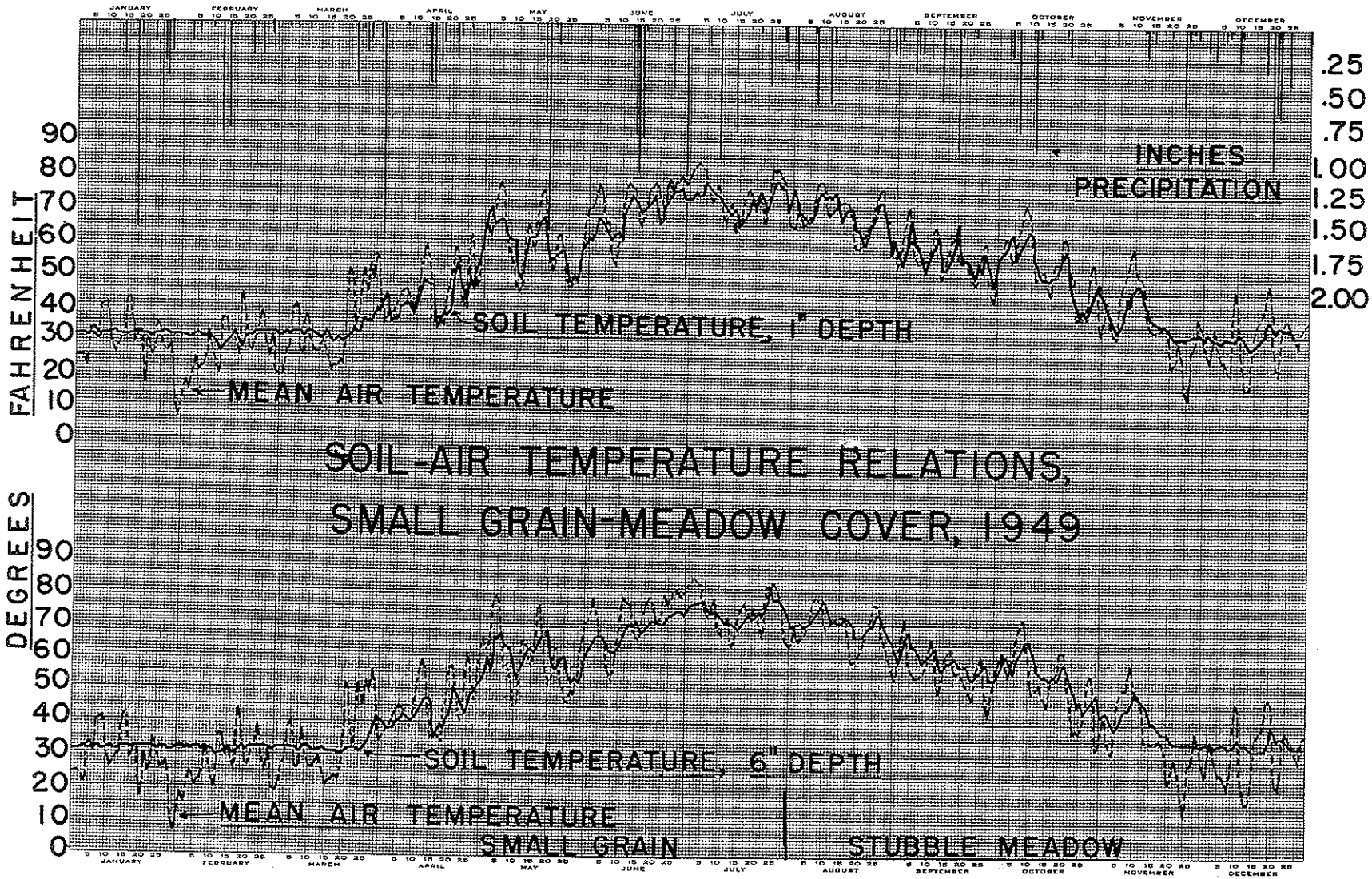

Figure 3. Comparison of mean daily air temperatures with 1- and 6-in. soil temperatures under small grain and stubble-meadow cover at East Lansing, Michigan, 1949.

erature only after a period of three days; that is, the peak for soil temperature lagged three days behind the peak for air temperature. The 6-in. soil depth's reaction to the rise in late March air temperature was a steady rise instead of a series of rises, as was the case at the 1-in. depth. However, the temperature fall at the 6-in. layer only lagged one day behind the air temperature change, showing the effect of the still cool layers below.

Meadow cover on Watershed A at the one-in. depth, for the period March 19 to April 1, showed a rather steady increase, with little fluctuation or response to the rapid rise in air temperature. However, a drop in air temperature of 22 F. over a period of two days occasioned a drop of 6 F. at the 1-in. soil depth, and this occurred after a time lag of 3 days. The peak temperature for the period lagged 3 days behind air temperature.

Under wooded cover during the same period, the response of 1-in. and 6-in. depths to air change was more rapid than under meadow. The peak period under wooded cover was reached 5 days earlier than under either meadow or small grain cover. The peak temperature for both small grain and wooded cover was 44 F., while the peak temperature for meadow was 39 F. This period marked the end of winter and the beginning of spring. The temperature rise of the 6-in. layer in the forest was more nearly coincidental with air than similar depths under other covers.

On April 13, air temperature began a descent from a peak of 59 F. In a 2-day period, it dropped to 35 F. and was followed one day later by the 1-in. soil temperature, which fell to 34 F. The bottom of the trough showed a one day lag. This was under meadow cover. Also under meadow cover, the 6-in. depth showed a lag of two days and dropped to a low of 38 F.

Under wooded cover, the 1-in. depth showed a lag of two days in dropping from a peak of 48 F. to a low of 34 F. The 6-in. depth showed a one day lag in beginning its fall, and in reaching its low of 38 F.

Under small grain, the same time lag was noticed. The lowest temperature at the 1-in. layer was registered under this cover, with wooded cover causing a considerably higher temperature. The same pattern held for the 6-in. depth.

All depths at Watershed B showed the effects of the temperature drop. The lowest depth, 60 in., registered its lowest temperature of the year up to this point. The 42-in. and 60-in. depths had heretofore shown small reaction, if any, to extremes in temperature. They had shown a steady decline in temperature until the latter part of March, then a rapid, steady rise.

The lowest recorded air temperature for 1949 was 6 F. This occurred on January 30. The lowest recorded temperature for the 60-in. layer, 37 F., occurred during the period March 20 to March 28. The lowest recorded temperature for the 42-in. depth was 34 F. This was reached on March 26 and March 27.

The highest recorded air temperature, 84 F., occurred on July 3. The high temperature reading for the 60-in. layer, 66 F., occurred August 19. The 42-in. high of 79 F. occurred on July 30.

An analysis of the temperatures of the 42-in. and 60-in. soil depths leads to the conclusion that soil temperatures at these depths are not the obvious result of daily temperature change but are the result of seasonal accumulations or losses of solar heat.

The next major change in air temperature came about during the period of May 5 to 10. Air temperature dropped during this period from 78 F. to 44 F. The 1-in. wooded temperature dropped from 58 F. to 45 F. within one day. Meadow temperatures for the same period dropped from a 1-in. temperature of 64 F. to 47 F. For the first time, the forest temperature showed the effect of the foliage in shielding the forest floor. Under small grain, the peak temperature for the period was much higher, 70 F., while the low was 48 F. This illustrates the effect of cover in controlling heat absorption and retention by the soil in the spring. Soils under small grain showed greater temperature extremes than either of the other stations.

Under wooded cover, the 6-in. layer rose to 57 F. and dropped to 50 F., while meadow cover reached a peak of

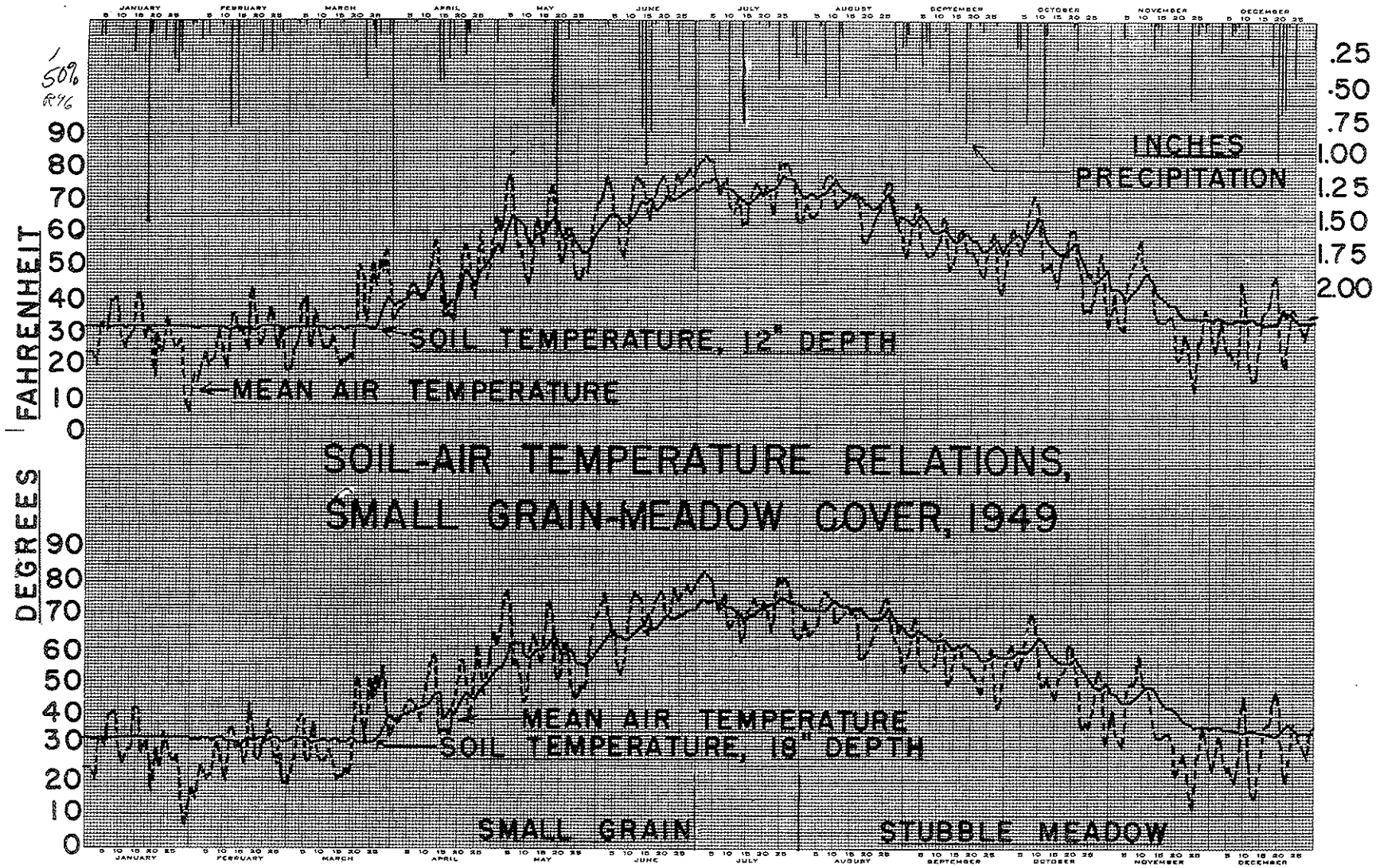

Figure 4. Comparison of mean daily air temperatures with 12- and 18-in. soil temperatures under small-grain and stubble-meadow cover at East Lansing, Michigan, 1949.

60 F. and a trough of 50 F. Under small grain, meanwhile, the soil at 6 in. heated to 67 F., and cooled to 53 F. Thus, it is seen, as the season became progressively warmer temperature peaks and troughs became more extreme in inverse proportion to the amount of cover. At the 60-in. depth, the five-day variation was not apparent.

Inspection of the charts and data thus far indicates that, with warmer weather, one may expect lower soil temperatures under wooded cover than under cultivation, showing the effect of the verdant growth of foliage found at this time of year. Further examination of the charts shows that under small grain, during the period of June 1 to 13, when soil moisture content at the 1-in. depth was 4.5 percent, the soil reacted immediately to air temperature changes. However, wooded cover, with a higher moisture content and a more dense cover, caused a time lag of 3 days for the same temperature change. Under meadow cover the lag was one day. Again, the soil moisture was higher than under small grain.

On June 13 to 17, the area received enough precipitation to bring soil moisture content at the 1-in. depth under small grain to a content of 8.5 percent. The time lag for the moisture rise and the corresponding drop in soil temperature varied from 1 to 2 days. The same lag was noted for the 6-in. depth. Under wodded cover such time lags practically disappeared towards the end of June. However, the soil temperature under this type of cover was still far below that for the other two covers.

July 3 had the highest peak air temperature of 1949, 84 F. The 1949 temperatures and dates for all soil depths were as follows:

in.	Woods	Meadow	Small Grain
1	73 F. July 26	77 F. July 6	78 F. July 5 and 26
6	71 F. Aug. 11	76 F. July 6	81 F. July 26
12			78 F. July 26
18			76 F. July 26
42			79 F. July 30
60			66 F. Aug. 19

Commencing in August, under wooded cover, the differences between air and soil temperature tended to become less and lag greater. This trend was very pronounced in September when time lags of two days were frequent between peaks of rising temperature and lags of one day common between troughs in falling temperature. After the middle of September, these lags disappeared and responses were almost immediate. Soil moisture during this period was relatively stable, within the range of 4½ to 7 percent. In October, rapidly falling air temperatures fell below the more slowly falling soil temperatures at the 1-in. depth. This occurred at the 6-in. wooded depth in mid-August, two months previous to the reversal at the 1-in. depth.

Under meadow cover, the lags in temperature changes became less pronounced about the middle of July.

In July, the soil temperature under small grain showed rapid response to air temperature changes, and continued to vary until mid-November. In late July the small grain was harvested and meadow cover (stubble) remained. Under this cover the fluctuations of soil temperature were marked, and the extremes were nearly as great as those of air temperatures.

Soil temperature was higher than the average air temperature on the following dates:

in.	Wooded Cover	Small Grain Cover	Meadow Cover
1	Oct. 13, Mar. 20	Nov. 15, Mar. 20	Nov. 13, Mar. 20
6	Sept. 19, Mar. 20	July 6, Mar. 20	Aug. 10, Mar. 20

The first below-freezing average air temperature in the fall occurred during the period November 10 to 26. This was preceded by a week's falling temperature, reaching a low of 33 F. Under grain stubble a two day lag of soil temperature was finally overcome and the soil temperature dropped to within two degrees of the low air temperature. This was followed by sharply rising air temperatures to 59 F. Soil temperature responded very slowly and rose to 48 F., where the again-falling air temperature carried it to 31

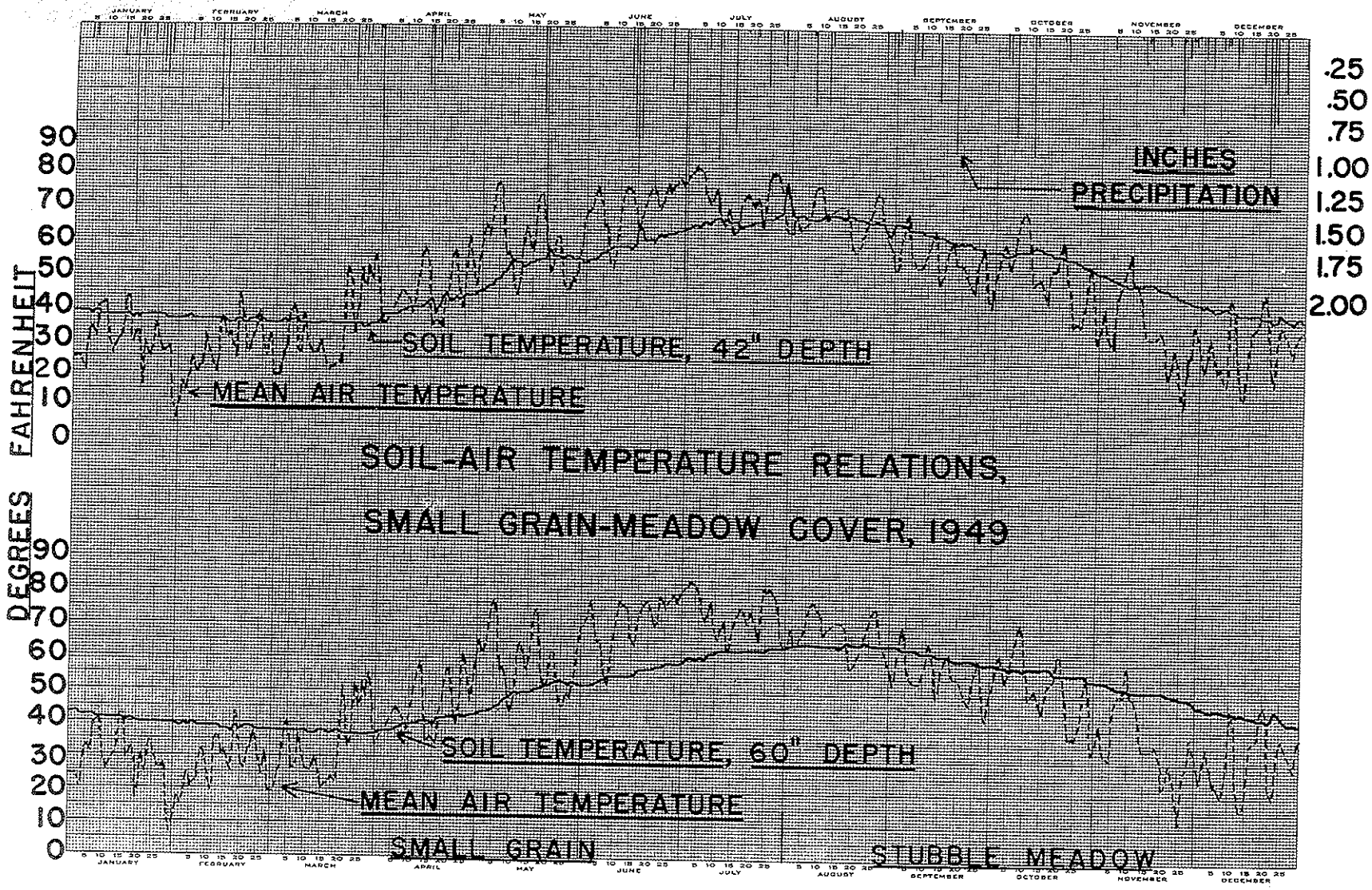

Figure 5. Comparison of mean daily air temperatures with 42- and 60-in. soil temperatures under small-grain and stubble-meadow cover at East Lansing, Michigan, 1949.

F. on November 22. Wooded-soil temperature for the same period showed less fluctuation, but reached the 32 F. temperature on the same day as the stubble covered watershed. Meadow soil temperatures were the most stable for this period, and reached a low of 32 F. at the 1-in. depth on December 8.

The winter season under meadow cover was a period of relative stability. The lowest soil temperature was 31 F., recorded on December 9, 13, 15, 16, and 17, in response to air temperature drops to 12 F. and 16 F. The 6-in. layer recorded a December low of 32 F. on December 20 in response to the 16 F. air low. Under wooded cover, the 1-in. layer reached a low of 23 F. on December 14. The low for the 6-in. layer was 32 F. on December 16.

On December 14, the stubble covered watershed's 1-in. layer reached a temperature of 28 F., while the 6-in. layer had a temperature of 32 F. on December 16. The 12-in. layer at this watershed recorded its lowest temperature on December 16, 33 F.; while the 18-in. layer reached, on December 20, a low of 34 F. The 42-in. depth, meanwhile, registered its low of 38 F. on December 28. The 60-in. layer's low of 42 F. was reached on December 28.

SUMMARY

The most stable period for soil temperatures was found to be the months of January, February, and early March. Meadow cover was most stable for this period, while small grain was most subject to fluctuation. Falling air temperatures during this period were usually accompanied by rains, which helped melt the snow then present on the ground and, in infiltrating, rapidly cooled the 1- and 6-in. layers.

