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CLIMATOGRAPHY OF THE UNITED STATES NO. 81-9

DECENNIAL CENSUS OF UNITED STATES CLIMATE—

MONTHLY NORMALS OF TEMPERATURE, PRECIPITATION, AND HEATING DEGREE DAYS

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PREFACE

The climatological standard normals presented in this publication are based on records for the 30-year period 1931-1960 inclusive. For the first time, normals have been computed for substations and divisions using a base period identical to that used for first-order stations.

Previous normals were published in Weather Bureau Technical Paper No. 31, "Monthly Normal Temperatures, Precipitation, and Degree Days," and were based on records for the period 1921-1950. Earlier sets of normals are described in [1].

This is the first series of publications resulting from the project "The Decennial Census of United States Climate, 1960." The project is a continuation of earlier censuses of the climate of the United States that date back to the early 19th Century and are described in [2]. Future publications of this project will be listings of daily normals of temperature, and degree days; summaries of hourly observations; and listings of monthly divisional averages of temperature and precipitation.

Units used in this publication are degrees F. for temperatures, and inches for precipitation. The heating degree day normals are derived from the monthly normal temperatures, and are computed on the standard base of 65°F. Monthly normals of less than 5 degree days are shown as zero.

Standard Normals for Weather Bureau First Order Stations

A normal of a climatological element is an arithmetic mean for a specific period of record which estimates the true mean of the element at the current exposure of the meteorological instrument measuring the element. The true mean is the mean of all possible observations (population) at the current exposure. It is from this population that future observations will come, not from values in the past record. This is what makes it important to obtain an estimate of this mean. The true mean can never be known exactly but must be estimated from a sample of the past record ([3] p. 53 section 4. 3). The normals presented here are estimates of the true mean obtained from the 30-year sample record 1931-1960. They are called standard normals because they conform to the World Meteorological Organization standard for climatological normals.

If no exposure changes have occurred at a station the normal is estimated by simply averaging the 30 values from the 1931-1960 record. Since it is next to impossible to maintain a multiple purpose network of meteorological stations without having exposure changes, it is first necessary to find and evaluate these changes and then make adjustments for them if necessary.

Heterogeneities in record due to exposure changes are found in two ways: by determining them from the station histories and by use of statistical tests. The statistical test when standardized for the purpose is easy to apply and will often find heterogeneities which are not defined by the station histories as well as those which have been so determined. Two statistical tests were employed: one for temperature and the other for precipitation. These are described in [4].

After the periods of heterogeneity have been determined, adjustments are applied to remove the heterogeneities introduced into the mean. This is done by comparing the record at the base station, for which the normal is desired, to the record at a supplementary station with a homogeneous period which covers the heterogeneous period at the base station. The difference method is applied to the monthly average maximum and minimum temperatures and the ratio method to the monthly total precipitation. A weighted average of the various partial means of the adjusted and unadjusted record is then prepared to give the normal. Brief discussions of the methods of adjustment are found in [3] (p. 49, section 4. 24).

Normal heating degree days are derived by the method described in [5].

Normals for Substations and Divisions

Normals for substations were computed somewhat differently than those for first-order stations. Monthly substation normals are the simple arithmetic averages of the monthly values of temperature and precipitation for the period 1931-1960. These were computed for only those substations that were active during the entire period and no attempt was made to adjust for minor changes in location of the observing site, or for changes in the time of observation. Normals were not computed for substations that were moved a significant distance during the 1931-1960 period. Missing values in the data series were estimated by methods described in [6]. Substations whose locations were essentially unchanged during the 1931-1960 period are identified in the tables.

Monthly divisional normals are the means of the monthly divisional averages of temperature and precipitation for the period 1931-1960. In calculating the monthly divisional averages, all of the stations in the division that furnished both temperature and precipitation data during the particular month were used. The averages therefore were obtained from a variable station sample. As a result, the divisional normals often differ from the averages of the normals for stations in the division.

Annual substation and divisional normals are the averages of the 12 monthly temperature normals and the sums of the 12 monthly precipitation normals.

References

1. U. S. Weather Bureau, "History of Climatological Publications," Key to Meteorological Records Documentation No. 4. 1, Washington, D. C., 1958.

2. H. E. Landsberg, "The Decennial United States Census of Climate 1960 and Its Antecedents," Key to Meteorological Records Documentation No. 6. 2, U. S. Weather Bureau, Washington, D. C., 1960.

3. U. S. Weather Bureau, Climatology at Work, Gerald L. Barger, ed., Washington, D. C., 1960.

4. H. C. S. Thom, "Tests of Significance for Temperature and Precipitation Normals," U. S. Weather Bureau Manuscript, 1961.

5. H. C. S. Thom, "The Rational Relationship Between Heating Degree Days and Temperature," Monthly Weather Review, Vol. 82, No. 1, January 1954.

6. U. S. Weather Bureau, Administrative Manual, Vol. III, Chap. C-05, paras. C-0509 and C-0510.

NOTES

1. Station Names

In Table I, "AP" after the city name indicates "airport station" "CO" indicates "city office station." Figures and letters following the station name indicate a rural location, and refer to the distance and direction of the station from the nearest post office.

# indicates a station whose location has been essentially unchanged during the period 1931-1960.

H indicates the ground elevation of the station in feet above sea level, as of December 31, 1960.

G indicates the elevation at hygrothermometer site (where different from "H").

T indicates the height of the thermometer in feet above the ground as of December 31, 1960.