Wooded temperatures in late March and early April were in a state of flux, responding rapidly to changes in air temperatures. As soon as the leaf cover became dense enough to shade the ground, the wooded soil temperatures began to lag behind the rising air temperatures.

Under small-grain cover during the same period, temperature response was slower than under wooded cover, and time lags were greater because of the advanced development of the small-grain crop. After this time, however, soil temperatures followed air temperature more closely than under any other cover. Small-grain soil temperatures during this time were slightly lower than air temperatures.

Response to air-temperature change was slowest for the period of late March and early April under meadow cover. Until early May, the soil temperature response under meadow was slower than under wooded cover. After this, soil temperature more nearly followed air temperature under meadow than under timber.

Bouyoucos (2, 4) observed that heat penetrated uncultivated soil more rapidly than cultivated soil. It was his conclusion that sod-covered soil would be slowest to warm up. The findings of the current study completely substantiate his hypothesis. A comparison of the charts for 1-in. depths will show a sharp rise in soil temperatures of the wooded watershed in late March. Small grain cover gave a slower temperature rise, while meadow showed the slowest rise of the three.

The lowest average soil temperatures under the various soil covers in the summer months were found at the wooded watershed. Here, temperatures were quite low until mid-July. The charts for the 12-, 18-, 42-, and 60-in. depths also indicate that this period marks the peak temperatures for these depths. It should be borne in mind that transpiration has, by this time, removed large quantities of water from the soil, so that the moisture content is near the optimum for heat transfer. After July, the differences between 1-in. soil temperatures and air temperatures were smaller. In September, the falling air temperature and the slowly falling soil temperature were in equilibrium for the first time since early April. This condition was maintained during September and October. In early November, the air temperature, falling rapidly, fell far below the soil temperature and until late January, soil temperatures fluctuated until a state of equilibrium was established between the upper and lower depths. In this area, under wooded cover, the ev-

idence of local records points to approximately 30 F. as the normal winter soil temperature, once it has been exposed to cold air long enough to cool the lower depths.

The situation in the 6-in. wooded soil zone was essentially the same as the 1-in. except for time lags. In mid-September, the air temperature fell below the soil temperature and the 6-in. layer reached its winter equilibrium at approximately the same time as the 1-in. layer. The equilibrium temperature was 31 F.

The 1-in. and 6-in. layers under small grain showed the effects of cover in holding soil temperature to a slow rise in late March. However, summer soil temperatures under this cover were very high in relation to the other two types of cover; and after the grain was cut in late July, soil temperatures at the 1-in. level were higher than the air temperatures. A condition of pronounced soil temperature response to air temperature existed until mid-November, when the soil was cooled rapidly at the 1-, 6-, and 12-in. depths by a sharp drop in air temperature. Because of sudden chilling of its less shallow depths, this watershed reached its equilibrium point of approximately 31 F. in late December.

Meadow cover, consisting of alfalfa and brome grass, was cut twice during the summer of 1949. Cutting dates can easily be located on the 1-in. and 6-in. temperature charts. In May and August, after the cutting of the meadow cover, soil temperatures rose sharply in relation to air temperatures.

There have been many broad statements made concerning the tempering effect upon soil climate of vegetation. It is generally conceded that a forest cover has the greatest effect upon soil climate. The studies at East Lansing indicate that this statement is true in part. The effect of a forest cover upon soil climate will depend upon whether the trees are coniferous or deciduous, their density, depth of leaf mat, etc. The wooded watershed under study, being a hardwood forest, exerts its greatest influence upon soil temperature during the summer, when the foliage tends to screen the soil surface from solar heat. This influence is somewhat lessened by the decrease in soil moisture, through evapotranspiration, to an optimum condition for heat transfer.

Under wooded conditions it was observed that snow covers the ground for longer intervals than is the case under other vegetative cover, and exerts its influence more markedly in ameliorating the effects of extreme temperature drops.

There is, of course, an exchange of air between the surface atmosphere and the pore spaces of the soil. As rain infiltrates the ground, it occupies pore space usually filled with air, thus forcing the air out. As the soil dries, air replaces the moisture. This is one method by which changes in soil temperature are encouraged (4). However, the studies at East Lansing indicate that a greater influencing factor is solar heat. Any vegetal cover tends to reduce the receipt of solar heat in proportion to the density of that cover.

As the various covers were harvested, small grain and meadow, there was greater opportunity for solar heat to exert its warming influence directly upon the soil, and soil temperatures were much higher in relation to air than at other times.

There exists no doubt as to the effect exerted upon soil temperatures by soil moisture, barometric pressure changes, soil color and physical makeup. It is the belief of the authors, however, that the greatest factor in soil temperature is the modification of these various phenomena by vegetative cover. The effect of cover is more widespread than its solar-shielding effect. Vegetal cover also markedly influences each of the following: 1. Moisture content at different soil depths (10). 2. Porosity, permeability, and thus aeration of the soil (10). 3. The color of the soil and organic content (10). 4. The length of time snow will remain on the soil surface (2).

Vegetation exerts then, not only a direct influence upon soil temperature, but also an indirect influence upon almost every other factor affecting soil temperature changes and other hydrologic factors.

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Discussion

CARL B. CRAWFORD, Division of Building Research, National Research Council, Ottawa, Canada — The presentation of this paper illustrates the value of cooperation between two normally unrelated sciences. A great many of the unanswered questions concerning soil temperatures have been posed by agriculturalists and many problems have been solved jointly by agriculturalists and engineers.

In this discussion the writer can present some data in support of the author's conclusions. Part of this information has been published by Legget and Crawford (G). These observations have been obtained from a general study of soil temperatures being carried out at Ottawa, by the Division of Building Research of the National Research Council of Canada (F).

The cooling effect in summer of grass-cover is shown in Table A. Although it is thought that grass also has a warming effect in winter, no comparisons are possible since the effects are masked by snow cover.

TABLE A
MAXIMUM SOIL TEMPERATURES OCCURRING UNDER PAVEMENT AND ADJACENT GRASS COVER

Year	Depth	Max. Temp. During Year	
		Pavement	Grass
	ft.	F.	F.
1950	2	82	67
	5	68	60
1951	2	84	68
	5	68	60

As pointed out by the authors, Bouyoucos observed similar effects of grass cover in his work many years ago. Algren (E) found temperatures under sodded ground to be 7.6 F. lower than under bare ground at a depth of 1 ft. in September. At a depth of 16 ft. the difference was

3.6 F. Both Belotelkin (C) and Atkinson and Bay (B) observed considerable differences in frost penetration between pastures and forest covers.

The value of undisturbed snow in reducing frost penetration was quite evident in the Ottawa work.

TABLE B
THE EFFECT OF UNDISTURBED SNOW-COVER ON FROST PENETRATION IN 1950-51

Soil Type	Frost Penetration	
	Snow-Cover	No Snow
	in.	in.
Sand	18	46
Clay	9	29

Table B shows the variation in maximum frost penetration in prepared test pits with and without snow-cover. The average snow cover for the winter was about 1 ft.

In addition to the test-pit measurements a record of frost depths in excavations has been kept by the Ottawa Water Works Department for several years. A study of these records revealed that on the average the frost depth was reduced about 2 ft. for each foot of snow cover. This study has shown a greater effect than that reported by Atkinson and Bay (B) who found that snow reduced frost penetration by an amount equal to its depth.

Thompson (A) studied soil temperatures at Winnipeg, Canada. He found the annual average soil temperature to be 4.7 F. warmer than the average air temperature. Part of this difference was attributed to the insulating effect of snow cover.

In his theoretical studies Berggren (D) estimated that the depth of frost penetration during a given time would be reduced to about one sixth by 4 in. of fresh snow. Many investigators have noticed this marked effect of snow cover, but quite naturally the degree of effect has been variable due to the variety in snow properties.

Of particular interest to many readers of this paper will be the authors' reference to the measurement of soil moisture in situ using the electrical-resistance method. These instruments are an agricultural development which seem to perform adequately their original use which was to follow moisture changes in relatively dry soils. Attempts by the Division of Building Research to use the electrical methods in soils of higher water contents have not been successful. Work is now going on in an effort to devise a similar method which will give satisfactory results.

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Appendix A

CROP HISTORY, CULTIVATED WATERSHEDS, 1947 THROUGH 1951

WATERSHED A		WATERSHED B	
	1947		
4-18	Plowed.	4-19	Plowed.
4-19	Plowed & harrowed, oats & alfalfa-brome planted.	6-3 & 4	Disked & planted corn.
8-1	Oats harvested.	6-24 & 25	Cultivated corn.
		9-11	Drilled rye in corn.
		10-5	Harvested corn.
	1948		
6-16	Alfalfa-brome cut.	5-5	Plowed & culti-packed.
8-12	Alfalfa-brome cut.	5-25	Planted corn.
		6-5 & 5-9	Cultivated corn.
		9-23	Corn cut for ensilage.
		10-9	Rye drilled in corn stubble.
	1949		
6-10	Alfalfa-brome cut.	4-13	Plowed.
7-20	Alfalfa-brome cut.	4-14	Harrowed; planted oats & alfalfa-brome.
		7-15	Oats cut.
		8-10	Oats harvested.
	1950		
5-23	Harrowed, planted corn.	6-22	Alfalfa-brome cut.
6-7, 14, & 19	Corn cultivated.	8-23	Alfalfa-brome cut.
7-6	Corn cultivated.	10-30	Alfalfa 6" to 8" tall, thin growth.
8-6	Rye seeded.		
10-23	Corn husked; stocks left in field. Heavy growth of rye.		
12-4	Corn stocks chopped in field.		
	1951		
5-14	Rye 22" high plowed under.	6-19	Alfalfa-brome cut.
5-21	Corn planted.	8-20	Alfalfa-brome cut.
6-17 to 7-17	Corn Cultivated six times.		
10-30	Corn harvested.		
7-17	Rye cover crop seeded.		

Appendix B

DAILY RECORD OF SOIL AND AIR TEMPERATURES, PRECIPITATION, AND INSOLATION, 1947 THROUGH 1951, BY MONTHS

JANUARY 1947

DATE:	TEMPERATURES (°F.)											Total Precip. (In.)	Total Insol. (Lang.)
	Mean Air	Soil Depths in Inches					Stations A, B, & W.						
		1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A		
1	11	30	29		31	31		32	34	39	44	-	79
2	24	31	30		31	31		32	33	38	43	.45	30
3	17	31	31		31	31		32	33	38	43	.02	65
4	14	31	30	28	32	31	33	32	34	38	43	-	148
5	13	31	29	29	31	31	33	32	33	38	43	T	177
6	20	31	31	29	32	32	34	32	34	38	43	-	55
7	28	32	31	30	32	32	34	32	34	38	43	-	24
8	23	31	31	30	32	32	34	32	33	38	43	T	112
9	20	31	30	30	32	31	34	32	33	38	43	.01	151
10	26	31	31	30	32	31	34	32	33	38	43	-	62
11	33	32	31	30	32	31	34	32	33	38	42	-	34
12	20	32	31	30	32	32	34	33	34	38	42	-	190
13	30	31	31	30	32	31	34	33	33	38	42	T	26
14	38	32	32		32	32		32	33	38	42	.08	3
15	34	31	31		31	32		32	33	37	41	-	117
16	26	31	31		31	31		32	33	36	41	.01	68
17	30	30	30	28	30	31	34	31	33	36	40	T	155
18	33	29	29	28	31	31	34	32	33	37	41	-	173
19	37	29	30	28	31	31	34	32	33	38	42	-	189
20	30	32	32	29	32	32	34	32	33	37	41	.45	29
21	13	28	27	30	31	30	34	31	32	36	39	T	161
22	11	29	27	27	30	29	36	32	33	37	40	-	182
23	26	30	28	27	31	29	33	31	33	37	40	-	96
24	38	31	31	28	31	31	33	31	32	36	40	T	33
25	38	32	32	28	32	32	32	32	33	37	41	T	75
26	40	32	32	28	32	32	33	32	33	37	41	.01	191
27	44	32	22	30	32	32	33	32	33	37	40	.01	159
28	30	31	31	31	31	31	34	31	32	36	40	-	119
29	26	32	32	31	31	32	33	32	32	36	40	.67	17
30	28	32	32	31	32	32	33	32	33	37	40	1.09	31
31	25	31	32	31	31	32	33	31	32	36	39	.03	118

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

FEBRUARY 1947

DATE:	TEMPERATURES (°F.)											Total Precip. (In.)	Total Insol. (Lang.)
	Mean Air	Soil Depths in Inches					Stations A, B, & W.						
		1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A		
1	22	32	32	30	32	32	32	32	33	37	40	.02	100
2	20	31	32	30	32	32	32	32	33	36	40	T	212
3	29	31	31	30	31	32	32	32	33	37	40	-	163
4	12	30	29	30	31	30	32	31	32	36	39	T	263
5	6	29	28	29	30	30	32	32	33	36	39	T	156
6	13	29	28	29	30	29	31	32	33	36	39	.02	133
7	8	29	29	29	30	30	31	31	32	36	40	.02	197
8	8	28	29	28	30	30	31	31	32	36	39	.01	243
9	18	28	30	28	30	31	31	31	33	36	39	-	218
10	22	30	30	28	31	30	31	31	32	37	40	-	183
11	23	29	29	28	30	30	31	31	32	36	39	-	249
12	26	29	30	29	30	30	31	31	32	36	39	-	268
13	32	29	29	29	29	30	31	30	31	35	38	-	195
14	40	30	31	30	31	31	31	31	32	36	39	-	192
15	32	32	31	30	32	31	31	32	32	36	39	.01	39
16	24	32	32	30	32	32	31	32	32	36	39	.04	169
17	26	32	31	30	32	31	31	32	32	36	39	T	117
18	20	31	30	31	31	31	32	31	32	36	39	T	258
19	13	29	29	30	31	29	32	32	33	36	39	-	317
20	15	27	27	29	29	28	31	30	32	35	38	-	328
21	17	28	27	29	29	28	31	30	32	35	38	.01	231
22	18	27	26	28	29	28	31	30	32	36	38	-	291
23	16	26	25	28	28	28	30	30	32	37	39	.02	260
24	27	29	28	28	29	28	30	30	32	36	38	.02	179
25	28	29	29	29	29	29	31	30	31	35	38	-	192
26	26	29	30	29	29	30	31	30	31	35	38	T	339
27	20	28	29	29	28	29	31	29	31	35	38	-	272
28	20	27	29	29	28	29	31	29	32	35	38	-	378
29													
30													
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

MARCH 1947

DATE	TEMPERATURES (°F) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	24	26	28	28	28	29	31	29	31	35	38	.03	182
2	26	29	29	28	30	29	31	31	32	35	39	.08	274
3	24	27	29	28	28	29	31	29	31	35	38	-	332
4	27	27	29	29	28	29	31	28	30	34	38	-	328
5	26	27	29	29	28	29	31	29	31	35	38	-	279
6	32	29	30	31	29	30	31	29	30	34	37	-	194
7	24	30	30	29	30	30	31	30	31	35	38	-	237
8	24	28	29	29	29	30	30	29	31	34	37	-	364
9	26	28	30	29	28	30	30	29	30	34	37	-	207
10	27	29	31	29	29	31	31	29	31	34	37	-	435
11	29	30	31	30	30	31	31	30	31	34	37	-	440
12	37	31	31	30	31	31	31	31	31	34	37	-	356
13	38	30	31	30	30	31	31	30	30	34	36	.21	104
14	32	32	31	30	31	31	31	31	32	34	37	T	142
15	32	29	29	29	30	30	31	31	31	34	37	T	260
16	26	29	29	29	30	30	31	31	32	35	38	T	340
17	24	29	29	30	29	29	31	30	31	35	37	T	240
18	25	27	28	29	28	28	31	29	31	34	37	-	402
19	28	26	27	30	28	28	31	29	31	34	37	-	414
20	33	30	31	30	30	31	31	30	31	34	37	-	359
21	32	31	31	30	31	30	30	31	31	34	37	.01	153
22	34	30	31	30	31	31	30	31	32	34	37	-	299
23	46	31	31	31	31	31	32	31	31	34	37	.24	207
24	40	33	32	30	32	32	31	32	32	35	37	.58	32
25	24	32	32	30	32	32	30	32	32	35	37	.04	295
26	24	32	31	30	32	31	30	31	31	34	37	T	395
27	24	32	31	30	32	31	30	31	31	34	37	-	513
28	28	31	32	30	31	32	30	31	31	34	37	.01	211
29	30	32	32	30	32	32	30	32	32	35	37	.12	219
30	27	32	31	30	32	32	30	32	32	34	37	-	532
31	33	32	32	30	32	32	30	32	32	34	37	.01	338

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

APRIL 1947

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	42	32	32	29	32	31	31	31	32	34	37	.02	192
2	36	33	32	31	32	32	31	32	32	35	37	.97	117
3	36	32	31	30	32	31	31	32	32	34	37	-	518
4	40	32	31	30	32	31	31	31	32	33	36	.20	60
5	58	46	43	43	34	32	35	32	32	34	36	2.57	97
6	46	37	35	44	34	32	40	32	32	34	37	-	72
7	38	38	37	35	33	32	37	32	32	34	36	-	287
8	40	32	32	35	32	32	36	32	32	34	36	-	200
9	43	44	42	38	35	33	38	32	32	33	36	-	323
10	51	38	36	38	34	33	38	32	32	34	36	.35	96
11	52	48	45	50	42	38	43	38	34	34	36	.11	34
12	36	38	35	41	39	34	42	39	38	34	36	.04	88
13	34	34	32	34	35	32	37	37	37	37	37	-	271
14	44	48	44	35	39	35	37	37	36	36	36	-	518
15	42	37	35	37	37	33	39	38	38	36	37	.03	369
16	36	36	34	38	37	34	39	38	38	36	37	.06	282
17	42	45	42	34	39	36	37	37	37	37	38	.09	432
18	40	43	42	39	42	41	38	41	40	38	38	.32	287
19	38	44	43	36	40	38	38	39	39	38	38	.19	430
20	34	37	36	34	38	37	38	39	40	39	39	.34	191
21	38	45	41	32	38	36	36	37	37	38	38	-	520
22	45	39	38	37	39	37	36	39	39	39	39	-	171
23	58	51	48	42	45	42	38	41	39	38	38	-	217
24	54	47	46	45	47	46	44	46	43	39	39	.12	522
25	43	48	45	44	46	44	44	45	44	39	39	-	240
26	50	41	40	40	43	41	42	44	44	40	40	-	527
27	46	47	46	46	47	46	46	47	45	42	40	.03	423
28	43	52	48	37	45	44	42	43	43	41	40	-	602
29	56	47	46	45	45	44	44	44	44	41	40	.05	254
30	56	60	57	52	53	51	49	49	46	41	40	.23	273
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

MAY 1947

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	54	56	54	47	51	49	48	49	47	42	40	1.21	163
2	51	53	51	48	52	50	49	50	49	43	42	.04	206
3	52	51	48	46	48	48	47	49	49	44	42	-	380
4	54	50	49	48	50	50	48	50	50	45	43	.05	246
5	48	52	49	47	48	48	48	47	47	44	42	T	162
6	46	47	46	45	45	46	47	46	47	45	43	.19	390
7	35	40	42	42	42	44	46	43	45	45	43	-	251
8	34	33	37	38	38	40	43	41	44	45	43	-	262
9	38	53	44	36	39	41	41	38	41	43	43	-	663
10	46	43	40	38	39	41	42	41	42	43	43	-	630
11	54	43	43	44	43	43	44	44	45	43	43	-	623
12	66	69	57	49	52	51	48	48	45	42	42	-	513
13	59	61	56	56	54	53	52	52	49	43	42	1.34	371
14	46	52	51	48	51	51	50	51	50	45	43	.03	460
15	59	60	52	48	51	55	49	50	49	46	44	.33	460
16	64	76	63	56	60	57	53	56	52	46	44	-	460
17	54	56	54	52	55	54	52	54	54	47	45	.31	460
18	58	56	56	52	55	54	52	54	53	48	45	.07	460
19	60	71	60	51	58	56	51	54	52	47	44	.09	460
20	52	59	55	51	54	55	53	54	54	48	45	.02	538
21	53	61	53	50	53	52	54	53	53	49	46	.72	343
22	58	60	54	50	52	53	53	52	52	49	46	-	623
23	59	62	58	55	57	56	54	55	54	49	46	.59	204
24	56	61	55	52	55	55	52	54	54	50	47	.02	285
25	52	51	52	50	53	54	53	54	54	50	47	.23	218
26	55	63	57	52	56	55	52	54	53	50	47	.02	529
27	54	54	53	50	53	54	52	52	52	48	47	T	281
28	48	54	53	52	53	53	53	53	52	50	48	.33	78
29	48	51	51	49	49	50	51	50	51	50	48	.29	175
30	48	56	49	47	47	50	50	47	49	50	48	.03	433
31	56	64	54	58	51	52	50	49	49	49	48	-	592

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivate Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JUNE 1947

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	59	57	55	53	54	54	53	53	52	50	48	.66	92
2	50	52	52	52	53	54	53	53	53	50	48	.21	197
3	50	73	57	58	56	54	51	53	51	50	48	-	681
4	56	51	57	49	51	51	51	52	52	49	48	-	597
5	68	62	58	56	55	55	54	54	53	49	47	-	451
6	71	66	62	58	60	59	56	58	55	50	48	.15	345
7	64	72	63	56	62	60	56	60	57	51	48	.70	236
8	67	68	62	58	62	61	57	61	58	52	49	.33	457
9	68	77	68	57	65	64	57	62	60	52	49	-	621
10	79	79	71	64	68	67	60	65	61	53	49	-	584
11	66	66	66	64	67	66	61	67	63	55	50	.21	526
12	52	71	60	54	61	60	57	61	61	55	51	-	414
13	62	60	58	54	59	59	56	60	60	56	51	.43	296
14	54	57	59	56	59	61	57	60	60	56	52	.01	124
15	54	51	55	52	55	57	55	56	58	55	52	-	149
16	56	69	61	52	58	59	55	57	56	55	52	-	651
17	58	60	59	54	58	59	55	57	57	55	52	-	267
18	59	71	62	53	59	60	55	57	56	55	52	-	607
19	59	74	62	54	60	60	55	59	58	55	52	-	553
20	60	73	63	53	62	61	55	59	58	55	53	-	639
21	64	72	63	55	61	61	55	60	59	55	53	-	671
22	67	61	60	56	61	59	57	61	61	56	53	-	645
23	68	67	63	56	63	61	57	63	62	57	53	-	615
24	63	64	61	57	63	61	57	64	63	56	53	T	266
25	68	74	67	58	65	63	58	63	61	57	53	.31	516
26	69	68	65	59	65	63	58	64	63	58	54	-	548
27	74	67	65	61	65	64	59	65	63	58	54	-	485
28	75	70	67	62	67	65	60	67	64	58	54	-	604
29	75	74	70	64	70	67	62	69	65	57	53	-	470
30	71	82	72	61	71	68	61	69	67	60	55	-	578
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JULY 1947

DATE	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.) Stations A, B, and W.											
1	66	76	70	63	71	67	63	70	68	60	55	.14	556
2	64	70	67	59	67	65	60	67	67	61	56	-	574
3	66	69	66	58	65	63	59	66	66	60	55	-	600
4	67	70	64	59	66	62	59	66	66	60	55	.22	374
5	72	67	66	61	65	65	61	65	65	60	55	.83	351
6	69	68	66	62	67	65	63	67	66	61	57	-	242
7	66	74	70	60	68	67	61	66	65	61	57	-	650
8	65	69	67	58	64	64	60	64	65	61	57	-	624
9	68	70	66	60	66	64	60	66	65	61	57	-	345
10	69	69	67	62	67	65	62	66	65	61	57	-	563
11	68	66	64	60	67	65	61	67	66	61	57	.08	385
12	72	66	64	60	66	63	60	67	66	61	57	-	566
13	74	82	72	62	72	67	62	70	67	62	58	-	417
14	74	76	72	64	72	68	63	71	69	62	58	.05	308
15	70	77	72	64	71	68	63	69	68	62	58	.24	273
16	73	74	70	64	70	67	64	69	68	63	58	.16	257
17	72	75	71	64	70	67	64	69	68	63	58	-	532
18	69	71	69	66	71	69	65	71	70	63	59	.26	226
19	59	60	62	58	65	65	62	67	69	64	59	.01	284
20	60	57	58	56	61	61	60	64	65	63	59	.27	376
21	58	68	66	58	64	63	60	64	65	63	59	.13	447
22	56	62	61	54	60	60	59	61	63	62	59	-	462
23	60	66	64	55	61	61	58	61	63	62	59	-	545
24	66	67	64	58	63	62	59	63	63	62	59	-	542
25	70	63	62	60	64	63	60	65	65	61	59	-	573
26	72	69	66	62	67	65	62	67	66	61	59	-	365
27	74	73	71	65	70	68	63	69	68	62	59	.17	470
28	72	82	75	63	71	70	63	69	68	63	60	-	519
29	75	75	71		69	68		69	68	63	59	-	545
30	78	79	74		72	70		71	69	63	59	T	334
31	67	76	71		71	69		70	69	63	60	-	598

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

AUGUST 1947

DATE	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (Inc.)	Total Insol. (Lang.)
		TEMPERATURES (°F.) Stations A, B, and W.											
1	59	70	66	63	67	65	63	68	68	64	60	-	478
2	70	72	68	66	68	66	65	68	68	64	60	-	400
3	78	73	69	64	69	68	65	69	68	64	61	-	434
4	78	86	79	57	74	72	62	72	69	64	50	.63	463
5	80	84	80	60	75	74	61	72	70	65	61	-	448
6	82	83	80	64	76	75	63	74	72	65	61	-	508
7	80	79	79	64	76	76	64	75	73	65	61	.34	307
8	70	70	70	67	72	71	66	73	73	66	61	.01	383
9	68	70	69	69	69	68	68	70	71	66	61	-	323
10	71	66	66	70	67	67	68	69	70	66	62	-	557
11	76	79	79	66	72	73	66	70	69	66	62	-	432
12	80	77	77	62	73	73	65	72	70	66	62	-	424
13	82	80	80	61	75	75	64	73	72	66	62	T	475
14	82	82	81	63	75	76	65	74	72	66	62	.06	431
15	70	71	72	68	73	74	67	74	73	66	62	-	386
16	68	73	72	70	70	71	68	71	71	67	63	-	452
17	78	72	72	70	71	71	69	71	71	67	63	-	479
18	84	84	82	68	75	76	68	74	72	67	63	T	453
19	83	81	80	62	76	76	65	75	73	67	63	.07	276
20	80	82	80	68	75	75	69	74	73	67	63	.71	416
21	77	78	77	70	75	75	70	75	74	68	64	.01	380
22	76	75	74	69	74	74	69	74	74	68	64	-	437
23	80	75	74	69	73	73	69	74	73	68	64	-	530
24	82	76	76	71	75	75	71	75	74	68	64	.86	351
25	78	79	79	70	77	77	71	75	74	69	65	.04	310
26	69	72	71	68	72	72	69	73	73	68	64	.59	534
27	68	69	69	68	69	70	67	70	71	68	64	-	641
28	72	72	72	68	72	72	67	71	71	68	65	.30	233
29	70	70	69	68	70	69	67	70	70	68	64	.55	240
30	74	70	69	68	70	69	67	70	69	68	64	.06	360
31	65	70	69		69	69		69	68	67	64	.02	677

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

SEPTEMBER 1947

DATE:	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	66	71	70		69	69		68	68	67	64	.05	370
2	70	71	71		68	68		68	67	66	64	-	505
3	71	72	72		68	69		68	67	66	64	-	
4	72	73	73		69	70		68	68	66	64	-	
5	70	70	69		69	69		68	68	66	65	.06	
6	71	67	66		68	68		69	68	66	66	-	
7	74	68	69		68	69		69	69	66	65	-	
8	74	70	69		69	70		70	70	66	64	-	
9	77	73	71		72	70		71	70	66	64	-	
10	74	77	74		73	71		72	71	66	64	-	
11	74	74	73		72	71		72	71	66	64	.20	
12	72	71	71		71	71		72	72	67	64	3.43	
13	70	70	69		69	70		71	71	67	64	-	
14	71	69	67		67	68		70	70	67	64	.04	
15	58	66	65		68	68		70	70	68	65	.22	
16	56	62	61	64	64	65	65	67	68	67	65	-	
17	61	57	57	68	60	61	67	63	66	66	64	-	
18	70	62	61	68	63	63	67	65	66	66	64	-	
19	72	67	66	68	67	66	67	67	67	65	64	-	
20	72	68	67	68	68	67	66	68	66	65	63	-	
21	62	63	62	66	64	64	66	65	66	65	63	1.74	
22	44	58	57	63	60	61	66	63	65	66	62	.07	
23	47	54	53	62	55	56	65	58	62	65	64	-	
24	53	60	57	54	58	57	52	58	60	64	63	-	
25	41	50	50	48	54	55	56	57	60	64	63	-	
26	44	50	49	48	50	53	54	54	58	63	63	-	
27	46	48	49	48	51	52	54	54	57	62	63	-	
28	50	51	52	50	53	53	54	54	57	61	62	.21	
29	46	55	55	54	55	55	55	55	56	60	61	.12	
30	40	48	47	46	50	51	43	52	55	60	61	-	
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

OCTOBER 1947

DATE:	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	42	50	47	45	47	49	51	50	53	59	61	-	402
2	47	49	48	47	48	49	51	50	52	58	60	-	265
3	61	49	49	51	50	51	52	52	53	58	60	-	312
4	68	59	56	58	55	54	57	54	53	56	58	.04	283
5	64	61	57	57	56	55	57	55	54	56	57	-	318
6	66	64	59	57	57	56	58	56	55	55	56	-	313
7	68	61	59	60	59	58	59	59	58	56	57	-	294
8	52	61	58	57	60	59	59	60	60	57	58	-	260
9	49	56	53	51	55	54	56	56	59	58	59	-	301
10	50	52	49	48	51	51	54	54	57	58	59	-	329
11	56	52	49	49	51	50	54	53	55	58	59	-	266
12	64	55	53	54	53	52	56	54	55	57	57	-	236
13	56	58	56	56	56	55	58	56	55	55	56	-	267
14	54	52	50	50	53	53	55	55	58	57	58	-	288
15	67	62	55	56	54	52	57	54	54	54	54	-	237
16	64	62	56	56	56	54	57	55	55	54	54	-	264
17	68	62	58	60	58	56	60	57	56	54	55	1.50	240
18	62	61	59	60	60	58	60	59	58	56	56	-	
19	62	59	56	58	57	56	60	57	57	56	55	-	332
20	59	57	52	54	54	53	58	55	56	55	54	-	201
21	64	55	52	56	53	53	58	55	56	56	55	-	188
22	66	61	56	58	55	53	59	54	54	53	53	-	209
23	51	56	51	57	53	52	59	54	55	56	55	-	262
24	49	50	46	51	51	50	56	54	57	58	58	-	216
25	56	52	49	52	52	50	55	54	56	56	56	-	132
26	63	55	52	55	53	51	56	53	54	54	55	T	134
27	63	53	54	58	53	52	59	53	52	52	53	.23	136
28	52	53	54	56	56	56	58	57	58	57	58	.15	109
29	48	50	50	54	53	53	56	55	57	58	58	.81	24
30	50	49	49	53	50	51	55	52	54	57	57	T	28
31	49	50	48	52	50	51	55	52	54	57	58	T	44

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

NOVEMBER 1947

DATE:	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	48	48	45	51	49	48	55	51	53	56	57	T	93
2	46	46	44	48	46	46	53	48	50	55	57	-	221
3	48	44	42	49	43	44	53	45	48	54	56	T	103
4	51	47	45	52	47	47	53	48	49	54	57	.02	19
5	51	48	48	52	48	48	54	48	49	53	56	.11	22
6	47	45	46	52	47	48	54	48	49	53	55	.02	27
7	46	41	42	50	43	45	53	45	48	53	55	.08	36
8	36	30	33	46	35	39	51	39	45	52	55	-	18
9	31	23	28	44	25	34	49	29	35	48	52	-	42
10	36	32	23	42	33	29	48	36	40	50	53	.32	45
11	36	41	42	46	42	44	49	43	45	52	55	.25	110
12	30	37	38	40	39	41	47	41	44	51	54	T	89
13	26	35	37	41	38	39	46	40	43	51	54	-	161
14	30	33	35	37	36	38	43	38	42	50	54	-	172
15	34	33	35	40	36	38	44	38	41	49	54	.10	
16	32	34	36	40	36	38	43	38	41	48	53	.08	
17	32	35	36	38	36	38	42	38	40	47	52	-	96
18	32	36	36	40	37	38	42	38	40	47	52	-	53
19	33	33	34	36	35	37	42	37	40	46	51	-	189
20	36	35	35	39	36	37	42	37	40	46	51	-	125
21	39	36	36	40	36	37	42	37	39	46	50	-	134
22	40	39	39	44	39	39	43	39	39	45	49	-	17
23	34	37	37	40	38	38	43	39	39	45	49	T	138
24	31	35	34	40	37	37	42	38	39	44	49	.42	48
25	27	34	34	40	36	36	42	37	39	45	48	T	76
26	23	33	33	40	35	36	41	36	39	45	48	-	181
27	24	33	33	38	35	36	41	36	38	45	48	.02	80
28	21	33	33	38	34	35	40	36	38	44	48	.07	139
29	22	32	32	38	34	34	40	36	38	44	48	-	191
30	18	32	32	36	33	34	39	36	38	44	48	-	236
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

DECEMBER, 1947

DATE:	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, and W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	28	32	32	37	33	34	39	35	37	43	47	-	250
2	39	32	32	38	34	34	39	35	37	43	47	.06	101
3	38	37	32	40	35	34	39	35	37	43	47	.25	
4	28	33	32	34	35	34	38	36	37	42	47	.12	
5	34	33	32	36	34	33	38	35	37	42	46	.36	
6	32	33	32	36	34	34	38	35	36	41	46	-	
7	42	33	33	36	35	34	38	36	37	41	46	.23	
8	38	34	34	39	37	35	40	38	38	41	45	T	
9	24	32	33	33	34	34	38	35	37	41	45	-	
10	22	32	33	32	34	34	36	35	37	41	55	.08	
11	24	32	32	34	33	33	36	34	36	41	45	-	
12	24	31	32	34	33	34	36	34	36	41	45	T	
13	25	31	32	34	33	33	36	34	35	40	44	-	
14	30	31	32	34	33	33	36	34	35	40	43	-	
15	33	31	31	34	32	33	36	33	34	39	43	.32	
16	26	32	32	34	33	33	36	33	34	40	44	.03	
17	27	31	29	35	31	30	36	32	34	39	43	-	
18	22	28	31	33	29	33	36	30	32	37	40	-	
19	17	34	35	33	36	36	36	36	38	42	46	-	
20	22	34	35	32	36	36	35	36	38	42	46	-	
21	26	33	34	32	35	36	35	35	37	42	46	-	
22	24	33	34	32	35	36	35	35	37	42	46	-	
23	23	33	34	33	35	36	35	35	37	42	46	-	
24	24	33	34	33	35	36	35	35	37	42	46	-	
25	22	34	34	33	34	35	35	35	37	42	45	-	
26	28	34	34	34	34	35	35	35	37	42	45	-	
27	30	29	28	34	29	30	35	30	32	36	40	-	
28	34	30	30	34	31	31	35	32	33	38	41	-	
29	18	31	32	34	33	33	35	34	35	40	42	-	
30	26	33	32	34	33	34	35	34	35	40	43	-	
31	26	34	33	34	34	35	35	35	36	40	44	-	

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JANUARY 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	26	32	32	34	32	33	35	33	34	38	42	.82	*
2	25	32	32	34	32	33	35	33	34	38	42	T	*
3	28	32	32	33	32	33	35	33	34	38	41	-	*
4	30	32	32	33	32	33	35	33	34	38	41	.08	*
5	29	32	32	33	32	33	35	33	34	38	41	-	71.9
6	24	32	32	33	32	33	35	33	34	38	41	-	177.3
7	24	32	32	33	32	33	35	33	34	38	41	-	146.7
8	32	32	32	33	32	33	35	33	34	38	41	-	70.7
9	32	31	32	33	32	33	35	33	34	37	41	-	63.6
10	18	31	32	32	32	33	34	33	34	37	41	-	198.6
11	22	31	32	30	32	33	33	33	34	37	41	.01	146.7
12	30	32	32	30	32	33	33	34	34	38	41	-	88.7
13	16	31	32	32	32	33	33	33	33	37	40	-	125.3
14	6	31	32	32	32	33	33	34	34	37	40	-	20.2
15	16	31	32	31	32	33	32	34	34	37	40	T	83.9
16	18	31	32	30	32	33	32	34	34	37	40	-	124.5
17	7	30	32	29	32	33	31	33	33	37	40	-	164.6
18	2	30	32	28	32	33	30	33	33	37	40	T	231.7
19	13	29	32	28	31	33	30	33	33	37	40	T	141.8
20	20	30	32	28	31	33	30	32	33	37	40	-	210.1
21	22	30	31	28	31	33	30	32	32	36	40	.02	144.7
22	6	30	31	28	31	32	30	32	33	36	39	-	189.0
23	-3	28	31	27	30	32	30	32	33	36	39	-	261.2
24	2	26	31	26	29	32	30	31	32	36	39	.01	122.7
25	10	27	31	26	29	32	30	31	32	36	39	-	249.0
26	14	28	31	26	30	32	29	31	32	36	39	T	183.6
27	9	28	31	26	29	32	29	30	32	36	39	-	146.0
28	10	26	31	26	28	32	29	30	32	36	39	-	262.6
29	15	26	31	26	28	32	29	29	32	36	39	T	206.9
30	6	26	32	26	28	32	29	29	32	35	39	-	297.4
31	7	25	31	25	28	32	29	29	32	36	39	-	241.8

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

FEBRUARY 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	8	25	31	25	28	32	29	29	32	36	39	-	203.8
2	22	26	31	26	27	32	29	29	31	35	39	-	235.0
3	14	25	31	26	27	32	29	28	31	35	38	.03	197.7
4	13	26	31	27	28	32	29	29	31	35	38	.04	223.4
5	10	27	31	27	28	32	29	29	31	34	38	-	262.6
6	14	27	31	27	28	32	29	29	31	35	38	-	229.9
7	22	27	31	27	28	32	29	29	31	35	38	T	135.5
8	14	26	31	27	28	32	29	29	31	35	38	-	325.7
9	6	25	31	25	27	32	29	28	30	34	37	-	320.9
10	8	24	31	25	25	32	29	27	30	34	37	-	261.7
11	18	25	31	26	26	32	29	27	30	34	38	.07	99.1
12	23	26	31	27	27	32	29	28	30	34	37	-	272.0
13	27	27	31	27	28	32	29	29	30	34	37	.36	69.8
14	20	30	32	28	30	32	29	30	31	34	37	.04	211.1
15	20	30	32	28	30	32	29	30	31	34	37	-	243.6
16	38	30	31	28	29	32	29	30	31	34	37	-	259.2
17	39	32	32	28	31	32	29	31	31	34	37	-	251.4
18	37	32	32	28	31	32	29	31	32	34	37	-	249.7
19	32	32	30	29	31	32	30	31	31	34	37	-	143.1
20	14	28	30	28	27	32	29	29	31	33	36	-	249.6
21	13	24	30	24	23	32	29	25	29	33	36	-	248.1
22	17	24	30	22	23	32	29	25	29	33	36	-	349.2
23	26	24	29	22	23	32	29	25	28	34	36	-	282.5
24	40	30	31	27	28	32	29	29	30	34	37	T	279.2
25	38	32	32	28	31	32	30	31	31	34	37	.01	121.0
26	39	32	31	30	31	32	29	31	31	33	36	-	274.2
27	33	32	31	29	31	31	29	31	31	33	36	.88	89.5
28	36	32	32	30	32	32	29	31	31	34	37	.33	61.7
29	28			29			29					T	191.1
30													
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