/NO TEST/ indicates that significant difference tests were not made.

2. Table Content

* indicates that the departure of the 1951-60 record from the 1921-50 normal is statistically significant, but through the adjustments for changes in location and exposure the absolute difference between old and new normals may even in these cases be very small.

T in the data tables indicates a monthly precipitation amount of only a trace.

February monthly normals are for a 28-day month.

TABLE I - NORMALS FOR FIRST ORDER STATIONS

STATION		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
CAIRO CO	H 314 T 5													
MAX TEMP		44.6	48.5	57.0	68.9	78.5	87.5	90.3	89.2*	82.4	71.9	56.3	46.4	68.5
MIN TEMP		30.2	32.9	39.4	49.9	59.4	68.2	71.8	70.6	62.5	51.9	39.5*	32.6	50.7
AVG TEMP		37.4	40.7	48.2	59.4	69.0	77.9	81.1	79.9*	72.5	61.9	47.9*	39.5	59.6
DEG DAYS		856	680	539	195	47	0	0	0	36	164	513*	791	3821
PRECIP		4.46	3.67	4.79	4.07	4.39	4.13*	3.19*	3.10	3.01	2.88	3.87	3.67*	45.23
#CHICAGO CO UNIVERSITY	H 594 T 7													
MAX TEMP		33.2	34.7	42.6	55.6	66.6	76.8	81.7	80.6	73.8	63.1	47.2	35.9	57.7
MIN TEMP		20.9	22.3	30.0	40.5	50.2	60.8	66.7	66.2*	58.5	48.3	34.4	24.4	43.6
AVG TEMP		27.1	28.5	36.3	48.1	58.4	68.8	74.2	73.4*	66.2	55.7	40.8	30.2	50.6
DEG DAYS		1175	1022	890	507	248	60	0	6*	78	307	726	1079	6098
PRECIP		1.80	1.58*	2.69	3.08	3.87	3.79	3.09*	3.19	2.77*	2.71	2.08	1.80	32.45
CHICAGO AP MIDWAY	H 610 T 5													
MAX TEMP		33.2	35.3	44.0	58.6*	70.5	81.0	85.6	84.2	76.6	65.0	47.9	36.0	59.8
MIN TEMP		18.9	20.4*	28.6	39.6*	49.7	60.4*	65.7*	64.6*	56.2	45.7*	32.1	22.3*	42.0
AVG TEMP		26.1	27.9*	36.3	49.1*	60.1	70.7*	75.7*	74.4*	66.4	55.4*	40.0	29.2*	50.9
DEG DAYS		1206	1039*	890	477*	208	42*	0	0	75	316*	750	1110*	6113
PRECIP		1.86	1.60*	2.74	3.04*	3.73	4.07	3.37*	3.16	2.73*	2.78	2.20	1.90	33.18
MOLINE AP	H 589 T 5													
MAX TEMP		31.6	34.8	45.1	60.7	72.1	82.2	87.0*	84.7	77.1	66.1	47.9	35.4	60.4
MIN TEMP		14.6	17.6	26.6	39.3	50.2	60.5	64.2	62.4*	53.5	42.4	29.5	19.3	40.0
AVG TEMP		23.1	26.2	35.9	50.0	61.2	71.4	75.6*	73.6*	65.3	54.3	38.7	27.4	50.2
DEG DAYS		1299	1086	902	450	189	39	0	9*	99	350	789	1166	6378
PRECIP		1.61	1.35*	2.39	3.17	3.80	4.37	3.26	3.53	3.25*	2.46	1.95	1.65	32.79
PEORIA AP	H 652 T 5													
MAX TEMP		33.7	36.6	46.7	61.2	72.3	82.3	87.0	85.1	77.8	66.5	48.6	36.8	61.2
MIN TEMP		17.6	20.1	28.4	40.3	50.7	61.1*	65.0*	63.5*	55.0	44.1	30.7	21.3	41.5
AVG TEMP		25.7	28.4	37.6	50.8	61.5	71.7*	76.0*	74.3*	66.4	55.3	39.7	29.1	51.4
DEG DAYS		1218	1025	849	426	183	33*	0	6*	87	326	759	1113	6025
PRECIP		1.88*	1.71	2.85	3.97	4.27	4.08	3.54	2.88*	3.05*	2.53	2.14	1.94*	34.84
ROCKFORD AP	H 728 T 5	/NO TEST/												
MAX TEMP		30.2	32.7	42.9	58.7	70.5	80.9	86.3	84.2	75.6	64.1	46.1	33.5	58.8
MIN TEMP		13.7	16.1	25.1	36.9	47.7	58.4	62.1	60.8	52.0	40.9	28.0	17.7	38.3
AVG TEMP		22.0	24.4	34.0	47.8	59.1	69.7	74.2	72.5	63.8	52.5	37.1	25.6	48.6
DEG DAYS		1333	1137	961	516	236	60	6	9	114	400	837	1221	6830
PRECIP		1.98	1.44	2.46	3.05	3.83	4.30	4.14	4.14	3.51	2.70	2.37	1.70	35.62
SPRINGFIELD AP	H 587 T 6													
MAX TEMP		36.3	39.6	49.1	62.8	73.6*	83.4	87.6	85.8	79.3*	68.1	50.6	39.2	63.0
MIN TEMP		20.5	22.5	30.3	41.9	52.2*	62.5*	66.4*	64.5*	55.9	45.3	32.0	23.8	43.2
AVG TEMP		28.4	31.1	39.7	52.4	62.9*	73.0*	77.0*	75.2*	67.6*	56.7	41.3	31.5	53.1
DEG DAYS		1135	949	784	384	149*	21*	0	0	72*	291	711	1039	5535
PRECIP		1.89	1.82	2.88	3.59	3.88	4.45	3.49	2.74	2.93*	2.91	2.36*	1.89*	34.83