MARCH 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	20	31	31	28	31	31	29	31	31	33	44	.14	86.6
2	24	32	32	28	31	32	29	32	31	34	44	.48	70.1
3	24	32	31	26	32	31	29	32	32	34	45	-	232.4
4	12	31	31	27	32	31	29	31	31	33	46	-	438.2
5	11	31	31	28	31	31	29	32	32	33	46	-	424.7
6	22	31	31	28	31	32	29	31	31	34	46	.03	235.4
7	30	31	31	28	31	32	29	31	31	34	46	.06	129.8
8	27	30	32	27	31	32	29	31	31	33	46	-	252.3
9	24	31	32	26	31	32	29	31	31	33	46	-	375.0
10	16	30	31	25	31	32	25	31	31	34	47	-	332.0
11	8	28	31	26	30	32	29	31	31	33	46	-	405.4
12	14	26	30	27	28	32	29	29	31	33	46	-	411.3
13	24	26	30	30	27	32	30	29	30	33	46	-	420.8
14	34	28	31	30	29	32	30	30	30	33	45	-	400.7
15	45	31	32	29	31	32	29	31	3[illegible]	34	46	.03	110.7
16	44	32	32	29	31	32	29	31	32	34	46	.07	59.6
17	36	32	31	29	31	32	29	31	31	33	47	T	107.6
18	38	34	32	33	32	32	32	32	32	34	47	-	324.3
19	52	37	32	30	32	32	29	32	32	34	47	2.48	72.6
20	48	34	32	37	32	32	31	32	32	34	46	-	391.7
21	58	37	34	37	34	35	31	32	32	34	47	.11	84.5
22	46	40	37	35	36	38	32	33	32	33	46	-	248.1
23	45	37	36	32	33	36	32	32	32	33	47	-	420.9
24	46	44	40	33	35	38	34	33	32	33	48	-	436.5
25	44	33	36	33	34	38	35	34	32	33	48	-	428.4
26	50	37	39	38	36	39	37	35	32	33	48	.04	123.0
27	38	38	41	39	41	42	39	40	35	35	49	.27	97.5
28	28	36	38	32	37	39	35	37	34	35	48	-	486.1
29	40	32	35	32	32	36	34	33	33	34	49	.04	216.8
30	36	44	41	31	35	38	34	33	33	34	49	-	457.5
31	46	37	38	37	36	38	36	35	34	34	50	.34	69.2

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Water shed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

APRIL 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	39	40	41	40	40	41	39	38	36	34	36	-	66.0
2	38	33	37	34	33	38	36	36	36	34	36	-	287.3
3	36	40	38	34	43	38	36	35	36	35	36	-	425.7
4	48	42	41	34	44	40	36	37	37	35	36	-	432.4
5	56	44	44	44	45	42	41	40	38	35	36	.38	210.8
6	50	51	47	42	53	45	42	42	40	36	36	-	441.8
7	58	46	46	45	46	45	43	45	42	37	37	T	250.1
8	46	49	49	47	49	47	47	47	44	38	37	-	359.2
9	34	36	39	40	35	43	42	42	43	38	38	T	312.0
10	42	35	37	36	35	40	39	39	41	39	38	.02	414.3
11	54	38	40	45	38	42	44	41	42	39	38	.74	129.0
12	43	41	43	42	41	44	43	43	43	39	38	-	218.9
13	42	42	41	40	42	42	42	42	42	40	39	-	118.7
14	39	40	40	41	40	42	42	41	42	40	39	.03	40.9
15	50	41	41	39	41	40	40	40	41	40	40	-	471.7
16	48	47	46	49	47	45	46	44	42	40	39	-	466.3
17	39	36	39	39	36	42	42	43	43	40	40	-	593.5
18	45	42	42	42	40	43	42	43	43	40	40	.06	100.9
19	66	48	46	49	44	44	45	43	42	41	40	-	372.4
20	60	55	53	53	51	50	50	49	45	41	40	-	433.5
21	49	46	47	46	48	49	46	49	48	42	40	-	593.1
22	50	45	46	45	46	47	47	47	47	42	41	-	488.9
23	55	54	50	48	49	48	49	48	47	43	41	.47	194.1
24	64	57	55	53	52	53	50	52	49	45	42	-	201.7
25	70	57	55	55	54	54	51	53	50	45	42	-	602.9
26	70	58	56	56	56	55	53	55	52	44	42	.15	426.6
27	66	59	57	55	57	56	54	56	53	45	42	.45	265.0
28	50	53	53	50	55	54	52	55	54	47	43	.02	335.3
29	50	52	51	50	53	52	51	53	53	47	44	.01	451.0
30	52	48	50	48	51	51	50	52	52	48	44	-	586.8
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Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

MAY 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	53	50	51	49	51	51	50	51	52	48	44	-	457.8
2	52	50	50	48	51	51	50	51	52	48	44	.16	231.9
3	54	49	49	48	51	50	50	51	51	48	45	-	571.0
4	52	51	50	48	51	50	50	52	52	48	46	T	186.0
5	58	50	50	52	51	51	52	52	51	49	46	-	509.5
6	56	54	53	48	54	53	51	54	52	48	46	.46	64.6
7	44	48	49	44	52	51	48	52	52	49	46	.51	115.6
8	44	41	44	47	46	48	49	48	50	49	46	-	559.7
9	48	45	45	45	47	47	48	48	49	49	46	1.32	162.7
10	48	49	46	47	48	46	48	47	48	48	47	1.81	156.9
11	46	49	47	47	48	47	47	48	49	48	46	.21	73.8
12	50	48	47	49	48	47	49	48	48	47	46	.11	205.8
13	54	52	49	50	49	48	50	49	48	47	46	.04	271.4
14	58	62	54	50	54	51	50	52	49	47	45	-	439.0
15	56	52	50	52	52	51	51	52	51	47	46	-	155.1
16	64	53	52	50	52	52	52	53	52	47	46	.80	485.0
17	58	54	54	50	53	53	51	54	53	48	47	-	374.8
18	56	52	53	50	53	53	51	53	53	49	47	-	480.0
19	52	61	55	50	56	52	51	54	53	49	47	-	504.8
20	60	55	53	54	53	52	54	53	53	49	46	.05	514.9
21	54	55	54	50	56	54	52	56	49	49	47	-	575.8
22	52	50	50	51	52	51	52	53	53	49	46	.01	554.5
23	54	51	50	50	53	51	51	53	53	50	47	.07	566.4
24	50	52	50	50	54	52	51	54	54	51	48	-	523.4
25	52	56	52	50	53	51	51	54	54	51	48	-	557.4
26	58	52	51	54	54	52	54	54	54	50	48	-	623.1
27	62	59	55	50	57	53	52	56	55	51	49	-	613.0
28	65	57	54	52	57	54	52	58	56	51	48	-	554.1
29	54	58	56	50	59	56	51	59	58	52	49	-	650.8
30	56	58	54	50	59	55	51	59	58	52	49	-	605.9
31	60	57	52	50	59	53	51	60	58	53	50	-	613.2

Note: Mean air temperature is average daily maximum and minimum temperatures.
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"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JUNE 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	64	65	57	53	60	55	53	60	59	53	50	-	576.2
2	68	61	57	55	61	56	55	61	59	53	50	-	526.6
3	70	67	61	58	64	58	56	63	61	54	50	-	547.7
4	72	65	59	59	65	58	57	65	67	55	56	.13	545.6
5	58	65	61	57	63	59	56	64	63	55	51	-	667.1
6	56	67	58	52	62	58	54	63	63	56	51	-	324.0
7	62	69	56	53	61	56	54	62	62	57	52	.36	283.0
8	56	57	57	54	59	57	55	60	61	57	53	.27	134.1
9	62	56	56	53	58	56	55	59	60	57	53	-	465.5
10	64	61	59	55	59	57	55	59	59	56	53	-	551.7
11	64	67	60	57	62	58	55	62	60	56	53	.26	231.8
12	60	66	60	58	62	59	56	62	61	56	53	.14	113.2
13	62	63	59	54	61	58	55	61	61	56	53	-	542.0
14	62	59	57	54	59	57	55	60	60	56	53	-	376.3
15	59	62	58	55	60	57	56	60	60	57	54	-	482.4
16	57	66	59	53	60	57	50	60	59	56	53	-	649.3
17	60	61	57	56	60	56	56	61	60	56	53	-	559.6
18	64	68	62	54	65	58	55	63	62	57	54	.20	294.0
19	54	60	57	50	61	57	49	62	62	57	54	.09	68.2
20	59	61	58	56	62	58	56	62	62	57	54	-	599.6
21	64	63	60	59	63	59	55	63	62	57	54	.06	179.6
22	72	71	66	64	65	61	61	62	61	57	54	1.22	259.0
23	78	75	71	65	69	66	64	67	64	57	54	.07	427.5
24	72	71	69	62	70	68	64	69	66	58	54	-	344.9
25	71	73	71	61	68	67	61	67	66	59	54	-	567.2
26	71	71	69	64	67	67	63	67	66	59	55	-	465.1
27	73	74	72	64	70	68	63	68	67	60	55	.40	219.1
28	76	78	75	65	73	70	64	70	68	61	56	.74	410.5
29	70	70	71	65	70	69	64	69	68	61	56	.03	189.2
30	64	67	68	62	67	67	63	67	67	61	56	-	526.1
31													

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JULY 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	60	64	64	58	64	65	61	65	66	62	57	-	662.9
2	68	64	63	58	64	64	60	65	65	61	57	.64	308.0
3	79	70	69	62	68	67	64	67	66	61	57	-	567.8
4	78	71	70	67	69	68	64	69	67	61	57	-	532.9
5	78	73	72	65	71	70	65	71	69	62	57	-	472.0
6	72	74	73	66	72	71	64	71	69	62	57	-	491.2
7	69	75	70	64	72	69	64	71	69	62	57	-	535.8
8	68	70	67	60	69	67	62	69	69	63	58	-	627.7
9	72	78	72	61	71	67	61	70	69	63	58	-	578.4
10	79	81	74	63	76	68	64	71	69	63	58	.13	383.0
11	80	84	75	65	81	70	64	72	70	64	58	T	499.0
12	78	87	77	67	86	72	65	73	71	64	59	-	458.0
13	66	75	71	64	74	70	65	74	72	65	60	-	444.9
14	66	70	67	62	70	67	63	70	71	65	60	-	432.3
15	65	68	66	59	68	66	63	69	70	65	60	-	555.2
16	77	74	70	63	72	68	66	71	70	65	60	.08	334.5
17	78	69	68	64	70	68	64	71	70	64	60	-	492.6
18	74	72	69	66	70	68	65	71	70	64	60	-	407.7
19	73	75	71	63	71	69	64	71	70	65	61	.11	480.2
20	74	73	69	67	70	67	65	70	70	65	60	-	395.2
21	74	73	70	66	72	69	65	71	70	65	61	.88	219.1
22	74	76	72	67	73	70	66	72	71	66	61	.13	244.4
23	62	69	69	63	70	69	65	71	70	65	61	.05	181.2
24	65	66	65	60	66	66	62	67	68	65	61	-	512.3
25	70	69	68	60	67	67	64	67	68	65	61	-	373.9
26	76	73	71	64	69	68	65	68	68	65	61	.02	523.8
27	74	72	69	64	70	67	64	69	69	65	61	-	444.5
28	70	75	69	62	68	67	63	68	68	64	61	-	499.1
29	73	67	68	62	66	66	63	66	66	64	60	-	478.0
30	74	79	75	69	75	72	66	73	71	66	63	.08	483.6
31	70	69	68	65	70	68	65	70	71	66	62	-	586.4

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

AUGUST 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	68	71	68	62	69	67	64	70	70	67	62	-	497.2
2	66	70	67	60	68	66	64	69	69	68	62	-	437.6
3	68	72	67	60	69	66	62	69	69	66	62	T	237.3
4	64	68	66	60	68	66	62	69	69	66	63	.01	170.0
5	60	67	65	57	66	64	61	66	68	66	63	-	567.6
6	62	75	70	55	70	66	60	69	68	66	63	-	488.0
7	67	67	64	59	67	64	60	68	68	66	63	-	407.7
8	66	68	65	58	67	64	60	68	68	66	63	T	388.3
9	66	69	66	56	66	64	60	67	67	65	62	-	506.5
10	72	69	66	60	67	65	61	67	67	65	62	-	332.7
11	71	70	66	62	69	66	63	69	68	66	62	.84	279.7
12	68	70	68	63	69	67	63	68	68	65	62	-	362.8
13	64	70	66	60	68	66	62	68	69	66	63	-	289.8
14	66	65	65	60	66	65	61	67	68	65	63	-	484.6
15	68	69	69	59	68	67	61	67	68	65	63	-	431.1
16	68	74	73	60	70	70	61	68	67	65	63	T	442.9
17	73	71	70	60	68	67	61	68	68	65	62	-	388.6
18	70	71	70	62	69	68	63	69	68	65	62	-	351.2
19	68	73	71	60	69	68	62	68	68	65	62	-	442.1
20	67	68	68	60	66	67	61	67	67	65	62	-	502.3
21	72	66	66	60	67	67	61	68	69	65	63	-	479.1
22	76	69	71	62	69	69	63	69	69	65	63	-	444.8
23	78	73	76	64	71	71	64	70	69	65	62	-	385.4
24	82	77	77	66	73	72	65	73	71	66	64	-	422.2
25	84	75	75	70	74	73	67	74	72	65	63	-	451.6
26	83	78	78	69	75	74	67	74	73	66	63	-	330.4
27	84	84	85	70	78	78	68	75	73	67	64	-	349.8
28	83	78	79	70	76	75	68	75	73	67	63	-	346.8
29	78	76	75	68	75	74	68	75	74	68	64	-	453.9
30	67	73	71	64	74	73	66	75	75	69	64	T	313.7
31	63	71	72	60	70	69	64	71	72	68	64	-	416.0

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

SEPTEMBER 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	60	68	68	56	67	66	64	68	70	68	64	-	290.1
2	71	70	70	61	69	68	62	69	69	68	64	-	279.9
3	70	72	72	62	70	68	63	69	69	67	64	-	379.9
4	74	69	69	61	69	68	63	70	70	67	64	-	433.0
5	74	72	72	62	71	69	63	71	70	67	64	-	330.5
6	76	76	75	66	73	71	65	72	71	67	64	.05	210.2
7	74	74	73	66	71	70	65	71	70	67	64	-	195.3
8	66	70	69	64	70	69	64	70	70	67	64	.93	222.6
9	62	61	66	60	62	66	62	69	69	67	64	-	427.5
10	60	64	64	57	65	65	61	67	68	67	64	.08	362.1
11	66	61	60	58	63	62	60	65	67	67	64	-	323.3
12	74	64	64	62	65	64	62	66	67	66	64	-	399.4
13	70	67	68	64	67	67	64	67	67	66	63	-	367.3
14	60	63	65	57	64	64	62	65	66	65	63	-	390.7
15	58	63	63	58	63	64	61	65	66	67	64	.23	72.5
16	70	63	62	58	63	62	60	64	66	67	65	-	323.9
17	73	62	62	61	64	64	62	65	65	65	63	-	267.7
18	74	66	64	65	66	65	64	66	65	65	63	T	199.5
19	78	68	66	65	67	67	65	68	66	64	63	-	294.1
20	65	72	69	66	69	69	67	69	67	64	63	.05	92.0
21	58	65	64	58	66	64	63	66	67	65	63	-	178.3
22	55	62	62	54	62	61	60	63	65	65	63	-	327.4
23	54	57	58	54	59	59	53	61	63	64	62	T	170.0
24	54	58	58	55	59	59	58	59	62	63	62	-	115.0
25	56	57	58	52	57	57	57	58	61	63	62	-	298.8
26	58	61	60	52	58	57	57	58	61	62	62	-	381.8
27	58	65	62	51	59	57	56	59	61	62	62	-	349.8
28	60	64	61	52	60	58	56	60	61	62	62	-	283.5
29	62	60	58	55	60	58	57	61	62	62	62	.15	170.4
30	62	62	60	59	62	60	59	62	62	62	61	.14	114.8
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Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

OCTOBER 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	66	65	64	55	62	61	59	62	62	61	61	.01	229.8
2	48	58	58	49	61	61	55	63	63	62	61	-	74.1
3	48	54	55	47	54	57	54	56	59	62	61	-	355.1
4	49	57	51	47	54	53	54	55	58	61	61	-	271.4
5	52	55	54	48	54	53	54	55	58	61	61	-	241.5
6	49	53	51	49	53	53	54	55	57	60	61	-	148.2
7	50	55	54	52	55	54	54	56	57	60	61	.26	46.2
8	48	53	53	49	53	52	56	54	56	60	61	.05	146.8
9	50	52	52	49	51	51	53	52	54	59	60	-	249.6
10	48	51	50	48	51	50	52	52	54	59	60	-	309.0
11	46	49	48	54	50	49	52	51	54	59	60	.10	51.7
12	48	51	52	48	50	50	52	50	52	59	60	.01	163.0
13	45	49	49	49	50	50	54	51	53	57	59	.01	38.9
14	46	50	49	46	49	49	51	51	53	58	60	-	192.3
15	48	50	49		49	49		50	52	57	59	-	273.8
16	55	50	49		50	51		51	52	56	58	-	56.2
17	38	47	46		48	49		50	52	56	58	T	79.7
18	34	44	43		46	46		48	52	57	58	-	238.8
19	39	46	46		46	46		47	50	55	57	.04	129.9
20	40	45	42	44	45	45	49	46	49	55	57	-	267.6
21	44	47	45	44	45	45	49	47	48	54	57	-	171.6
22	44	45	43	43	45	45	49	46	49	54	57	-	134.9
23	51	48	47	49	48	48	50	48	49	54	56	.03	111.1
24	48	50	48	49	48	48	50	48	50	54	56	-	63.7
25	44	53	50	43	49	48	49	49	51	54	56	-	205.9
26	52	53	50	46	49	47	50	49	50	54	56	-	222.9
27	54	49	46	46	49	47	50	50	52	54	56	-	203.7
28	52	53	51	46	50	48	50	49	51	53	55	-	184.7
29	52	50	47	46	48	47	51	49	51	53	55	-	201.9
30	54	48	47	47	49	48	51	50	51	53	55	-	171.5
31	54	52	51	56	51	50	52	51	51	53	55	.08	13.5

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

NOVEMBER 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	52	55	55	50	54	53	52	53	52	53	54	-	113.3
2	52	53	52	50	52	51	52	52	53	52	54	-	87.5
3	52	52	51	50	52	51	52	52	53	54	55	.23	5.5
4	58	52	51	50	50	48	56	49	47	48	49	.18	96.7
5	61	54	54	53	53	54	54	53	53	53	54	.50	31.4
6	54	50	51	52	52	52	54	53	53	53	54	.01	4.6
7	46	47	47	47	48	48	52	59	52	53	54	-	218.3
8	42	44	43	44	44	45	50	46	51	53	54	-	152.4
9	50	44	47	46	43	46	50	44	45	50	51	.17	47.6
10	40	44	45	45	45	46	50	46	48	52	54	.22	108.7
11	40	41	43	43	41	43	49	43	46	51	53	-	149.5
12	40	41	41	43	41	42	48	42	45	52	54	.05	22.4
13	36	42	42	44	43	43	49	43	45	51	53	-	75.7
14	36	44	43	40	43	43	46	42	44	50	53	.02	73.9
15	42	47	44	43	42	43	47	41	43	49	52	.03	139.1
16	48	45	45	40	43	43	45	42	44	50	53	.26	114.7
17	42	40	42	44	42	43	48	41	44	49	52	-	180.2
18	46	44	43	42	42	42	46	41	44	49	51	-	158.8
19	47	44	44	46	43	44	48	43	44	48	52	.70	1.7
20	41	40	41	44	42	43	48	43	45	48	51	.01	26.7
21	40	40	41	43	42	43	47	42	44	48	51	.03	35.9
22	36	40	41	43	41	42	46	41	43	48	51	.01	18.7
23	34	38	39	40	39	41	45	40	42	48	51	-	8.1
24	32	38	39	40	39	40	45	39	41	48	51	-	56.6
25	39	35	36	40	37	38	44	38	46	47	50	-	49.7
26	46	49	44	44	41	42	45	40	41	47	50	.08	93.9
27	35	38	39	42	40	41	45	41	42	47	50	-	46.5
28	34	38	38	40	39	40	44	40	41	47	50	-	37.3
29	32	37	36	38	37	38	43	38	40	46	49	-	115.2
30	34	34	34	36	36	37	41	37	39	45	49	-	32.5
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Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