TABLE II - NORMALS BY CLIMATOLOGICAL DIVISIONS

STATIONS (By Divisions)	TEMPERATURE (°F) JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	ANNUAL	PRECIPITATION (In.) JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	ANNUAL
NORTHWEST DIVISION																										
ALEDO	24.7	27.7	37.5	51.3	62.2	71.9	76.2	74.2	66.3	55.4	39.7	28.6	51.3	1.61	1.38	2.65	3.50	4.14	4.85	3.80	2.93	3.23	2.68	1.98	1.78	34.53
DIXON	24.0	26.6	36.2	50.0	61.1	70.7	74.9	73.4	65.4	54.2	39.1	27.5	50.3	1.74	1.38	2.29	2.96	3.63	4.39	3.44	3.65	3.29	2.67	2.35	1.86	33.65
FREEPORT	21.3	24.0	33.8	48.2	59.4	69.2	73.3	71.4	63.2	52.1	37.0	25.3	48.2	1.74	1.17	2.11	2.85	3.76	4.55	4.02	3.95	3.38	2.25	2.41	1.71	33.90
GALENA	•	•	•	•	•	•	•	•	•	•	•	•	•	1.61	1.08	2.03	2.73	3.86	4.49	3.59	4.11	3.20	2.41	2.24	1.70	33.05
GALVA	24.9	27.6	37.2	51.0	61.8	71.6	75.8	73.9	66.2	55.4	39.7	28.6	51.1	1.65	1.50	2.55	3.39	4.12	4.52	3.39	3.21	3.01	2.85	2.08	1.66	33.93
GENESEO	•	•	•	•	•	•	•	•	•	•	•	•	•	1.62	1.39	2.41	3.15	3.96	4.52	3.21	4.01	3.18	2.62	2.06	1.57	35.70
KEITHSBURG 1 NW	•	•	•	•	•	•	•	•	•	•	•	•	•	1.41	1.24	2.20	2.91	3.50	4.06	3.24	2.64	2.97	2.13	1.67	1.35	29.32
MOLINE AP	23.1	26.2	35.9	50.0	61.2	71.4	75.6	73.6	65.3	54.3	38.7	27.4	50.2	1.61	1.35	2.39	3.17	3.80	4.37	3.26	3.53	3.25	2.46	1.95	1.65	32.79
MORRISON	23.7	26.8	36.3	50.3	61.1	71.0	75.4	73.6	65.5	54.5	39.0	27.6	50.4	1.79	1.44	2.35	3.18	4.04	4.46	3.44	3.99	3.46	2.54	2.23	1.80	34.72
#MOUNT CARROLL	22.6	25.2	35.0	49.1	60.0	69.9	73.9	72.1	64.0	53.0	37.8	26.4	49.1	1.81	1.34	2.23	3.01	4.03	4.82	3.70	3.64	3.38	2.45	2.46	1.89	34.76
PAW PAW	•	•	•	•	•	•	•	•	•	•	•	•	•	1.83	1.52	2.48	3.28	3.99	4.43	3.40	3.60	3.17	3.00	2.23	1.85	34.78
ROCHELLE 1 W	•	•	•	•	•	•	•	•	•	•	•	•	•	1.61	1.25	2.20	3.04	3.54	4.23	3.36	3.63	3.06	2.53	2.04	1.66	32.15
ROCKFORD AP	22.0	24.4	34.0	47.8	59.1	69.7	74.2	72.5	63.8	52.5	37.1	25.6	48.6	1.98	1.44	2.46	3.05	3.83	4.30	4.14	4.14	3.51	2.70	2.37	1.70	35.62
TISKILWA	•	•	•	•	•	•	•	•	•	•	•	•	•	1.78	1.56	2.56	3.44	4.14	4.04	3.37	3.53	2.83	2.79	1.95	1.74	33.73
WALNUT	24.8	27.3	36.8	50.6	62.0	72.2	76.5	74.4	66.1	55.0	39.6	28.3	51.1	1.76	1.42	2.31	3.31	4.14	4.28	3.19	3.84	3.52	2.71	2.00	1.63	34.11
DIVISION	23.4	26.4	35.8	49.9	60.9	70.5	75.0	73.1	65.1	54.2	38.7	27.3	50.0	1.74	1.15	2.38	3.20	3.87	4.54	3.71	3.65	3.21	2.60	2.15	1.75	33.95
NORTHEAST DIVISION																										
AURORA COLLEGE	24.3	26.3	35.5	48.6	59.2	69.2	73.7	72.4	64.3	53.3	38.4	27.3	49.4	1.96	1.54	2.50	2.89	3.74	4.28	3.15	3.47	3.26	2.87	2.23	1.91	33.80
#CHICAGO UNIVERSITY	27.1	28.5	36.3	48.1	58.4	68.8	74.2	73.4	66.2	55.7	40.8	30.2	50.6	1.80	1.58	2.69	3.08	3.87	3.79	3.09	3.19	2.77	2.71	2.08	1.80	32.45
CHICAGO AP MIDWAY	26.1	27.9	36.3	49.1	60.1	70.7	75.7	74.4	66.4	55.4	40.0	29.2	50.9	1.86	1.60	2.74	3.04	3.73	4.07	3.37	3.16	2.73	2.78	2.20	1.90	33.18
ELGIN	•	•	•	•	•	•	•	•	•	•	•	•	•	1.90	1.52	2.60	3.19	3.91	4.37	3.37	3.38	3.02	2.70	2.27	1.91	34.14
#LA SALLE PERU	26.5	28.9	38.2	51.6	62.6	72.8	77.0	75.3	67.3	55.9	40.8	29.7	52.2	1.81	1.57	2.60	3.56	3.83	3.69	3.39	3.23	3.00	2.50	1.88	1.73	32.79
MORRIS 5 N	25.9	27.6	37.3	50.3	61.2	70.9	75.0	73.2	65.9	54.9	40.1	28.7	50.9	1.52	1.40	2.28	3.55	3.71	3.49	3.02	3.06	2.80	2.50	2.02	1.64	30.99