DECEMBER 1948

DATE	TEMPERATURES (°F.) Mean Air	Soil Depth in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	30	34	34	37	35	37	41	37	39	46	49	-	116.5
2	36	32	33	34	34	35	40	36	38	45	49	-	132.4
3	41	37	35	36	35	35	40	35	37	45	48	-	125.6
4	46	40	38	38	37	37	40	37	38	41	48	-	130.8
5	44	38	37	42	37	37	42	37	39	42	48	.17	7.6
6	36	35	36	39	37	38	42	38	40	44	47	-	66.2
7	33	37	36	36	36	36	40	37	39	44	48	-	117.9
8	27	33	33	35	34	35	40	35	38	43	47	-	55.9
9	28	32	33	32	34	35	37	35	37	43	47	-	90.4
10	22	31	32	30	33	34	36	34	36	43	46	T	22.6
11	29	31	31	33	32	33	37	33	35	42	46	-	110.4
12	38	31	31	32	32	33	37	33	35	42	46	.10	20.4
13	32	31	32	32	32	33	37	33	35	42	46	T	16.2
14	28	32	33	32	33	33	36	34	35	42	46	.21	68.7
15	32	32	32	34	33	33	37	33	35	42	46	.68	0.5
16	36	32	33	32	33	33	37	33	35	41	45	.09	118.3
17	24	32	32	30	33	33	35	33	34	40	45	T	33.2
18	22	30	32	30	32	33	34	33	34	40	44	-	82.2
19	26	31	32	29	32	33	35	33	34	40	44	.05	102.2
20	29	32	32	32	33	33	35	33	34	41	45	.05	61.2
21	36	32	32	34	32	33	36	33	34	40	44	.06	90.9
22	28	31	31	30	32	33	34	33	34	39	44	-	63.0
23	22	32	32	30	32	33	33	33	34	40	44	-	121.5
24	22	31	31	29	32	33	32	33	34	39	43	-	91.8
25	13	30	30	26	33	33	32	33	35	40	45	T	164.4
26	12	29	30	27	32	32	32	33	34	39	45	-	159.8
27	25	28	29	27	30	31	32	32	33	39	44	T	20.0
28	32	30	30	27	30	31	31	31	33	39	43	.28	56.9
29	30	32	31	28	32	31	31	32	33	38	43	.58	3.2
30	17	32	32	28	32	32	31	32	33	39	43	-	139.1
31	18	32	32	29	32	32	31	32	33	38	43	-	184.1

Note: Mean air temperature is average daily maximum and minimum temperatures.
All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

JANUARY 1949

Date	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	24	31	32	29	31	32	33	32	33	38	43	-	110
2	24	31	32	29	31	32	33	32	33	38	43	-	154
3	20	30	31	29	32	32	33	32	33	38	42	-	172
4	32	31	31	28	31	31	33	32	33	38	42	.11	22
5	33	31	31	31	31	31	33	32	33	37	42	.10	58
6	30	29	31	32	31	32	34	32	33	38	42	-	143
7	40	31	32	29	32	32	32	32	33	38	42	-	26
8	40	31	31	31	31	32	32	32	33	37	41	-	140
9	41	31	31	33	31	32	34	32	33	37	41	-	118
10	29	31	32	33	31	32	34	32	33	37	41	-	28
11	25	32	32	31	32	32	34	32	33	37	41	-	41
12	28	31	32	30	31	32	33	31	33	37	41	-	18
13	30	31	31	30	31	32	33	32	33	37	41	-	175
14	30	31	31	30	32	32	33	32	33	37	41	.25	23
15	42	31	31	29	32	32	33	32	33	37	41	-	5
16	42	31	31	40	32	32	37	32	33	37	41	-	44
17	28	31	31	33	31	32	36	32	33	36	40	-	7
18	32	32	32	31	32	32	35	32	33	37	41	1.53	T
19	32	31	31	31	32	32	34	32	33	36	40	.10	44
20	16	31	32	29	32	32	33	32	33	37	40	-	118
21	30	31	31	29	32	32	32	32	33	37	40	-	43
22	24	30	31	29	32	32	32	32	33	37	40	-	179
23	26	31	31	28	32	32	32	32	33	37	40	.16	38
24	35	31	31	28	32	32	32	32	33	37	40	-	14
25	30	31	31	29	31	31	32	32	32	37	40	-	7
26	26	32	31	30	32	32	32	32	33	37	40	.30	46
27	26	31	31	30	32	32	32	32	33	36	40	.41	50
28	31	32	30	31	32	33	32	33	36	36	40	.24	41
29	12	31	31	30	31	32	33	32	33	36	40	-	156
30	6	31	31	29	31	32	32	32	33	36	40	-	234
31	12	31	31	28	32	32	31	32	33	36	40	.03	135

Note: Mean air temperature is average daily minimum and maximum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

FEBRUARY 1949

Date	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	18	31	31	28	32	32	31	32	33	36	39	.01	225
2	14	30	31	28	31	31	31	31	32	36	39	-	63
3	20	30	31	29	32	32	31	32	33	37	40	.15	203
4	25	31	31	29	31	32	31	32	32	36	39	-	189
5	20	31	32	29	32	32	31	32	33	36	40	-	198
6	22	31	32	29	32	32	31	32	33	36	40	.10	132
7	22	31	31	28	31	32	31	32	32	36	39	-	251
8	32	31	31	29	32	32	31	32	33	36	39	9	190
9	26	31	31	29	31	32	31	32	33	36	39	-	263
10	22	30	31	29	31	32	31	32	33	36	39	.03	91
11	19	27	29	29	29	31	31	31	32	36	39	-	274
12	36	29	30	29	30	31	31	31	32	36	39	.82	163
13	36	29	30	29	30	31	31	31	32	36	39	-	46
14	30	31	31	29	31	31	31	32	32	35	38	.80	26
15	32	32	32	29	32	32	31	32	32	35	38	-	60
16	28	30	31	29	30	31	31	31	31	35	38	T	117
17	24	28	30	29	30	31	31	31	32	36	37	-	272
18	44	31	32	30	31	32	31	32	33	36	39	-	302
19	35	31	31	30	31	31	31	31	32	35	38	-	208
20	27	31	31	30	31	31	31	31	32	35	38	-	92
21	26	32	31	29	32	32	31	32	33	36	39	.23	69
22	32	32	32	29	32	32	31	32	33	36	39	-	33
23	32	32	32	29	32	32	31	32	33	36	39	-	96
24	39	32	32	30	32	32	31	32	32	35	38	.15	62
25	29	32	32	30	32	32	33	32	33	36	38	-	98
26	24	32	31	30	32	32	32	32	32	35	38	-	295
27	32	32	31	30	32	32	32	32	32	35	38	.09	137
28	19	31	31	30	31	32	31	31	32	35	38	T	259

Note: Mean air temperature is average daily minimum and maximum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

MARCH 1949

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (IN.)	Total Insol. (Lang.)
1	19	31	31	29	32	31	31	32	32	35	38	-	329
2	26	32	31	30	32	32	30	32	33	36	38	-	69
3	28	31	31	30	32	32	31	32	33	35	38	.03	223
4	39	32	32	30	32	32	31	32	33	36	38	-	118
5	41	32	32	30	32	32	32	32	33	36	38	.04	166
6	26	32	32	30	32	32	32	32	33	36	38	-	241
7	26	31	31	29	31	32	31	32	32	35	38	-	396
8	38	32	32	30	32	32	31	32	32	35	38	-	113
9	30	32	32	32	32	32	32	32	32	35	38	.07	55
10	26	32	32	30	32	32	32	32	32	35	38	-	204
11	26	31	32	30	31	32	32	32	33	35	37	-	279
12	26	30	29	29	31	31	32	31	32	35	37	-	315
13	30	31	30	29	31	31	31	31	32	35	37	-	404
14	25	32	31	29	32	31	31	32	33	35	38	-	270
15	20	30	30	29	31	32	30	32	33	35	38	-	233
16	22	29	30	29	31	31	30	32	32	35	38	.02	215
17	22	30	29	28	31	30	30	31	32	35	37	-	436
18	24	30	30	29	31	31	30	32	32	35	37	T	229
19	22	29	30	29	30	31	30	32	33	35	38	-	272
20	32	30	30	28	30	31	30	32	33	35	38	-	282
21	52	31	31	30	31	31	30	32	32	35	37	-	298
22	46	33	32	37	32	32	33	32	32	35	37	-	119
23	32	32	32	34	32	32	35	32	32	35	37	.43	111
24	40	32	31	32	32	31	33	32	32	35	37	-	289
25	52	36	33	37	31	32	37	31	32	35	37	.03	439
26	44	35	33	40	32	30	38	31	32	34	37	.22	61
27	53	35	33	44	33	31	40	33	33	34	37	.11	190
28	48	36	34	39	35	32	39	35	34	35	37	-	488
29	56	39	34	40	38	33	40	38	36	35	37	-	418
30	45	41	37	41	41	36	41	41	39	35	37	.12	259
31	34	38	36	39	40	36	40	40	40	36	37	1.58	41

Note; Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

April 1949

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	36	44	39	35	40	36	38	38	38	38	38	-	353
2	38	35	33	33	38	35	37	39	39	38	38	-	488
3	38	36	33	34	38	35	38	39	39	38	38	-	522
4	41	36	34	34	38	36	37	40	40	38	38	-	513
5	44	40	37	36	40	38	39	40	40	38	38	-	220
6	45	40	39	40	41	39	40	42	41	39	39	-	300
7	44	41	39	40	42	39	40	42	41	39	39	.01	220
8	42	39	38	38	41	39	39	42	42	40	40	-	409
9	38	37	36	35	40	38	39	41	42	40	40	-	561
10	43	39	38	35	41	39	37	42	42	40	40	-	515
11	50	41	40	37	42	40	39	43	43	40	40	-	514
12	56	40	42	40	44	41	41	45	44	40	40	-	494
13	59	48	46	44	47	45	43	47	46	41	41	-	465
14	5-	47	46-	43	49	41	45	49	47	42	41	.45	430
15	35	46	45	43	47	45	44	48	47	43	41	.46	102
16	36	33	34	38	35	36	40	37	39	38	36	-	558
17	36	35	36	35	37	38	39	38	40	40	39	.28	217
18	34	38	39	35	39	40	39	40	42	43	42	.15	42
19	44	37	39	35	38	40	38	39	40	42	42	-	561
20	49	38	39	38	40	41	40	41	42	42	42	-	534
21	57	47	44	43	43	43	43	44	43	42	42	-	528
22	57	53	49	48	50	48	47	49	46	43	42	.27	443
23	48	49	48	45	48	47	47	48	47	42	42	.10	422
24	40	44	45	42	45	45	45	46	46	43	42	-	286
25	48	39	41	40	42	43	42	44	45	44	43	-	423
26	62	52	48	46	48	47	47	48	46	44	42	.03	188
27	56	45	48	44	49	48	46	49	48	44	43	-	561
28	46	51	50	44	51	49	47	50	49	44	43	-	589
29	54	57	52	45	53	50	46	52	50	45	43	-	573
30	61	63	54	48	55	51	49	54	51	45	43	-	435

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

May 1949

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)												
		Soil Depths in Inches						Stations A, B, & W					
1	66	68	56	50	57	53	50	56	53	46	44	.15	223
2	61	70	58	50	59	55	51	57	54	47	44	-	575
3	67	65	55	49	55	52	51	54	54	47	44	-	574
4	77	84	64	54	66	57	53	61	56	49	45	-	460
5	78	66	60	57	65	58	55	63	59	49	46	-	444
6	72	66	61	58	67	60	57	66	62	51	46	-	515
7	56	61	57	54	63	58	55	64	62	51	46	-	440
8	57	60	56	50	63	57	53	64	62	53	48	-	463
9	52	60	55	50	62	55	53	63	62	55	50	-	126
10	44	50	49	47	55	52	51	58	59	54	49	-	608
11	46	48	47	45	53	50	50	56	58	54	50	-	512
12	60	55	51	49	57	52	51	58	57	53	49	-	448
13	65	56	53	50	59	53	52	60	59	53	50	T	508
14	62	61	67	53	62	66	54	60	60	54	50	-	471
15	56	61	61	50	62	61	52	60	60	54	50	.03	243
16	65	61	56	50	61	56	52	61	60	55	50	-	405
17	74	67	59	52	64	57	54	64	61	55	51	-	356
18	75	66	61	57	66	59	55	65	63	55	51	.66	368
19	58	67	63	60	66	60	56	65	64	56	51	1.65	92
20	51	53	54	50	58	57	53	61	63	58	53	-	583
21	53	55	53	50	56	54	52	58	59	56	52	.02	362
22	62	57	59	53	57	60	54	59	59	56	52	.15	107
23	62	57	66	51	59	67	54	60	59	56	53	-	477
24	50	57	57	52	60	58	54	60	60	55	53	-	416
25	46	48	52	50	55	55	55	57	59	56	53	.01	223
26	46	47	51	48	52	53	51	55	56	56	53	-	500
27	50	49	51	49	53	53	51	54	56	55	52	-	263
28	48	47	50	48	52	52	51	54	55	55	53	-	604
29	54	55	53	50	54	53	52	55	56	55	53	-	597
30	63	62	56	51	57	54	52	57	57	54	52	-	464
31	70	61	57	51	60	56	52	60	58	54	52	-	560

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JUNE 1949

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)												
		Soil Depths in Inches						Stations A, B, & W					
1	70	60	57	48	62	58	51	62	60	55	52	-	526
2	72	63	59	50	64	59	51	63	61	55	52	-	487
3	78	67	62	52	66	61	53	65	63	56	52	.03	337
4	72	66	63	53	66	62	54	66	64	57	53	-	584
5	65	64	62	56	66	62	56	66	64	57	53	-	616
6	66	63	60	59	65	61	57	66	65	58	54	-	501
7	55	60	58	59	63	59	57	64	64	58	54	-	633
8	52	62	56	56	61	57	57	63	64	59	54	-	599
9	58	62	56	54	61	56	56	62	63	59	55	-	547
10	66	60	56	52	63	57	55	64	63	59	55	-	500
11	75	68	62	50	65	60	54	65	64	50	55	-	518
12	78	71	65	50	67	62	54	67	65	59	55	-	474
13	76	74	69	52	70	65	54	70	66	58	55	.38	346
14	76	72	70	57	69	67	56	69	67	69	55	.82	280
15	66	68	68	60	69	68	58	69	67	60	55	1.11	28
16	64	70	69	59	71	69	58	71	71	66	61	.84	89
17	71	68	66	62	67	65	60	67	66	61	57	.03	217
18	74	70	69	62	68	66	62	67	66	61	57	-	421
19	77	71	70	60	69	68	60	68	67	61	57	-	463
20	78	72	71	62	71	70	60	70	68	60	57	-	479
21	74	74	73	64	72	72	62	72	70	62	57	.10	270
22	70	65	67	64	71	70	62	71	70	63	58	-	570
23	72	66	68	65	69	69	63	70	69	62	58	-	498
24	79	71	70	65	70	70	64	71	69	63	58	-	498
25	75	72	72	62	72	72	63	72	70	63	59	.46	239
26	78	74	73	62	72	72	62	72	70	63	59	-	439
27	78	75	74	65	73	73	64	73	71	64	59	-	421
28	80	75	74	67	74	73	65	74	72	64	59	-	485
29	77	76	74	68	74	74	65	74	72	64	59	1.90	294
30	79	73	73	68	72	72	66	73	72	65	59	-	546

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JULY 1949

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
		Soil Depths in Inches						Station A, B, & W					
1	82	73	74	70	75	74	67	75	73	65	60	-	502
2	82	75	76	70	76	75	68	76	75	66	61	-	498
3	84	74	76	69	76	75	69	76	75	66	61	-	494
4	82	74	75	70	76	75	69	76	74	65	60	-	464
5	82	78	76	70	77	76	69	77	75	67	66	-	451
6	75	76	77	70	77	76	70	77	75	67	61	.15	236
7	72	75	71	64	74	73	68	74	73	66	60	-	164
8	74	74	71	66	73	72	66	74	74	68	62	-	381
9	78	73	74	70	74	73	69	74	73	68	62	.99	227
10	68	72	72	64	73	72	68	74	73	68	62	-	628
11	66	71	70	62	72	70	65	73	73	67	63	-	542
12	70	69	68	62	70	70	65	72	72	68	63	-	240
13	72	68	69	62	70	70	65	71	71	67	63	-	524
14	63	70	68	60	70	69	65	70	71	67	63	.78	162
15	64	64	65	60	77	67	63	69	69	67	63	-	585
16	71	65	66	62	68	68	63	70	70	66	63	-	541
17	74	67	68	63	70	69	63	71	70	66	63	-	494
18	76	69	70	66	71	70	65	72	71	66	63	.01	427
19	74	73	72	68	73	72	66	73	72	66	63	-	533
20	71	69	68	65	71	70	65	72	72	67	63	-	346
21	75	74	70	67	72	70	67	73	72	67	63	.04	192
22	71	75	73	68	74	72	67	74	73	67	63	-	546
23	66	68	68	63	72	70	65	74	74	68	63	-	556
24	76	71	70	67	74	72	65	75	74	68	63	.49	355
25	82	75	73	71	76	74	68	76	74	68	63	-	437
26	81	76	75	73	81	79	69	78	75	68	64	-	432
27	82	78	75	70	77	75	70	77	76	69	64	-	464
28	80	76	75	70	78	76	70	78	76	69	64	.10	417
29	76	76	75	70	77	77	70	77	76	70	64	.27	257
30	65	69	72	65	75	75	69	75	75	79	64	-	282
31	64	73	70	60	72	73	65	73	74	74	64	-	517

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

AUGUST 1949

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
		Soil Depths in Inches						Station A, B, & W					
1	64	76	67	62	69	70	64	71	73	69	65	.32	335
2	70	70	69	63	70	70	64	71	72	69	65	-	428
3	65	68	69	63	79	71	65	72	72	69	65	-	467
4	66	67	69	62	70	71	64	72	72	69	65	-	369
5	67	66	67	63	69	70	64	71	72	68	65	-	475
6	68	67	66	64	70	69	64	72	72	68	65	.03	293
7	75	70	69	67	71	71	65	72	72	68	65	.57	401
8	78	74	72	69	73	73	67	73	72	68	65	-	492
9	78	75	74	70	74	74	68	74	73	68	64	-	479
10	75	73	73	70	76	75	69	76	76	69	65	-	433
11	68	74	74	71	77	74	71	77	75	69	65	.62	206
12	69	73	74	70	74	74	70	74	74	69	65	.53	157
13	71	75	68	64	71	71	67	73	73	69	65	-	451
14	71	70	68	68	71	72	67	73	73	69	65	-	455
15	72	66	69	65	71	73	67	73	73	69	65	-	429
16	72	69	70	66	70	71	67	71	71	68	64	-	437
17	72	70	71	67	72	72	67	73	73	69	65	-	187
18	68	70	70	67	71	71	67	71	72	69	65	-	408
19	58	64	67	60	70	70	65	71	73	69	66	-	451
20	58	59	61	56	66	66	62	69	71	68	65	-	454
21	60	59	61	57	66	66	62	69	70	68	65	-	488
22	63	59	62	57	66	66	61	68	69	68	65	-	464
23	66	63	63	58	67	65	61	68	69	67	65	-	433
24	68	66	66	63	69	68	63	69	69	68	66	-	277
25	71	67	66	63	69	67	64	70	70	67	65	-	397
26	76	72	70	68	72	70	67	72	71	68	65	-	350
27	76	72	70	69	73	70	67	73	73	67	65	-	199
28	66	69	68	68	71	69	67	72	72	67	65	.36	54
29	65	66	66	62	68	67	64	70	70	68	65	-	277
30	61	57	64	58	61	66	63	63	65	63	60	.19	115
31	60	61	63	58	65	65	63	66	68	67	65	.18	276