OTTAWA	26.4	28.6	37.9	51.2	61.9	71.9	76.1	74.5	66.5	55.5	40.6	29.5	51.7	1.80	1.57	2.58	3.73	3.74	3.96	3.57	3.53	3.01	2.42	1.94	1.84	33.69
SYCAMORE	22.8	25.0	34.3	48.0	59.2	69.5	73.7	72.1	63.9	52.8	37.5	26.1	48.7	1.84	1.45	2.43	2.92	4.09	4.52	3.77	3.87	3.30	2.89	2.25	1.89	35.22
WAUKEGAN 2 WNW	24.3	26.0	34.3	46.3	56.7	67.2	72.5	71.6	64.3	53.4	38.9	27.7	48.6	1.96	1.48	2.38	3.21	3.71	3.88	3.18	3.30	3.01	2.36	2.37	1.97	32.81
DIVISION	25.0	27.3	36.0	49.1	59.8	69.9	74.6	73.1	65.3	54.4	39.4	28.2	50.2	1.86	1.58	2.59	3.28	3.75	4.08	3.39	3.38	2.91	2.65	2.09	1.88	33.44
WEST DIVISION																										
GALESBURG	•	•	•	•	•	•	•	•	•	•	•	•	•	1.90	1.63	2.85	3.46	4.24	4.75	3.51	3.20	3.05	2.91	2.14	1.82	35.46
GOLDEN	•	•	•	•	•	•	•	•	•	•	•	•	•	1.80	1.52	2.76	3.47	4.13	4.44	3.84	3.34	3.31	2.86	2.09	1.81	35.37
LA HARPE	26.3	29.4	38.9	52.1	62.7	72.5	76.6	74.8	67.1	56.4	40.9	30.0	52.3	1.79	1.47	2.80	3.59	3.95	4.96	3.54	3.79	3.33	2.82	2.05	1.85	35.94
MACOMB	•	•	•	•	•	•	•	•	•	•	•	•	•	1.76	1.49	2.80	3.52	4.20	4.87	3.23	3.59	3.28	2.76	2.07	1.76	35.33
MONMOUTH	25.2	28.3	37.9	51.3	62.0	71.8	76.0	74.2	66.4	55.6	39.9	29.0	51.5	1.95	1.65	2.73	3.42	4.12	5.20	3.61	3.30	3.29	2.74	2.14	1.75	35.90
QUINCY	28.9	32.4	41.6	54.5	65.2	75.1	79.6	77.8	69.7	58.0	43.0	32.5	54.9	1.76	1.60	2.56	3.47	4.18	4.67	3.58	3.88	3.53	2.85	2.07	1.82	35.97
QUINCY MEMORIAL BRIDGE	•	•	•	•	•	•	•	•	•	•	•	•	•	1.77	1.58	2.54	3.50	4.20	4.59	3.75	3.85	3.52	2.81	2.08	1.78	35.97
RUSHVILLE	28.0	31.1	39.9	52.9	63.5	73.3	77.5	75.6	67.9	57.1	41.6	31.0	53.3	1.82	1.56	2.70	3.78	4.47	4.39	3.33	3.62	3.05	2.69	2.39	2.00	35.80
WARSAW	•	•	•	•	•	•	•	•	•	•	•	•	•	1.74	1.52	2.70	3.45	3.84	4.95	3.59	3.47	3.35	2.76	2.04	1.70	35.11
DIVISION	26.9	30.4	39.1	52.5	63.1	73.0	77.2	75.4	67.5	56.6	41.1	30.3	52.8	1.80	1.59	2.78	3.63	4.17	4.84	3.53	3.47	3.23	2.78	2.14	1.82	35.78
CENTRAL DIVISION																										
BLOOMINGTON NORMAL	27.6	30.2	39.1	52.2	62.9	72.8	76.7	75.0	67.6	56.7	41.2	30.5	52.7	2.13	1.79	2.79	3.94	4.08	4.61	3.15	3.18	3.07	2.80	2.61	2.05	36.20
CLINTON 1 SSW	•	•	•	•	•	•	•	•	•	•	•	•	•	2.02	1.99	3.01	3.87	4.03	4.98	3.69	3.23	3.24	3.13	2.67	1.84	37.70
DECATUR	29.8	32.4	40.9	53.4	63.9	73.6	77.5	75.9	68.7	57.7	42.5	32.4	54.1	2.14	2.17	2.90	3.93	4.30	4.70	3.07	2.90	3.15	3.18	2.66	2.03	37.13
#HAVANA	27.7	30.8	40.0	53.1	63.7	73.5	77.3	75.6	68.0	56.5	41.4	30.8	53.2	1.75	1.68	2.64	3.67	4.09	4.22	3.49	3.28	3.02	2.62	2.24	1.79	34.49
HAVANA NO 2	•	•	•	•	•	•	•	•	•	•	•	•	•	1.82	1.77	2.84	3.78	3.96	4.14	3.53	3.31	3.01	2.62	2.33	1.92	35.03
LINCOLN	28.5	31.1	40.0	52.8	63.5	73.2	77.2	75.4	67.7	56.5	41.6	31.2	53.2	2.02	1.95	2.91	3.80	3.96	4.51	3.25	3.12	2.98	2.78	2.39	2.14	35.81
MINONK	•	•	•	•	•	•	•	•	•	•	•	•	•	1.73	1.64	2.56	3.58	4.03	3.83	3.34	3.28	2.85	2.54	2.11	1.92	33.41
PEORIA AP	25.7	28.4	37.6	50.8	61.5	71.7	76.0	74.3	66.4	55.3	39.7	29.1	51.4	1.88	1.71	2.85	3.97	4.27	4.08	3.54	2.88	3.05	2.53	2.14	1.94	34.84
#PRINCEVILLE 2 NW	•	•	•	•	•	•	•	•	•	•	•	•	•	1.55	1.46	2.48	3.36	4.23	3.91	3.39	2.65	3.04	2.30	1.92	1.56	31.85
DIVISION	27.8	30.6	39.1	52.7	63.2	73.1	77.0	75.2	67.7	56.5	41.0	30.8	52.9	1.96	1.82	2.81	3.82	4.04	4.42	3.44	3.15	2.95	2.79	2.33	1.98	35.51