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

SEPTEMBER 1949

Date	Mean Air	TEMPERATURES (°F.) Soil Depths in Inches, Station A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	53	54	60	60	62	63	63	65	67	67	65	.09	384
2	59	53	57	52	59	60	61	61	65	67	65	-	457
3	65	56	60	53	61	62	59	63	64	66	64	-	397
4	71	60	63	58	64	64	60	65	65	66	64	-	337
5	60	67	67	63	68	67	62	67	66	65	64	.33	209
6	56	59	61	67	63	63	65	65	66	65	64	.15	269
7	54	59	60	55	63	63	61	64	65	65	64	.20	10
8	54	55	58	55	60	61	60	62	64	65	64	-	371
9	54	51	55	52	58	59	53	61	63	64	63	-	444
10	57	55	57	51	59	59	57	61	63	64	63	-	405
11	59	58	58	54	60	60	57	61	63	64	63	-	131
12	66	60	60	58	62	61	59	62	63	63	63	.07	150
13	61	62	51	60	63	62	60	63	63	63	63	.54	89
14	49	52	57	61	58	59	61	60	62	63	62	-	205
15	54	52	56	50	56	58	57	58	60	63	62	-	386
16	58	53	56	52	58	58	56	59	61	62	62	-	361
17	61	55	57	54	58	59	57	59	61	62	62	-	348
18	62	60	58	55	59	59	57	60	61	62	62	.92	115
19	55	66	59	61	60	60	60	61	62	61	61	.05	201
20	55	54	56	55	57	58	59	59	61	62	61	-	290
21	55	55	56	56	57	58	57	58	60	61	61	-	143
22	52	53	55	54	57	58	57	58	60	61	61	.01	149
23	49	49	53	50	54	57	56	56	58	61	61	.07	247
24	47	47	52	48	53	54	54	55	57	60	61	-	276
25	55	49	52	50	54	54	54	55	57	60	61	-	334
26	57	51	53	51	55	55	55	56	57	60	60	-	349
27	61	57	56	56	57	56	56	58	58	59	60	.01	242
28	47	54	55	51	58	57	56	59	59	59	60	-	198
29	42	47	50	45	53	54	54	56	58	59	60	-	357
30	50	47	52	48	53	55	53	54	58	59	60	-	364

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

OCTOBER 1949

Date	Mean Air	TEMPERATURES (°F.) Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	53	56	52	47	53	53	54	57	58	59	60	-	352
2	60	58	52	52	56	55	55	58	58	59	60	-	335
3	62	60	59	60	60	58	57	59	58	58	59	.19	57
4	59	62	60	60	60	59	58	60	59	58	59	.21	95
5	54	63	56	51	59	58	57	60	60	58	59	-	311
6	58	55	55	55	56	56	56	58	59	59	58	.78	42
7	64	58	58	59	59	58	57	59	59	59	59	-	279
8	69	60	59	60	61	60	60	61	60	59	59	-	310
9	72	62	61	63	63	61	62	63	61	59	59	-	261
10	70	64	63	64	65	63	62	65	63	59	58	.02	320
11	59	62	62	60	65	63	62	65	64	60	59	.93	60
12	49	54	58	54	61	60	61	62	63	60	59	.09	348
13	51	50	52	50	56	56	57	58	61	60	59	-	338
14	52	50	52	51	55	57	57	57	59	60	59	-	248
15	48	48	51	50	54	55	56	56	58	59	59	-	323
16	45	49	51	46	54	54	55	55	57	59	59	-	316
17	53	50	51	49	53	53	54	54	56	59	59	-	224
18	54	50	51	48	54	53	54	55	56	58	59	-	252
19	54	52	51	48	53	53	55	55	56	58	58	-	286
20	62	54	54	52	55	55	56	56	56	58	58	.03	234
21	62	58	58	58	58	57	58	58	57	57	58	.20	51
22	53	48	55	52	57	58	58	58	58	57	57	-	252
23	48	44	50	50	53	55	55	55	56	57	57	-	158
24	37	41	46	44	49	51	53	51	54	57	57	-	253
25	38	38	42	41	45	47	51	48	52	56	57	-	263
26	37	40	45	44	47	48	51	49	51	56	57	-	300
27	41	37	42	40	43	46	50	46	49	55	57	-	280
28	48	40	43	43	44	46	50	46	49	55	57	-	257
29	55	44	46	47	46	48	51	47	48	54	56	-	254
30	49	46	48	47	47	50	50	48	49	54	56	-	176
31	32	48	50	45	49	51	51	50	50	53	56	-	91

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

NOVEMBER 1949

Date	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	36	43	39	37	42	44	48	44	48	53	55	-	265
2	42	40	43	43	43	45	49	44	47	53	55	-	88
3	34	38	41	40	43	45	48	44	47	52	55	-	31
4	32	37	40	40	41	43	47	42	45	52	55	.10	63
5	31	33	36	33	38	40	45	40	44	51	54	-	252
6	45	35	38	40	39	41	45	41	44	51	54	-	153
7	49	37	40	38	41	43	45	42	44	50	53	-	196
8	51	44	44	45	44	45	48	44	45	50	53	-	215
9	50	41	43	42	44	45	48	45	46	49	53	-	209
10	59	46	46	48	46	46	50	46	47	49	53	-	153
11	50	48	48	50	48	49	51	49	48	50	52	-	86
12	50	48	48	49	48	48	50	48	49	49	52	.02	30
13	48	44	46	50	47	48	51	48	49	49	52	.21	27
14	38	40	44	42	46	47	50	47	49	50	52	.03	38
15	34	37	41	40	43	45	48	44	47	50	52	.09	77
16	34	37	39	40	40	42	47	42	45	50	52	-	32
17	34	36	39	40	40	41	46	41	44	50	52	-	68
18	34	35	38	39	39	41	45	40	43	49	52	-	109
19	36	35	37	39	37	39	45	39	42	48	52	-	35
20	32	34	37	39	37	39	45	39	42	48	52	.06	72
21	22	33	37	37	37	39	43	39	41	48	51	-	129
22	24	31	33	32	35	36	41	37	40	47	51	-	150
23	30	32	33	33	34	36	41	36	39	47	51	-	92
24	26	31	33	32	34	35	40	35	38	46	50	.58	21
25	18	32	33	32	34	36	39	35	38	46	50	-	113
26	12	32	33	33	34	36	40	35	37	45	50	.08	89
27	28	32	33	33	34	36	40	35	37	45	50	.02	69
28	28	32	34	33	34	36	40	35	37	44	49	.06	80
29	38	32	34	32	34	36	39	35	37	44	48	.02	117
30	34	33	34	33	34	36	39	35	37	44	48	-	97

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

DECEMBER 1949

Date	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	30	31	33	32	33	34	39	34	36	43	47	.17	99
2	24	33	34	32	34	36	39	35	37	44	48	-	227
3	29	32	33	33	34	35	38	35	37	43	47	.23	159
4	35	31	33	34	34	35	38	35	37	43	47	-	82
5	28	31	33	30	33	35	38	34	36	42	46	-	161
6	24	30	33	31	34	35	35	34	36	42	47	.09	56
7	25	32	33	29	34	34	36	34	36	43	47	.05	174
8	21	31	33	29	34	35	36	35	36	43	47	.02	116
9	20	31	32	29	33	33	36	34	36	42	46	-	161
10	28	31	31	30	33	33	36	34	35	42	46	.24	17
11	47	32	32	35	34	34	37	34	35	42	46	.12	29
12	43	34	34	26	36	35	35	35	36	41	46	-	131
13	24	32	33	24	34	34	34	35	56	41	45	-	139
14	16	30	32	23	34	33	33	34	36	41	46	-	69
15	16	28	32	23	33	33	35	34	35	41	45	-	61
16	26	27	31	25	32	33	32	33	35	41	45	-	139
17	36	29	31	30	32	33	32	33	35	41	45	-	153
18	37	30	31	30	32	33	33	33	35	41	45	.34	19
19	38	32	32	36	32	32	35	33	34	40	44	-	36
20	46	32	32	43	32	32	40	33	34	40	44	1.05	15
21	48	37	37	45	35	35	43	34	34	40	44	.68	10
22	42	43	42	32	40	39	39	38	36	39	43	.67	14
23	22	33	34	31	35	36	36	36	37	39	44	.01	88
24	20	35	35	30	36	37	35	37	38	42	47	-	150
25	34	35	35	35	36	36	36	36	37	41	46	.42	72
26	38	34	35	36	35	36	37	35	36	40	45	-	24
27	36	34	35	30	34	35	37	34	35	39	43	-	22
28	34	32	33	30	33	34	36	34	35	38	42	-	155
29	32	32	33	28	33	34	35	34	35	39	43	-	153
30	28	32	33	30	33	34	35	34	35	39	43	-	122
31	36	32	32	35	33	33	36	34	35	39	42	.20	34

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JANUARY 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	42	47	46	36	42	40	36	40	38	39	42	-	33
2	47	47	46	41	42	40	38	40	38	39	42	-	30
3	54	47	46	47	42	40	45	40	38	39	42	.13	16
4	36	40	41	40	42	42	40	42	41	39	42	.82	16
5	23	32	34	30	36	36	38	38	39	40	42	.27	87
6	23	32	33	28	34	35	36	35	37	40	42	-	26
7	20	31	32	26	33	34	34	34	36	42	42	-	51
8	20	31	32	22	33	34	36	34	34	41	42	-	175
9	38	31	32	27	33	33	34	34	35	40	42	-	122
10	40	31	32	36	32	33	35	33	35	39	42	.14	60
11	20	30	32	25	33	33	38	33	35	39	42	-	192
12	32	29	32	25	32	33	36	33	34	38	41	-	134
13	48	32	32	32	32	33	35	33	34	38	41	.96	16
14	36	31	32	30	32	33	36	33	34	38	42	.03	104
15	33	29	32	25	32	33	31	33	34	38	42	.12	12
16	19	26	32	23	32	33	35	33	34	38	41	-	192
17	27	27	32	22	32	33	34	33	34	38	41	-	59
18	21	27	32	24	32	32	34	33	34	38	41	-	54
19	13	23	30		31	32		32	33	37	40	-	146
20	15	23	29		29	32		32	33	37	40	.13	112
21	27	28	31		31	32		32	34	37	40	-	50
22	34	30	31		31	32		32	34	37	40	-	30
23	29	32	32		32	32		32	33	37	40	-	28
24	42	31	31	28	31	31	31	31	32	36	39	.33	21
25	54	32	32	32	32	32	34	32	33	37	40	.36	50
26	31	32	32	32	32	32	32	32	33	37	40	-	41
27	18	29	31	22	32	32	32	32	33	37	40	-	226
28	30	30	32	23	32	32	30	32	33	36	39	-	136
29	29	28	32	30	32	32	30	32	33	36	39	-	25
30	12	26	31	22	32	32	30	32	33	36	39	-	105
31	22	29	31		32	32		32	33	36	39	.05	200

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

FEBRUARY 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	19	29	30	25	31	32	30	32	33	36	39	-	229
2	23	29	31	24	31	32	38	32	33	36	39	-	100
3	24	25	29	25	30	32	30	32	33	36	39	-	255
4	28	26	29	24	30	32	30	32	33	36	39	-	271
5	32	29	30	24	31	32	30	32	33	36	39	-	107
6	34	32	32	24	32	32	30	32	33	36	39	-	28
7	27	32	32	30	32	32	30	32	33	36	39	-	259
8	29	28	31	26	31	32	30	32	33	36	39	-	108
9	31	32	32	25	32	32	30	32	33	36	39	.32	77
10	33	31	31	29	32	31	30	32	33	36	38	-	122
11	30	32	31	27	32	32	30	32	32	36	38	.03	161
12	26	31	31	27	32	32	30	32	32	36	38	-	109
13	28	29	31	25	31	32	30	32	33	36	38	.80	51
14	33	31	31	25	32	32	30	32	33	36	39	.29	22
15	30	32	32	29	32	32	30	32	33	36	39	.63	93
16	26	31	32	28	32	32	30	32	33	36	39	T	131
17	28	31	32	28	32	32	30	32	33	36	38	-	277
18	33	31	31	27	31	32	30	32	32	35	38	.06	148
19	15	30	31	27	31	32	30	32	32	35	38	-	182
20	7	29	31		32	32		32	33	36	38	-	290
21	20	29	30		31	32		32	33	36	38	.06	58
22	17	29	31		31	31		31	32	35	37	.15	100
23	19	30	31	25	31	31	30	32	33	36	38	-	300
24	13	31	31	27	32	32	30	32	33	36	38	.03	328
25	9	30	31	26	31	31	30	32	32	35	38	-	349
26	13	30	31	25	31	31	30	32	32	35	38	-	373
27	17	29	31	26	31	32	29	32	32	35	38	-	367
28	30	31	31	24	31	31	30	32	32	35	38	.52	91

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

MARCH 1950

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
		Soil Depths in Inches						Stations A, B, & W					
1	17	29	31	28	31	31	31	31	32	35	37	-	261
2	7	27	31	26	31	31	29	32	33	35	38	-	342
3	13	25	31	26	29	32	30	31	32	35	38	-	351
4	26	26	30	26	28	31	30	30	32	35	37	-	234
5	36	26	30	30	29	31	31	30	32	35	37	-	363
6	26	26	31	27	30	32	30	31	32	35	37	-	371
7	38	27	31	27	29	32	30	30	32	35	37	.04	311
8	29	32	32	30	31	32	30	31	32	34	37	-	139
9	17	20	26	23	28	31	30	30	32	34	37	-	300
10	22	22	26	21	26	30	29	28	32	35	37	.02	379
11	31	31	31	27	31	31	30	31	32	35	37	.17	73
12	16	31	31	26	31	31	28	31	32	35	37	-	313
13	22	31	31	26	31	31	28	31	32	35	37	-	369
14	24	28	30	25	30	31	29	31	32	35	37	-	405
15	26	25	29	25	29	31	29	30	31	34	36	-	415
16	24	26	29	25	29	31	29	30	31	34	36	-	196
17	27	28	29	26	29	31	29	30	32	34	37	.08	104
18	20	28	30	24	30	31	29	31	33	35	38	-	469
19	22	29	30	22	30	31	29	31	33	35	38	-	433
20	34	30	31	25	30	31	29	31	32	35	37	-	259
21	36	31	31	30	31	32	29	31	31	34	36	.02	88
22	37	31	31	30	30	31	30	30	30	33	35	.23	28
23	38	32	32	30	32	32	30	32	32	35	37	-	130
24	37	32	32	29	32	32	29	31	32	34	37	.20	115
25	39	32	32	28	32	32	29	32	32	35	37	-	381
26	38	31	32	29	32	32	29	32	32	34	37	.28	33
27	50	39	31	36	31	31	31	31	31	33	36	.40	58
28	35	45	32	32	32	32	32	32	32	34	37	-	56
29	28	32	32	28	32	32	32	32	32	34	36	-	372
30	30	32	32	27	32	32	30	32	32	34	35	-	405
31	39	32	32	28	32	32	30	32	32	35	37	.17	185

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

APRIL 1950

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
		Soil Depths in Inches						Stations A, B, & W					
1	37	35	32	36	32	31	34	32	32	34	36	.39	77
2	37	37	32	28	32	31	33	32	32	34	36	.26	179
3	51	38	33	41	33	32	34	32	32	34	37	.24	301
4	38	37	34	37	35	32	37	32	32	34	36	.73	57
5	29	32	32	30	32	32	35	32	32	34	36	-	147
6	28	31	32	24	32	32	33	32	32	34	36	-	527
7	38	32	32	25	32	32	32	32	32	34	36	-	342
8	32	32	32	26	33	32	36	33	33	34	36	-	418
9	31	32	32	24	33	32	31	33	33	34	36	-	206
10	43	32	32	27	32	32	32	32	32	34	35	.43	173
11	44	37	35	36	38	31	37	37	35	34	36	.10	61
12	27	32	32	32	34	32	35	34	34	34	36	-	213
13	21	31	32	28	33	32	33	33	34	34	36	-	268
14	29	31	32	27	32	32	32	32	33	34	35	-	165
15	38	32	32	27	32	32	32	33	33	35	36	-	584
16	45	38	36	38	35	33	32	35	34	35	36	-	486
17	57	44	40	43	39	35	38	38	35	34	36	.08	406
18	58	46	40	46	43	40	42	42	39	35	36	-	369
19	48	45	45	44	46	44	43	45	42	36	36	.11	243
20	40	38	40	39	42	42	41	42	42	37	37	-	174
21	39	36	38	36	39	39	39	39	40	38	37	-	272
22	45	34	36	34	38	38	38	39	40	38	38	-	467
23	52	38	39	45	41	40	44	41	41	38	38	.07	393
24	43	42	42	40	44	43	42	44	43	38	37	1.31	117
25	47	41	42	42	43	42	42	43	43	39	38	.82	144
26	40	38	41	40	42	42	42	43	43	40	39	-	302
27	36	37	39	36	40	41	41	41	42	40	39	.23	259
28	40	35	37	37	37	38	39	38	40	40	39	-	362
29	44	40	40	40	41	41	41	41	41	40	39	-	245
30	44	40	40	40	41	41	42	41	41	40	39	.01	130

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

MAY 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
1	44	40	41	40	42	42	42	42	41	40	39	-	372
2	44	39	39	39	41	41	41	42	42	40	39	-	606
3	55	43	43	43	43	43	43	44	43	40	39	-	523
4	64	55	51	53	51	49	49	49	46	41	40	-	315
5	66	54	53	52	52	51	49	51	48	41	40	-	299
6	60	49	51	51	53	51	50	53	50	42	41	-	525
7	47	46	48	47	50	49	49	51	50	43	41	-	582
8	45	43	45	43	47	47	47	49	49	44	41	-	570
9	58	46	46	48	48	47	48	48	48	44	42	.15	140
10	52	48	48	50	50	49	49	50	49	45	42	-	519
11	50	46	46	48	48	48	48	49	49	45	43	-	391
12	59	48	47	50	49	48	48	49	49	45	43	-	538
13	61	54	52	53	52	51	51	52	51	45	43	-	497
14	62	54	52	49	53	51	50	53	52	45	43	-	365
15	61	54	53	52	54	52	51	54	52	46	43	-	577
16	54	51	51	55	54	52	50	54	53	46	43	-02	582
17	56	53	52	57	55	52	52	55	53	47	44	-	387
18	52	51	50	49	53	51	50	54	53	47	44	-	487
19	55	49	49	50	52	50	50	53	52	47	44	-	630
20	57	52	51	50	54	51	50	55	53	48	45	-	636
21	63	54	52	53	55	52	51	55	53	48	45	-	615
22	63	56	54	53	56	53	52	55	54	48	45	.43	314
23	65	55	54	54	56	54	56	56	55	49	46	-	517
24	70	59	57	60	58	56	55	57	55	49	46	.09	338
25	75	61	59	60	59	57	56	58	56	50	46	.67	489
26	58	62	61	58	61	59	56	60	58	51	47	-	129
27	57	56	56	51	58	57	55	58	57	52	48	-	530
28	58	56	56	54	58	57	54	58	57	52	48	-	657
29	62	56	57	55	57	57	54	58	57	52	48	-	618
30	67	59	58	55	59	58	55	59	57	52	48	-	455
31	64	62	62	59	61	60	57	60	58	52	48	-	389