TABLE II - NORMALS BY CLIMATOLOGICAL DIVISIONS

ILLINOIS

STATIONS (By Divisions)	TEMPERATURE (°F) JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	ANNUAL	PRECIPITATION (In.) JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	ANNUAL
EAST DIVISION																										
DANVILLE	29.2	31.6	39.8	52.0	62.3	72.2	75.9	74.2	66.9	55.9	41.6	31.5	52.8	2.21	2.11	2.77	3.28	4.33	4.57	3.67	3.12	3.24	3.06	2.93	2.15	37.44
HOOPESTON	28.1	30.4	38.9	51.4	62.2	72.2	76.0	74.2	67.0	55.9	40.9	30.4	52.3	2.10	2.08	3.01	3.60	4.04	4.56	3.82	2.79	3.11	3.21	2.74	1.98	37.04
KANKAKEE 3 SW	26.7	28.7	37.7	50.3	61.0	71.1	75.2	73.4	66.1	55.2	40.3	29.5	51.3	1.69	1.79	2.41	3.75	4.16	4.08	3.11	3.43	2.51	2.72	2.09	1.77	33.51
PONTIAC	27.4	29.5	38.6	51.6	62.3	72.1	76.1	74.2	66.9	56.2	41.0	30.2	52.2	1.73	1.67	2.44	3.87	3.76	4.09	3.73	3.07	2.84	2.66	2.07	1.90	33.83
ROBERTS 3 N	•	•	•	•	•	•	•	•	•	•	•	•	•	1.76	1.85	2.75	3.90	3.99	3.93	3.30	3.11	2.72	2.75	2.09	1.74	33.89
#URBANA	28.7	31.0	39.5	51.9	62.5	72.4	76.2	74.4	67.3	56.6	41.3	31.1	52.7	2.16	2.09	3.17	3.54	4.22	4.54	3.49	3.04	3.04	3.01	2.62	2.08	37.00
WATSEKA	•	•	•	•	•	•	•	•	•	•	•	•	•	1.99	1.89	2.93	3.92	4.54	3.91	4.00	3.06	2.73	2.77	2.33	1.94	36.01
DIVISION	27.8	30.1	38.6	51.2	61.8	71.8	75.7	73.9	66.6	55.8	40.7	30.2	52.0	1.95	1.94	2.78	3.68	4.12	4.23	3.57	3.09	2.82	2.88	2.40	1.95	35.41
WEST SOUTHWEST DIVISION																										
BEARDSTOWN	•	•	•	•	•	•	•	•	•	•	•	•	•	1.81	1.68	2.70	3.77	4.09	4.35	3.59	2.95	3.02	2.71	2.46	1.85	34.98
CARLINVILLE	30.8	33.8	42.1	54.2	64.1	73.9	78.0	76.5	69.1	58.2	43.3	33.5	54.8	2.17	2.13	3.15	3.92	4.09	4.93	3.04	3.19	3.02	2.97	2.89	2.02	37.52
EDWARDSVILLE	•	•	•	•	•	•	•	•	•	•	•	•	•	2.38	2.35	3.62	4.19	4.87	4.69	3.84	3.51	3.32	3.16	3.13	2.16	41.22
GRAFTON	•	•	•	•	•	•	•	•	•	•	•	•	•	2.12	2.20	2.98	3.59	4.08	4.06	3.32	3.22	2.85	2.76	2.81	2.03	36.02
GRIGGSVILLE	29.1	32.5	41.3	54.1	64.6	74.2	78.5	76.7	69.1	58.2	42.9	32.5	54.5	•	•	•	•	•	•	•	•	•	•	•	•	•
HILLSBORO	31.6	34.5	42.8	54.7	64.3	73.8	77.7	76.3	69.0	58.3	43.6	32.7	54.9	2.27	2.30	3.17	3.83	4.22	4.63	3.40	3.46	2.87	3.09	2.84	2.02	38.10
#JACKSONVILLE	29.4	32.6	41.3	53.9	64.0	73.8	77.4	75.8	68.3	57.3	42.7	32.4	54.1	1.78	1.70	2.75	3.52	4.26	4.27	3.09	3.03	3.03	3.00	2.52	1.86	34.81
MORRISONVILLE 4 SE	30.2	32.7	41.3	53.2	63.4	73.2	76.9	75.3	68.1	57.2	42.4	32.6	53.9	1.90	2.02	2.71	3.45	3.71	4.51	2.97	3.60	2.79	2.76	2.55	1.81	34.78
PANA	30.5	33.3	41.8	53.9	64.2	74.1	77.9	76.0	68.6	57.8	42.7	32.9	54.5	2.15	2.26	2.93	3.59	4.30	4.54	2.86	4.07	2.99	2.91	2.75	2.13	37.48
SPRINGFIELD AP	28.4	31.1	39.7	52.4	62.9	73.0	77.0	75.2	67.6	56.7	41.3	31.5	53.1	1.89	1.82	2.88	3.59	3.88	4.45	3.49	2.74	2.93	2.91	2.36	1.89	34.83
WHITE HALL 1 E	30.6	33.8	42.2	54.5	64.4	74.1	78.1	76.6	69.1	58.4	43.6	33.5	54.9	1.68	1.60	2.66	3.43	4.06	4.39	3.25	3.11	2.81	3.06	2.49	1.77	34.31
DIVISION	30.5	33.7	41.8	54.3	64.3	74.1	77.9	76.2	68.8	57.9	43.0	33.3	54.7	2.01	2.14	2.98	3.68	4.09	4.50	3.26	3.29	2.87	2.95	2.62	1.92	36.31
EAST SOUTHEAST DIVISION																										
CHARLESTON	•	•	•	•	•	•	•	•	•	•	•	•	•	2.40	2.13	3.34	3.51	4.45	4.61	3.39	3.34	3.17	2.90	3.14	2.19	38.57
EFFINGHAM	31.0	33.4	41.6	53.5	63.5	73.4	77.1	75.6	68.2	57.3	42.7	33.1	54.2	2.44	2.34	3.48	3.63	4.28	4.65	3.62	3.30	3.11	3.05	3.38	2.33	39.61
FLORA 1 W	33.3	35.7	44.0	55.7	65.5	74.8	78.3	76.7	69.5	58.9	44.7	35.3	56.0	•	•	•	•	•	•	•	•	•	•	•	•	•
OLNEY	33.6	36.1	44.1	55.6	65.2	74.7	78.2	76.9	70.0	59.0	45.0	35.5	56.2	•	•	•	•	•	•	•	•	•	•	•	•	•
PALESTINE	32.6	35.1	43.1	55.0	64.9	74.7	78.2	76.6	69.2	58.0	43.9	34.5	55.5	3.16	2.42	3.53	3.86	4.44	4.37	3.40	3.04	3.42	2.93	3.47	2.93	40.97
PARIS WATERWORKS	30.3	32.7	40.8	53.1	63.6	73.3	77.1	75.5	68.3	57.3	42.3	32.4	53.9	2.74	2.22	3.24	3.41	4.43	4.97	3.42	2.88	3.18	2.88	3.08	2.49	38.94
SALEM	•	•	•	•	•	•	•	•	•	•	•	•	•	2.74	2.50	3.45	3.87	4.35	4.36	3.57	3.25	3.17	3.05	3.31	2.70	40.32
TUSCOLA	•	•	•	•	•	•	•	•	•	•	•	•	•	2.25	2.16	3.35	3.63	4.19	4.75	3.06	3.52	3.25	3.10	2.95	2.21	38.42
WINDSOR	30.2	32.8	40.9	53.1	63.5	73.3	76.9	75.2	68.1	57.1	42.3	32.5	53.8	2.56	2.44	3.37	3.84	4.44	5.04	3.49	3.46	3.22	3.17	3.01	2.44	40.48
DIVISION	31.6	34.3	42.2	54.3	64.2	73.9	77.5	75.8	68.7	57.8	43.2	33.6	54.8	2.69	2.34	3.43	3.76	4.38	4.51	3.45	3.20	3.19	2.95	3.24	2.51	39.65
SOUTHWEST DIVISION																										
ANNA 1 E	35.5	38.4	46.1	57.3	66.3	75.2	78.6	77.5	70.7	60.2	46.4	37.7	57.5	4.10	3.55	4.79	4.77	5.20	4.39	3.22	4.08	3.68	3.27	3.97	3.54	48.56
CAIRO CO	37.4	40.7	48.2	59.4	69.0	77.9	81.1	79.9	72.5	61.9	47.9	39.5	59.6	4.46	3.67	4.79	4.07	4.39	4.13	3.19	3.10	3.01	2.88	3.87	3.67	45.23