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JUNE 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
		TEMPERATURES (°F.)											
1	62	60	59	55	60	59	55	60	58	53	48	1.83	636
2	64	57	56	56	59	58	55	59	58	54	49	.40	111
3	55	59	58	53	60	60	56	59	57	53	50	-	389
4	55	59	59	50	59	59	54	58	57	53	50	-	640
5	67	59	60	55	57	57	56	57	56	52	49	-	567
6	71	59	60	57	59	59	56	58	57	53	50	-	625
7	72	61	65	62	60	62	58	60	58	53	50	-	619
8	75	63	67	61	62	65	59	61	59	53	50	-	616
9	73	66	69	63	64	68	60	63	60	54	50	.35	301
10	64	65	68	60	64	66	60	64	61	54	51	.10	642
11	61	63	67	55	62	64	53	62	61	54	51	.01	610
12	69	60	65	57	60	62	57	60	60	55	51	-	551
13	65	61	63	59	62	65	58	62	60	55	51	.73	129
14	69	61	62	63	61	62	60	61	60	56	52	-	494
15	73	64	67	64	63	65	61	62	60	55	51	.07	426
16	68	67	70	53	65	66	58	63	61	56	52	-	443
17	56	58	60	51	62	64	56	63	62	56	52	-	598
18	54	58	62	52	60	63	55	61	61	56	52	.01	161
19	57	59	65	55	58	61	56	58	59	57	53	-	242
20	63	56	58	57	58	59	57	58	59	57	53	T	490
21	65	58	61	62	59	62	58	59	59	56	53	T	632
22	74	62	65	65	61	65	60	61	59	56	53	-	578
23	80	68	69	65	66	68	64	65	62	56	53	.03	413
24	74	70	70	66	68	68	64	68	65	56	53	.91	450
25	77	71	71	68	71	70	64	70	64	57	53	-	649
26	74	73	72	60	74	72	64	73	63	58	54	-	642
27	62	62	64	60	69	69	60	70	60	59	54	-	462
28	63	59	60	60	66	65	60	67	67	60	55	.26	465
29	63	61	62	58	65	65	59	66	66	60	55	.05	574
30	59	58	59	53	64	63	57	65	65	60	55	.08	331

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JULY 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	59	56	58	60	58	58	57	60	62	59	55	-	548
2	67	67	68	53	62	62	58	62	62	59	55	-	462
3	63	73	79	58	66	66	59	64	63	59	56	-	448
4	70	70	73	61	67	67	60	66	65	59	56	-	578
5	66	68	68	59	67	67	59	67	66	60	56	T	401
6	64	61	62	58	66	66	58	67	66	60	56	-	606
7	67	61	63	58	66	67	58	67	66	60	57	-	647
8	70	64	67	58	66	67	57	67	66	60	56	-	590
9	71	65	67	60	67	68	58	68	67	60	56	-	621
10	73	66	68	60	69	70	59	70	68	61	56	-	558
11	75	67	69	62	70	71	61	71	68	61	57	-	569
12	78	69	71	65	72	73	62	72	69	61	57	-	550
13	64	67	70	62	73	74	62	73	70	62	57	.68	404
14	60	58	58	56	65	64	59	68	68	62	57	-	667
15	68	67	69	59	65	66	59	66	66	62	57	-	641
16	77	68	70	63	68	69	61	68	67	62	57	-	441
17	75	70	71	68	71	72	64	70	68	62	58	1.85	312
18	66	65	65	60	71	71	62	71	69	63	59	-	640
19	65	67	66	62	70	69	62	70	69	62	58	1.07	149
20	60	62	61	60	65	65	61	67	67	67	58	.15	158
21	63	58	57	57	63	62	60	65	66	63	59	-	612
22	69	63	63	61	65	65	60	65	65	62	58	-	512
23	72	65	65	61	66	67	60	66	66	62	58	-	501
24	69	67	68	61	68	70	61	68	67	62	59	.24	466
25	67	63	63	61	67	67	61	68	67	62	58	-	460
26	68	66	66	61	67	67	61	67	67	62	58	-	452
27	72	64	65	63	67	68	61	67	67	62	58	-	563
28	72	66	68	64	67	69	64	68	67	62	58	-	515
29	74	67	69	64	68	69	63	68	67	62	59	-	570
30	76	68	70	65	68	70	63	68	67	62	59	.38	402
31	76	70	72	68	69	71	65	69	68	62	58	.84	312

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

AUGUST 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Leng.)
1	73	69	72	68	70	71	65	70	68	63	59	.12	396
2	64	68	68	65	69	69	65	69	69	64	60	-	308
3	61	62	62	60	66	66	62	67	67	63	60	-	439
4	62	60	60	59	64	64	61	65	66	63	59	-	551
5	65	61	61	58	63	64	60	64	65	63	59	-	592
6	67	61	62	60	63	65	60	64	65	62	59	-	605
7	68	61	63	60	64	66	60	65	65	62	60	-	578
8	72	63	65	61	65	68	61	66	65	63	60	-	462
9	74	66	68	64	66	69	63	66	65	62	59	-	380
10	73	66	68	63	66	68	63	66	66	62	60	.28	392
11	61	64	63	58	66	67	61	67	66	63	60	.04	461
12	58	57	58	53	62	62	58	64	65	62	59	-	579
13	61	57	59	54	62	62	58	64	64	62	59	-	594
14	65	58	60	56	61	62	59	63	63	62	59	-	506
15	74	65	67	63	63	65	61	63	63	61	59	-	485
16	75	65	67	64	66	68	62	66	64	61	59	-	505
17	77	71	72	68	67	68	64	67	65	61	59	-	499
18	61	66	67	61	69	69	63	68	67	62	59	-	121
19	64	64	64	60	65	66	61	65	65	61	58	-	427
20	55	62	61	55	64	64	60	64	65	61	58	-	552
21	57	59	58	53	62	61	58	64	65	62	59	-	542
22	65	67	64	58	64	63	58	64	64	62	59	.20	269
23	71	59	66	60	63	63	59	64	64	61	59	-	488
24	72	62	62	62	66	65	61	66	65	61	59	-	513
25	69	67	65	63	68	66	62	68	66	62	59	-	329
26	69	65	64	60	68	65	61	69	67	62	60	.99	304
27	76	68	66	67	69	67	62	69	67	62	60	.07	312
28	76	71	69	67	71	69	65	70	68	63	60	1.08	333
29	66	68	68	66	71	69	65	70	69	63	60	.87	292
30	63	64	63	60	68	66	63	69	69	63	60	-	182
31	70	71	68	62	68	67	63	68	68	64	60	.75	147

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

SEPTEMBER 1950

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)												
		Soil Depths in Inches						Stations A, B, & W					
1	65	68	67	66	69	68	64	69	68	64	60	.21	96
2	61	61	61	58	65	65	62	67	68	64	60	-	383
3	64	60	60	57	65	64	60	67	67	64	60	-	428
4	57	58	59	55	64	63	60	66	66	64	61	-	495
5	55	57	56	53	61	60	59	63	65	63	60	-	504
6	57	57	57	52	61	58	57	62	64	63	60	-	496
7	61	57	56	54	61	59	57	63	64	62	60	-	444
8	67	63	60	60	63	61	59	64	64	62	60	-	229
9	69	63	62	60	64	62	60	64	64	62	60	-	390
10	68	65	64	62	65	63	61	65	65	62	60	.70	162
11	69	68	66	65	66	65	63	66	66	63	60	.93	217
12	65	67	66	64	67	66	63	67	66	62	60	.13	70
13	61	64	64	61	66	65	62	66	66	63	60	1.21	52
14	58	61	61	60	64	63	61	65	65	63	61	.09	54
15	59	60	60	57	62	61	59	63	64	63	60	.02	218
16	54	58	57	53	62	60	58	63	64	63	61	-	197
17	55	58	57	52	61	59	57	62	63	63	61	-	427
18	63	58	57	54	59	57	56	60	62	62	60	.28	356
19	62	62	61	57	62	62	59	62	62	61	60	-	348
20	61	58	58	55	62	60	58	62	63	62	60	-	385
21	58	59	58	58	61	60	60	62	62	61	62	.25	93
22	60	59	58	55	60	59	58	61	61	61	60	-	282
23	47	56	56	52	60	59	57	60	61	61	60	-	454
24	39	55	53	47	57	56	54	58	59	61	60	-	100
25	55	53	50	50	53	52	53	55	57	61	60	-	372
26	61	53	52	50	55	54	49	56	57	60	60	-	391
27	63	56	56	55	57	57	55	57	58	59	59	-	159
28	65	59	59	58	58	58	57	58	58	59	59	-	179
29	71	60	61	60	60	60	58	59	59	59	59	-	333
30	66	60	59	59	60	60	58	60	60	58	58	-	241

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

OCTOBER 1950

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)												
		Soil Depths in Inches						Stations A, B, &W					
1	70			60	61		60	61	61		58	-	265
2	68	63	62	53	63	62	59	62	62	59	59	.03	302
3	56	57	58	60	62	62	60	62	62	60	59	-	340
4	46	56	55	50	58	56	56	59	60	60	59	-	255
5	47	56	49	49	56	54	54	57	59	60	59	-	342
6	53	55	51	51	56	54	54	56	57	60	60	-	165
7	63	55	54	56	55	55	55	56	57	59	59	.28	235
8	56	55	55	54	56		56	57	57	59	59	-	146
9	55	56	55	54	57	57	56	58	58	58	58	.27	341
10	55	55	55	53	56	56	55	57	57	58	58	.37	55
11													
11	54	53	52	52	56	54	55	56	57	58	58	-	99
12	49	51	51	50	54	54	55	56	57	57	58	.07	153
13	48	48	49	48	53	52	54	54	55	57	58	.07	319
14	50	51	51	50	52	52	53	53	55	57	58	.29	200
15	49	51	50	46	52	51	54	53	55	57	58	-	296
16	58	50	49	49	51	51	53	53	54	57	58	-	285
17	67	54	53	56	54	53	55	54	54	56	57	-	281
18	68	55	55	57	56	56	56	56	55	55	56	-	299
19	65	57	56	57	57	58	57	57	56	56	57	-	288
20	47	51	51	51	56	55	56	57	57	56	56	-	322
21	51	48	47	50	53	51	54	54	56	56	56	-	307
22	48	48	48	50	53	51	54	54	55	56	56	-	62
23	45	49	49	49	52	51	53	53	54	55	56	T	45
24	47	48	48	48	50	49	54	52	53	56	56	-	74
25	43	46	45	47	49	48	54	51	52	55	56	-	240
26	42	40	36	43	47	46	50	48	52	55	56	-	287
27	51	45	46	47	48	47	52	48	50	54	55	.24	60
28	55	49	49	50	49	49	50	50	51	53	55	-	55
29	56	49	49	49	50	50	52	51	51	53	55	-	204
30	62	49	49	49	51	51	52	52	52	53	55	-	240
31	67	55	55	53	54	55	54	54	53	53	55	-	183

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

NOVEMBER 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	67	58	58	56	56	56	56	55	54	53	54	-	246
2	47	50	50	51	55	55	56	56	56	54	54	-	104
3	39	47	45	49	51	49	53	53	54	54	55	-	47
4	31	46	40	44	48	46	51	50	52	54	55	T	47
5	32	43	39	40	46	43	48	48	50	54	55	-	98
6	49	40	39	43	44	42	48	45	48	53	54	-	209
7	43	41	39	44	45	43	48	46	48	53	54	.46	53
8	44	44	43	45	45	45	49	45	48	52	54	.12	79
9	42	44	44	45	47	46	49	47	48	51	54	.37	10
10	31	38	37	42	43	41	47	44	47	51	53	-	78
11	25	37	36	40	41	40	45	42	45	51	54	.08	132
12	27	36	35	39	40	39	44	41	44	50	53	-	127
13	30	35	34	37	39	38	44	40	43	49	52	-	63
14	38	33	34	36	37	37	42	39	42	48	52	.01	150
15	50	42	42	43	40	41	44	41	42	48	52	.80	15
16	48	48	48	48	45	46	48	44	44	48	51	-	54
17	39	38	38	41	42	42	46	43	44	47	51	-	182
18	39	37	36	40	40	39	45	41	44	47	51	-	101
19	45	37	37	42	42	40	45	42	43	47	50	.25	8
20	35	35	38	36	40	41	43	41	43	47	50	.50	32
21	29	33	34	36	38	38	44	39	42	46	50	-	54
22	29	33	34	35	37	37	41	38	41	46	50	-	61
23	22	33	34	32	36	36	40	37	40	46	50	.09	62
24	5	32	34	30	35	36	38	37	39	45	49	-	192
25	16	30	33	31	35	36	38	36	38	45	49	.19	35
26	26	31	33	31	35	35	37	36	38	44	49	.10	119
27	21	32	33	32	34	35	37	35	37	43	48	.06	100
28	24	32	33	33	34	35	38	35	37	43	48	-	117
29	28	32	33	33	34	35	38	35	37	43	47	-	21
30	26	32	33	33	34	35	38	35	36	43	48	-	78

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

DECEMBER 1950

Date	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	26	32	34	31	34	35	38	35	36	42	47	-	113
2	40	32	34	36	33	35	38	34	36	41	46	.52	27
3	39	32	33	30	33	35	36	34	36	41	46	-	4
4	27	32	33	21	34	35	35	35	36	41	46	-	11
5	28	32	33	30	34	34	35	35	36	41	46	-	33
6	33	32	32	33	34	34	36	34	36	41	45	.24	15
7	26	32	33	30	34	34	36	34	36	41	45	.67	1
8	19	32	33	30	34	34	35	34	36	40	45	-	41
9	24	32	33	30	34	34	35	34	36	40	45	.02	71
10	25	32	33	30	34	34	35	34	36	40	46	-	52
11	25	32	32	30	33	34	35	34	35	40	44	-	93
12	27	32	32	30	34	34	35	34	36	40	44	T	77
13	25	31	32	31	33	33	35	33	34	39	43	.02	43
14	19	32	32	30	33	34	35	34	35	39	43	-	129
15	19	32	32	30	33	34	35	34	35	39	43	.08	120
16	19	32	32	30	33	33	34	34	35	39	43	-	68
17	16	31	32	29	33	33	33	34	35	39	43	-	87
18	15	31	32	29	33	33	33	34	35	39	43	-	142
19	16	31	32	30	33	33	33	33	35	39	42	-	120
20	20	31	32	30	33	33	33	33	35	38	42	-	131
21	21	31	32	30	32	33	33	33	34	38	42	.03	134
22	27	31	31	30	32	32	34	33	35	38	42	.04	44
23	30	31	31	30	32	33	34	33	34	38	42	-	31
24	26	31	31	30	32	33	34	33	34	38	42	T	58
25	13	31	31	29	32	33	33	33	34	38	42	.04	76
26	6	31	31	29	32	33	33	33	34	38	42	.04	173
27	10	30	31	29	32	33	32	33	34	38	41	-	150
28	15	30	31	29	32	32	32	33	34	38	41	-	162
29	21	31	31	29	32	32	32	33	34	38	41	-	76
30	26	31	31	29	32	33	32	33	34	38	41	-	30
31	27	31	31	29	32	33	32	33	34	38	41	-	117

Note: Mean air temperature is average daily maximum and minimum temperature. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed. "T" indicates trace, or amount too small for measurement. Blank spaces indicate incomplete record for that day and station.

JANUARY 1951

DATE	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Leng.)
	TEMPERATURES (°F.)												
1	30	31	31	29	32	32	33	33	34	38	41	-	132
2	40	32	32	29	32	33	33	33	34	38	41	1.10	12
3	39	32	32	29	32	33	33	33	34	38	41	.49	2
4	30	32	32	31	32	33	33	33	34	38	41	-	62
5	30	32	32	31	32	32	33	33	34	38	40	t	64
6	25	32	32	29	32	32	32	33	34	38	40	-	25
7	16			22			31			38		-	106
8	18	28	29	26	32	32	29	33	34	37	40	-	119
9	26	27	27	27	32	32	31	32	34	37	40	-	153
10	36	31	30	26	32	32	29	32	34	37	40	-	73
11	30	31	32	26	32	32	28	33	34	37	40	-	84
12	27	30	30	25	32	32	30	32	33	37	40	-	175
13	25	28	27	25	32	32	30	33	33	37	40	-	55
14	29			24			30			37		.20	3
15	30	31	31	26	31	32	30	32	33	37	40	.01	89
16	29	30	31	29	32	32	31	32	33	37	40	-	115
17	34	31	31	29	32	32	31	33	34	36	40	-	86
18	36	32	32	29	32	32	29	32	33	36	39	-	88
19	38	32	32	33	32	32	33	32	33	36	39	-	140
20	32	32	32	32	32	32	32	32	33	36	39	.25	2
21	17			26			31			36		-	156
22	17	30	32	23	32	32	31	32	33	36	39	-	86
23	30	31	32	25	31	32	29	32	33	36	39	.05	21
24	21	29	32	27	31	32	31	32	33	36	39	-	127
25	21	29	30	27	31	32	31	32	33	36	39	-	65
26	21	29	31	27	31	32	30	32	33	36	39	.08	121
27	15	31	31	27	32	32	30	32	33	36	39	.12	150
28	13			26			30			36		-	82
29	8	30	31	26	31	32	30	32	33	36	39	.04	136
30	3	29	31		31	32		32	33	36	39	-	220
31	5	30	30		32	32		32	33	37	39	.11	71

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

FEBRUARY 1951

DATE	Mean Air	Soil Depths in Inches 1"A	1"B	1"W	6"A	6"B	6"W	Stations A, B, & W. 12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Leng.)
	TEMPERATURES (°F.)												
1	10	30	31		31	32		32	33	36	39	.06	94
2	2	31	31	25	31	32	29	32	33	36	39	-	254
3	9	30	31	25	31	32	29	32	33	36	39	-	212
4	19			23			29					.02	136
5	22	31	31	25	31	32	29	32	32	36	38	-	98
6	26	31	31	25	31	32	29	32	33	36	38	.21	23
7	19	32	32	27	32	32	30	32	33	36	39	.01	156
8	4	29	30	26	31	32	29	32	32	36	38	-	224
9	2	28	28		31	31		32	33	36	39	-	261
10	16	28	28		30	31		32	33	36	38	-	167
11	37											-	179
12	34	32	32		31	32		32	33	36	38	.30	20
13	32	29	30	26	31	32	29	32	32	36	38	.09	53
14	12	26	28	25	30	30	29	31	32	36	38	-	292
15	18	25	27	24	29	29	29	31	33	36	39	-	304
16	25	27	28	24	28	29	29	30	32	36	38	.22	51
17	34	31	31	29	31	31	29	31	32	35	38	-	83
18	37			29			29					.02	182
19	40	31	32	29	31	31	30	31	32	35	37	.29	16
20	36	32	32	29	31	31	28	32	32	35	37	-	67
21	35	32	32	29	32	32	29	32	32	35	38	-	42
22	33	32	32	28	32	32	28	32	32	35	37	-	200
23	33	32	32	26	32	32	28	32	32	35	38	-	213
24	38	32	32	24	32	32	28	32	32	35	37	-	266
25	43			28			29					-	90
26	47	33	34	32	32	32	34	32	32	35	37	.11	54
27	31	32	32	28	32	32	32	32	32	35	37	-	97
28	26	32	32	28	32	32	32	32	32	35	3	.06	158

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 A.M. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
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MARCH 1951