CARBONDALE SEWAGE PLANT	35.5	38.4	46.2	57.3	66.4	75.6	78.9	77.8	70.5	59.6	46.0	37.7	57.5	3.66	3.05	4.19	4.36	4.63	4.19	3.23	3.86	3.47	3.15	3.62	2.98	44.39
CHESTER	•	•	•	•	•	•	•	•	•	•	•	•	•	2.73	2.40	3.34	4.06	4.36	3.88	2.95	3.53	2.97	2.60	3.04	2.44	38.30
DU QUOIN 2 S	34.8	37.7	45.6	57.0	66.5	75.6	79.0	77.8	70.6	59.7	46.0	37.1	57.3	3.15	2.71	3.79	4.01	4.15	3.89	3.22	3.64	3.34	3.15	3.49	2.86	41.40
NASHVILLE 3 NW	•	•	•	•	•	•	•	•	•	•	•	•	•	2.69	2.46	3.34	4.06	4.28	4.06	3.04	3.81	3.22	3.07	3.15	2.54	39.72
#NEW BURNSIDE	35.4	38.2	46.0	57.1	65.9	74.8	78.1	77.3	70.3	59.7	46.1	37.4	57.2	4.38	3.50	4.68	4.67	4.79	4.19	3.35	3.61	3.45	3.05	3.84	3.31	46.82
SPARTA	34.7	37.8	45.8	57.5	66.5	75.9	79.6	78.5	71.5	60.8	46.2	37.1	57.7	2.73	2.41	3.40	4.07	4.44	3.85	3.29	3.70	3.23	3.17	3.24	2.35	39.88
WATERLOO	•	•	•	•	•	•	•	•	•	•	•	•	•	2.33	2.24	3.13	3.75	4.39	4.03	3.44	3.35	3.32	3.08	3.28	2.32	38.66
DIVISION	34.9	38.2	45.6	57.3	66.4	75.7	79.0	77.8	70.6	59.9	45.9	37.1	57.4	3.43	2.99	4.10	4.20	4.47	4.30	3.35	3.77	3.36	3.10	3.48	2.90	43.45
SOUTHEAST DIVISION																										
BENTON	•	•	•	•	•	•	•	•	•	•	•	•	•	3.40	2.59	3.69	3.94	4.07	3.58	3.07	3.80	3.40	2.84	3.28	2.82	40.48
#BROOKPORT DAM 52	•	•	•	•	•	•	•	•	•	•	•	•	•	4.93	3.89	4.84	4.23	4.24	3.99	3.65	3.30	3.49	2.71	3.93	3.49	46.69
CARMI 6 NW	•	•	•	•	•	•	•	•	•	•	•	•	•	3.84	3.13	4.16	3.90	4.29	3.52	3.28	3.47	3.30	2.72	3.36	3.05	42.02
FAIRFIELD RADIO WFIW	34.3	37.0	44.8	56.3	65.7	75.2	78.7	77.4	70.3	59.5	45.5	36.4	56.8	•	•	•	•	•	•	•	•	•	•	•	•	•
#GOLCONDA DAM 51	•	•	•	•	•	•	•	•	•	•	•	•	•	4.40	3.57	4.77	4.02	3.97	3.67	3.65	3.37	3.16	2.58	3.75	3.39	44.30
HARRISBURG	36.4	39.0	46.8	57.8	67.1	76.0	79.5	78.2	71.0	60.2	46.9	38.2	58.1	3.94	3.04	4.33	4.13	4.25	3.69	3.29	3.54	2.93	2.85	3.32	2.97	42.28
MC LEANSBORO	35.1	37.8	45.7	57.2	66.4	75.6	79.1	78.0	71.0	60.1	46.1	37.1	57.4	3.68	2.82	3.87	4.04	4.32	3.71	3.36	3.62	3.49	2.91	3.51	3.00	42.33
MOUNT VERNON	33.4	36.3	44.3	56.1	65.8	75.3	79.0	77.8	70.5	59.3	44.8	35.7	56.5	3.27	2.63	3.77	4.46	4.36	3.97	3.26	3.83	3.46	3.09	3.55	2.84	42.49
SHAWNEETOWN NEW TOWN	•	•	•	•	•	•	•	•	•	•	•	•	•	4.39	3.20	4.79	4.36	4.19	3.85	3.76	3.82	2.98	2.72	3.57	3.04	44.67
DIVISION	35.0	37.9	45.5	57.0	66.2	75.6	79.1	77.8	70.7	59.7	45.8	36.9	57.3	3.83	2.96	4.24	4.22	4.30	3.86	3.46	3.55	3.22	2.84	3.61	3.06	43.15

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1963 REVISIONS AND ADDITIONS TO CLIMATOGRAPHY OF THE UNITED STATES NO. 81-9
ILLINOIS
TABLE I — NORMALS FOR FIRST ORDER STATIONS

STATION	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
CHICAGO AP-OHARE													
* G 658 T 4													
MAX TEMP	32.3	34.5	43.3	57.4	69.0	79.4	84.1	82.7	75.3	64.0	47.3	35.4	58.7
MIN TEMP	16.1	17.8	26.0	36.9	46.6	56.5	61.3	59.9	51.9	42.1	28.9	19.4	38.6
AVG TEMP	24.2	26.2	34.7	47.2	57.8	68.0	72.7	71.3	63.6	53.1	38.1	27.4	48.7
DEG DAYS	1265	1086	939	534	260	72	0	12	117	381	807	1166	6639
PRECIP	1.82	1.51	2.68	2.94	3.76	3.96	3.39	3.21	2.74	2.75	2.17	1.83	32.76
CHICAGO AP-MIDWAY													
H 610 T 5													
MAX TEMP	33.0	34.7	43.5	57.4	69.1	79.5	84.1	82.4	74.8	63.4	47.1	35.7	58.7
MIN TEMP	19.0	20.6	29.0	40.5	50.9	61.5	67.1	65.9	57.4	46.7	32.6	22.5	42.8
AVG TEMP	26.0	27.7	36.3	49.0	60.0	70.5	75.6	74.2	66.1	55.1	39.9	29.1	50.8
DEG DAYS	1209	1044	890	480	211	48	0	0	81	326	753	1113	6155
CHICAGO CO COURT HOUSE													
* H 594 T140													
MAX TEMP	33.9	35.2	43.0	55.9	67.0	77.3	82.2	80.8	73.8	63.1	47.5	36.7	58.0
MIN TEMP	21.9	23.3	30.9	41.5	51.6	62.5	68.8	68.5	60.5	50.0	35.5	25.5	45.0
AVG TEMP	27.9	29.3	37.0	48.7	59.3	69.9	75.5	74.7	67.2	56.6	41.5	31.1	51.6
DEG DAYS	1150	1000	868	489	226	48	0	0	66	279	705	1051	5882
PRECIP	1.92	1.63	2.80	3.06	3.78	4.00	3.24	3.43	2.72	2.81	2.19	1.91	33.49
MOLINE AP													
G 582 T 5													
MAX TEMP	31.6	34.8	45.1	61.7	73.1	83.2	88.0	85.7	78.1	67.1	48.9	35.4	61.1
MIN TEMP	13.6	16.6	25.6	38.3	49.2	59.5	63.2	61.4	52.5	42.4	29.5	18.3	39.2
AVG TEMP	22.6	25.7	35.4	50.0	61.2	71.4	75.6	73.6	65.3	54.8	39.2	26.9	50.1
DEG DAYS	1314	1100	918	450	189	39	0	9	99	335	774	1181	6408
SPRINGFIELD AP													
G 588 T 6													
MAX TEMP	36.3	40.6	50.1	64.8	75.6	85.4	89.6	86.8	80.3	69.1	51.6	40.2	64.2
MIN TEMP	20.5	22.5	30.3	41.9	52.2	62.5	66.4	63.5	54.9	44.3	32.0	23.8	42.9
AVG TEMP	28.4	31.6	40.2	53.4	63.9	74.0	78.0	75.2	67.6	56.7	41.8	32.0	53.6
DEG DAYS	1135	935	769	354	136	18	0	0	72	291	696	1023	5429
CHICAGO CO UNIV H 594 T 7													
MAX TEMP		34.8											
AVG TEMP		28.6											50.7
DEG DAYS		1019											6095

TABLE II — NORMALS BY CLIMATOLOGICAL DIVISIONS

TEMPERATURE (°F.)

NORTHWEST DIVISION	23.6	26.2	35.9	49.8	61.0	70.8	75.1	73.2	65.2				50.1
NORTHEAST DIVISION	25.3	27.1	36.1			70.0		73.2	65.4			28.3	
WEST DIVISION	27.0	30.2	39.4		63.2	73.1	77.3	75.5	67.7	56.7	41.2	30.5	52.9
CENTRAL DIVISION	27.5	30.2	39.2	52.2	62.8	72.7	76.7	75.0	67.4	56.3		30.4	52.6
EAST DIVISION		29.9			61.9	71.9	75.8	74.0	66.7		40.8	30.3	52.1
WEST SOUTHWEST DIVISION		33.5	42.0	54.2		74.0		76.3	68.9	58.0	43.1	33.2	
EAST SOUTHEAST DIVISION	31.5	34.0		54.1			77.6	76.0			43.3	33.3	54.7
SOUTHWEST DIVISION	34.8	37.8	45.7	57.1		75.6	79.1	77.9	70.7				57.3
SOUTHEAST DIVISION	34.9	37.6			66.3			77.9	70.8	59.8	45.9	37.0	

LIBRARY
JUL 9 1964
WEATHER BUREAU

Continued

TABLE II — NORMALS BY CLIMATOLOGICAL DIVISIONS

DIVISION	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
					PRECIPITATION (In.)								
NORTHWEST DIVISION	1.76	1.37	2.35	3.14	3.94	4.47	3.67		3.30	2.63	2.23	1.74	34.25
NORTHEAST DIVISION		1.56	2.50	3.20	3.84	3.97	3.27	3.42	3.02		2.15	1.83	33.27
WEST DIVISION	1.81	1.56	2.70	3.58	4.19	4.88		3.56	3.26	2.75	2.20	1.83	35.85
CENTRAL DIVISION	1.94	1.77	2.77	3.76	4.09	4.21	3.32	3.21	3.01	2.70	2.31	1.95	35.04
EAST DIVISION	1.96	1.95	2.76	3.69	4.11	4.30		3.08	2.87		2.44	1.96	35.57
WEST SOUTHWEST DIVISION	2.02	1.99	2.96	3.67	4.14	4.52	3.18	3.34	2.90	2.94	2.65	1.95	36.26
EAST SOUTHEAST DIVISION	2.78	2.38	3.46	3.79	4.42	4.48	3.48	3.23	3.16	2.94	3.27	2.55	39.94
SOUTHWEST DIVISION	3.37	2.89	3.94	4.21			3.34	3.80	3.42	3.12	3.52	2.88	43.26
SOUTHEAST DIVISION	3.79	2.94	4.05	4.21	4.42	3.92	3.52	3.50	3.31	2.91	3.62	3.08	43.27

* NEW STATION

REVISIONS TO FIRST ORDER STATIONS IN TABLE I AFFECT THE SAME STATIONS IN TABLE II.

USCOMM-WB-Asheville, N. C. -3/31/64- 2000