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang)
1	33	32	32	30	32	32	32	32	32	35	37	.08	341
2	27	32	32	30	32	32	32	32	32	35	37	.04	107
3	44	32	32	29	32	32	31	32	32	35	37	.33	39
4	32			32			33					-	349
5	38	32	32	30	32	32	32	32	32		37	-	348
6	50	32	32	31	32	32	36	32	32	35	37	-	272
7	43	32	32	34	32	32	36	32	32	35	37	-	363
8	30	32	32	32	32	32	35	32	32	35	37	-	111
9	24	32	32	29	32	32	36	32	32	35	37	-	358
10	26	32	32	26	32	32	32	32	32	35	37	-	352
11	30	32		26			30					-	346
12	35	32	32	26	32	32	31	32	32	35	37	-	210
13	38	32	32	32	32	32	34	32	32	35	37	.29	37
14	34	32	32	32	32	32	33	32	32	35	37	.18	53
15	32	32	32	30	32	32	33	32	32	35	36	.12	154
16	31	32	32	29	32	32	32	32	33	35	37	-	185
17	32	32	32	26	32	32	33	32	32	35	37	-	344
18	33			28			33					-	83
19	26	32	32	27	32	32	33	32	33	35	37	-	67
20	23	32	32	26	32	32	32	32	33	35	37	t	321
21	20	30	32	28	32	32	31	32	33	35	37	t	131
22	28	30	31	26	32	32	30	32	33	35	37	-	255
23	38	32	32	31	32	32	30	32	33	35	37	-	61
24	28	32	32	27	32	32	30	32	33	35	37	-	204
25	27			24			30					-	366
26	28	30	32	24	32	32	29	32	33	35	37	-	468
27	46	32	32	30	32	32	30	32	33	35	36	-	236
28	49	33	37	40	32	32	34	32	33	35	36	-	44
29	54	39	42	42	35	36	37	34	34	35	37	.40	87
30	45	42	43	44	40	41	41	39	36	35	37	.06	134
31	33	34	35	39	39	38	40	39	38	36	38	.04	71

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
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APRIL 1951

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	36	34	35	36	37	36	35			36		.19	131
2	35	34	34	30	36	35	35	36	36	36	38	.02	104
3	34	34	33	32	36	35	34	36	36	36	38	.02	59
4	40	34	34	30	35	35	35	36	36	36	38	-	164
5	44	33	33	30	36	35	36	37	37	37	38	-	506
6	47	37	35	42	38	37	40	39	38	37	37	-	331
7	57	43	42	42	41	41	40	41	39	37	37	-	277
8	44	40	40	36	41	40	38					.56	28
9	44	38	38	35	40	39	37	31	31	38	38	-	359
10	43	40	39	36	42	40	40	43	42	39	39	-	356
11	47	41	41	39	44	42	40	44	43	40	39	-	331
12	42	42	41	43	44	43	44	44	43	39	39	.16	244
13	36	40	40	38	43	41	40	43	43	40	39	.17	88
14	41	37	37	32	41	39	38	42	42	41	39	.20	131
15	38	36	37	37	40	38	38					.07	132
16	35	35	36	31	39	38	37	39	41	41	40	-	198
17	34	34	34	32	38	37	37	39	40	41	40	-	223
18	40	35	33	34	37	36	37	38	39	40	40	.15	88
19	40	35	35	34	38	37	37	39	39	40	40	-	335
20	39	34	34	31	38	37	36	39	40	40	40	-	574
21	47	39	39	38	41	40	37	41	41	40	40	.17	363
22	43	37	37	44	40	39	42					.36	79
23	42	36	36	33	39	38	38	41	41	40	40	-	566
24	46	41	41	41	42	40	41	42	42	40	40	.41	61
25	54	43	43	42	42	41	42	42	42	41	40	.34	94
26	49	43	43	42	44	43	45	44	43	41	41	-	532
27	52	43	43	42	46	44	46	46	45	41	41	-	543
28	66	52	52	50	48	48	48	47	45	41	41	-	415
29	66	52	53	55	50	50	50					.35	418
30	59	53	63	50	53	53	50	52	49	42	41	-	334

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (Inc.)	Total Insol. (Lang.)
1	66	51	52	50	52	51	50	52	49	43	41	-	523
2	70	56	56	54	55	55	53	54	51	45	42	.07	446
3	62	59	59	59	56	56	54	55	52	44	41	.04	422
4	55	53	51	50	55	54	54	55	53	46	43	-	485
5	49	49	48	46	53	51	50	54	53	47	44	-	461
6	48	48	47	49	51	50	45					-	435
7	50	46	47	42	50	49	45	51	51	48	45	-	486
8	59	49	50	50	51	50	46	51	51	48	45	-	610
9	59	53	53	50	53	52	49	52	51	48	45	-	356
10	44	50	49	49	52	51	47	52	52	48	46	1.03	60
11	44	47	45	43	49	47	45	50	51	49	47	.31	72
12	53	46	46	45	48	46	44	49	49	49	46	-	549
13	49	47	48	45	49	48	44					-	652
14	61	48	49	50	50	50	45	50	50	48	45	-	595
15	70	52	53	53	52	52	49	51	49	47	46	-	595
16	68	56	58	56	55	56	53	54	52	48	45	.37	566
17	54	55	55	50	55	56	51	55	53	48	46	-	132
18	66	56	57	52	55	56	51	55	53	49	46	-	538
19	67	56	59	53	57	57	53	56	54	49	47	-	527
20	74	58	61	57	58	58	55					.03	433
21	69	61	63	56	59	60	55	58	56	50	47	-	463
22	56	59	61	55	60	61	57	58	56	51	47	.30	80
23	53	52	54	50	55	55	55	56	56	51	48	-	678
24	62	53	54	50	55	56	55	56	55	51	48	-	495
25	66	55	57	54	56	57	55	56	55	51	48	-	609
26	64	58	59	54	57	58	54	57	56	52	49	.27	363
27	54	56	57	51	56	57	52					.47	190
28	56	54	55	52	55	56	52	55	55	52	49	.29	151
29	60	54	55	52	55	55	52	54	55	52	49	-	545
30	64	56	57	52	56	57	51	56	55	52	49	-	590
31	66	57	59	54	57	59	54	57	55	52	49	.02	474

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement.
Blank spaces indicate incomplete record for that day and station.

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B. & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	75	61	64	58	59	62	56	58	56	52	49	.52	506
2	68	62	64	59	62	64	57	61	58	53	50	.02	265
3	70	61	62	60	62	63	58					-	303
4	55	60	60	54	61	62	56	61	59	53	50	-	214
5	55	56	56	51	57	57	54	58	58	53	50	-	280
6	57	53	55	52	56	57	52	57	57	54	51	-	585
7	61	54	57	52	56	58	52	57	56	54	51	-	585
8	63	56	58	54	57	60	55	57	56	54	51	.11	183
9	64	58	60	54	58	60	55	57	56	54	51	-	221
10	63	56	60	52	57	60	55					-	579
11	63	55	59	52	57	60	54	57	57	54	51	-	533
12	68	57	61	54	58	62	55	58	57	54	51	.08	332
13	65	58	61	54	58	62	56	58	57	54	51	.61	282
14	63	58	60	56	58	61	55	58	58	54	52	-	629
15	64	55	59	57	58	60	54	58	57	54	51	-	644
16	68	58	51	58	59	62	57	58	57	54	52	-	522
17	71	60	65	59	60	64	57					-	596
18	74	62	67	60	61	67	57	60	58	54	51	.02	527
19	73	65	69	60	63	68	60	62	60	54	52	.57	256
20	70	65	67	61	63	66	61	62	60	55	52	-	416
21	64	58	60	58	60	61	58	60	59	54	50	.08	328
22	58	59	59	57	61	62	58	61	60	56	53	.84	64
23	67	60	61	57	60	62	56	60	59	56	52	-	454
24	73	65	65	59	63	64	59	63	60	56	53	-	447
25	65	62	63	58	64	64	59	64	62	56	53	-	672
26	71	63	63	58	65	65	58	66	63	56	53	-	433
27	71	65	64	60	66	65	60	66	64	57	53	.10	426
28	68	65	67	60	67	67	63	67	65	57	53	-	265
29	65	60	62	59	65	65	60	66	65	58	54	-	653
30	68	63	64	60	67	66	60	66	65	58	54	.01	538

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
"T" indicates a trace, or amount too small for measurement
Blank spaces indicate incomplete record for that day and station.

JULY 1951

DATE	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	66	65	66	58	68	67	60	67	67	60	56	-	561
2	67	62	62	57	64	64	59	65	65	59	56	-	634
3	69	65	66	59	66	67	59	66	65	59	56	-	203
4	67	67	67	59	65	66	61	65	64	59	55	.01	457
5	63	60	63	58	64	66	59	66	65	59	55	.02	683
6	68	62	64	57	64	66	58	65	65	60	55	--	649
7	72	64	66	59	66	68	60	66	65	60	55	-	595
8	73	66	67	60	67	68	63					.15	154
9	72	68	68	61	68	68	63	67	66	60	56	.38	405
10	75	68	67	62	68	68	64	67	66	60	56	-	513
11	63	66	66	60	68	69	63	69	67	61	56	-	109
12	66	63	63	60	65	65	61	66	66	61	57	.03	453
13	68	64	65	58	65	66	58	65	66	61	57	-	596
14	72	66	68	59	66	69	61	66	66	61	57	-	280
15	73	65	68	60	66	69	62	67	65	60	56	-	571
16	76	68	70	60	68	71	65	68	66	61	57	-	465
17	71	67	70	61	68	72	63	69	67	61	57	-	405
18	72	67	71	60	68	71	62	68	67	63	57	-	369
19	65	66	68	59	68	71	64	68	67	61	57	-	496
20	64	62	64	56	65	69	60	67	67	62	57	-	624
21	72	63	69	60	66	71	61		67	62	58	.22	161
22	75	65	68	63	67	71	64	67				-	292
23	68	66	67	60	67	70	63	68	66	62	58	-	262
24	73	64	66	61	66	68	63	67	66	62	57	-	542
25	75	66	69	62	68	71	64	68	67	62	58	-	567
26	79	68	71	63	69	73	65	67	67	61	58	-	557
27	75	70	73	66	70	74	65	70	68	62	58	1.27	372
28	68	69	71	63	70	72	65	69	68	62	58	-	215
29	70	69	72	57	68	72	64					-	605
30	76	70	74	61	67	71	63	67	67	62	58	-	581
31	76	69	72	66	69	72	64	68	67	62	58	.06	233

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
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AUGUST 1951

DATE	Mean Air	Soil Depths in Inches, Stations A, B, & W: 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	68	66	67	62	68	71	65	69	68	62	59	-	604
2	71	64	67	60	67	70	63	68	67	62	59	-	516
3	64	69	72	63	69	73	65	69	67	63	59	.05	595
4	59	60	65	54	65	70	60	67	66	62	59	-	625
5	62	62	66	54		70	59					-	446
6	63	63	62	56	65	70	59	66	65	62	59	.01	106
7	67	64	67	60	65	68	61	65	65	62	59	-	148
8	69	63	66	59	65	68	61	65	65	62	59	-	463
9	67	65	68	61	66	70	63	66	65	62	59	-	342
10	65	62	65	57	65	68	61	65	65	61	59	-	512
11	71	63	67	59	65	70	61	65	65	61	59	-	457
12	71	64	68	60		70	64					-	428
13	69	65	68	59	67	71	62	67	66	62	59	.12	395
14	67	63	66	57	66	69	61	66	65	62	59	-	417
15	65	64	66	61	66	69	63	66	65	62	59	.96	163
16	66	65	66	59	65	68	62	66	65	62	59	-	270
17	60	62	63	56	63	66	60	65	65	62	59	.16	237
18	66	62	64	58	64	66	58	64	64	62	59	-	338
19	67	62	64	58		66	60					-	422
20	67	63	65	57	65	67	61	65	64	61	59	.22	258
21	65	64	67	61	66	69	63	65	64	61	59	.26	522
22	61	60	62	56	64	65	62	64	64	61	59	-	503
23	57	56	58	53	62	63	57	63	64	61	59	-	547
24	59	55	57	51	62	62	55	63	64	61	59	-	553
25	63	60	60	53	62	64	57	64	64	61	59	-	517
26	67	62	63	58		65	59					.02	133
27	70	66	65	59	65	65	61	64	64	60	59	-	104
28	74	67	66	61	66	65	62	66	64	60	57	.05	361
29	76	68	67	63	68	67	63	68	65	60	57	-	439
30	76	69	62	62	69	68	65	69	67	60	58	-	311
31	75	75	62	66	69	69	67	69	67	60	57	.81	359

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
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SEPTEMBER 1951

Date	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)	Soil Depths in Inches, Stations A, B. & W.											
1	58	63	65	60	67	68	64	69	68	61	58	-	71
2	59	61	63	56	65	66	60					-	190
3	60	59	61	54	63	64	57	64	65	62	59	-	449
4	58	56	58	54	63	63	57	64	65	62	59	-	494
5	63	59	59	60	63	62	61	64	65	63	60	.12	368
6	66	64	64	53	65	64	58	65	65	63	60	.29	366
7	55	55	60	51	62	63	53	64	64	62	59	-	441
8	54	54	55	50	59	59	54	61	63	62	60	-	410
9	60	58	58	50	61	61	54					-	477
10	63	61	61	52	62	63	57	62	63	62	60	.56	49
11	71	60	61	58	62	62	60	62	62	61	59	-	444
12	74	64	64	62	64	65	63	64	64	61	59	-	441
13	63	64	66	60	66	67	63	66	65	61	59	.19	180
14	64	58	59	55	61	63	59	63	64	61	59	.04	348
15	58	56	58	54	60	62	57	62	63	61	60	-	258
16	54	54	56	51	58	60	55					-	350
17	58	52	54	50	56	58	53	58	59	60	59	-	383
18	56	51	54	50	56	59	54	58	59	60	59	-	440
19	64	55	57	52	58	60	55	59	60	60	59	-	372
20	68	59	59	55	60	61	57	60	61	60	59	-	342
21	72	61	61	59	62	63	61	61	61	60	59	-	377
22	60	66	65	61	64	65	63	64	62	60	59	.31	124
23	56	62	62	51	62	63	55	63	62	60		-	409
24	60	57	59	54	60	61	56	61	61	60	59	.08	191
25	54	57	59	53	59	61	55	60	61	60	59	-	250
26	60	54	56	50	58	59	53	59	60	60	59	.66	81
27	56	55	58	54	59	61	57	59	59	60	59	-	282
28	45	47	51	48	53	55	52	55	58	59	59	-	280
29	44	43	46	41	50	53	47	53	57	59	59	-	413
30	53	49	51	47	53	55	48					.29	154

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.
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OCTOBER 1951

DATE	Mean Air	1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
	TEMPERATURES (°F.)	Soil Depths in Inches, Stations A, B, & W.											
1	64	56	56	50	55	57	51	55	56	58	59	.42	303
2	71	60	60	56	59	60	56	58	57	58	58	-	295
3	73	62	61	60	61	62	60	61	60	58	58	-	268
4	76	63	63	60	63	64	60	63	62	58	58	-	322
5	64	66	65	61	65	65	64	64	62	58	58	-	155
6	51	59	61	55	63	63	60	63	63	59	58	.14	39
7	42			50			54					1.34	22
8	41	47	49	46	52	53	46	53	57	59	58	-	156
9	45	46	47	44	50	51	47	51	54	59	58	-	253
10	43	43	46	44	49	50	46	51	53	58	58	-	324
11	47	44	46	46	48	50	47	50	52	57	58	-	314
12	52	46	47	45	49	51	47	51	52	56	58	-	298
13	54	47	47	48	50	51	47	51	53	56	58	-	302
14	55			51			52					-	280
15	61	52	52	52	52	53	52	53	53	56	57	-	318
16	64	52	53	52	53	54	52	53	53	55	56	-	278
17	60	54	55	53	55	56	54	55	55	55	57	-	254
18	62	53	54	52	55	55	54	55	55	55	56	-	261
19	43	49	52	51	55	55	53	56	56	56	56	.10	199
20	42	44	45	45	50	51	48	52	54	55	56	-	173
21	59			47			48					-	268
22	60	55	55	53	54	54	53	53	53	55	56	-	93
23	48	53	54	51	55	55	53	55	55	55	56	1.80	26
24	44	50	51	48	51	52	50	52	54	55	56	.40	29
25	49	44	45	46	48	49	47	49	51	54	56	-	272
26	53	47	48	48	49	50	48	50	51	55	56	-	150
27	42	46	49	48	51	52	49	51	52	54	55	-	127
28	37			40			46					-	43
29	39	38	39	40	44	45	43	45	48	53	55	-	255
30	51	44	44	44	45	46	45	46	47	53	55	-	243
31	40	41	44	44	46	48	46	48	48	52	54	-	170

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NOVEMBER 1951

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	34	37	39	40	43	44	44	45	47	52	54	-	226
2	23	36	39	40	42	43	42	44	46	52	54	-	85
3	20	33	35	31	39	40	39	41	45	51	54	.01	154
4	23			32			43					-	191
5	19	32	34	30	37	38	36	38	41	50	53	-	241
6	21	32	33	31	36	37	37	37	40	49	52	.36	34
7	29	33	34	31	35	37	37	36	39	48	52	.57	11
8	27	33	33	31	35	36	36	37	38	47	52	-	108
9	31	34	34	31	35	37	36	36	38	47	51	-	189
10	37	34	35	29	36	37	36	37	49	47	51	-	220
11	34			29			36					-	209
12	43	35	35	33	36	37	36	37	38	45	50	.17	42
13	53	42	42	40	38	40	40	38	38	45	49	.71	4
14	49	43	45	38	43	45	39	43	41	45	49	-	129
15	39	38	39	36	41	42	38	42	42	45	49	-	180
16	32	36	38	34	39	41	38	40	41	45	48	.13	70
17	29	34	36	22	38	39	36	39	41	45	49	-	116
18	24			20			35					-	103
19	23	32	34	26	35	36	33	37	39	45	48	-	182
20	23	30	32	27	35	35	33	35	38	44	48	-	159
21	34	31	32	34	34	35	36	36	37	44	48	-	166
22	42		34	33			37					.36	6
23	30	33	34	30	34	35	35	35	37	43	47	-	43
24	22	32	33		34	35		35	36	42	47	-	190
25	24											.21	58
26	28	32	33		34	34		35	36	42	47	.01	61
27	20	31	33	17	34	35	36	35	37	42	47	-	195
28	32	31	33	28	33	34	36	34	36	41	45	-	50
29	39	32	33	28	33	34	33	34	36	41	45	-	125
30	44	32	33	30	33	34	34	34	35	41	45	-	152

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DECEMBER 1951

DATE	TEMPERATURES (°F.) Mean Air	Soil Depths in Inches, Stations A, B, & W. 1"A	1"B	1"W	6"A	6"B	6"W	12"A	18"A	42"A	60"A	Total Precip. (In.)	Total Insol. (Lang.)
1	47	32	33	33	33	34	37	34	35	40	45	-	150
2	50			38			34					-	130
3	53	38	40	40	38	39	39	37	37	40	44	.20	138
4	46	43	45		42	43		40	38	40	44	.35	111
5	37	35	37	43	39	39	41	40	40	40	44	.02	81
6	49	38	38	34	39	39	38	39	39	41	45	-	86
7	52	42	44	38	43	43	37	42	40	41	45	.16	130
8	37	37	38	42	40	40	44	41	41	42	44	.03	24
9	33			38			40					.03	30
10	32	34	35	35	37	37	38	38	40	42	45	-	144
11	28	33	34	32	36	36	36	37	39	42	45	-	75
12	17	33	34	31	35	36	36	36	38	42	45	.02	60
13	14	32	33	31	35	35	35	36	38	42	45	-	133
14	15	31	33	27	34	35	38	35	37	41	45	.10	20
15	8	32	32	26	34	34	36	35	37	41	44	.03	137
16	4			26			35					t	154
17	6	31	32		33	34		34	36	40	44	.07	127
18	12	32	32	26	34	34	35	34	36	40	44	.12	93
19	5	32	33		34	34		35	36	40	44	-	121
20	23	32	32		34	34		34	36	40	44	.36	34
21	20	32	32		34	34		34	35	40	43	.30	16
22	7	32	33		34	34		35	36	40	43	-	144
23	16											.02	86
24	17	32	32		33	33		34	35	39	42	.03	121
25	20			26			32					.32	35
26	15	33	33	27	34	34	34	34	36	39	43	.02	165
27	15	32	32	28	33	34	34	34	35	39	43	-	154
28	21	30	31	28	31	32	34	32	33	37	40	-	62
29	31	33	33	27	34	34	34	35	30	40	43	-	55
30	31											-	68
31	39	32	31		33	32		33	34	38	41	-	35

Note: Mean air temperature is average daily maximum and minimum temperatures. All other temperatures are as of 8:00 AM. Station A is located in Cultivated Watershed B, Station B is in Cultivated Watershed A, and Station W is in the Wooded Watershed.

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