U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

CLIMATOLOGICAL SERVICE

DISTRICT NO. 10. GREAT BASIN

ALFRED H. THIESSEN
DISTRICT EDITOR

REPORT FOR JULY, 1911

Prepared under direction of WILLIS L. MOORE, Chief U. S. Weather Bureau

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor, and J. CECIL ALTER, Observer, Acting District Editor.

GENERAL SUMMARY.

Typical of the summer climate of an arid, mountainous country, the weather during July in the Great Basin was generally fair and quiet, though much cooler weather than is usual in July occurred in the Wasatch Mountains and generally over the eastern portion of the basin; and in limited districts local rains were so heavy during thunderstorms as to produce some flooding. The record for cool weather was not exceeded, however, at any station so far as is known, neither was the record for excessive precipitation at the few stations receiving the large amounts.

The month was quite uniformly reported as being favorable for all agricultural and manufacturing interests. The comparatively light precipitation, and the few rainy days, permitted almost uninterrupted field work, and the harvesting of grain and the cutting of the second crop of alfalfa in most districts proceeded in safety. The cool weather also had the tendency to lessen evaporation on the arid farms, yet it was sufficiently warm to produce normal growth and proper maturing of practically all crops.

There was an average of 16 clear days, 10 partly cloudy days, and 5 cloudy days in the basin, though the number of clear days was somewhat greater in the middle and western portions. The wind movement was generally light.

TEMPERATURE.

The mean temperature for the basin, 69°, was 2.5° below the normal, considering departures only from the stations having the longer records. This mean value is 3° below the mean of July, 1910.

As a general rule, the temperature was slightly above normal in the northwestern part of the Great Basin, about normal in the middle portion, and considerably below normal in the eastern portion.

The first decade was the coolest part of the month in practically all parts of the district, the lowest temperatures for the month occurring quite uniformly within that period. At the time of coldest weather the minimum temperatures fell below freezing at a great many stations, especially the mountain stations of Utah, and scattered reports were received of slight damage to vegetation. Comparatively cool weather continued throughout the rest of the month, though not below freezing in any of the agricultural districts. The daytime temperatures were at no time excessive. A few days about the middle of the month were warmest in practically all parts of the basin.

PRECIPITATION.

The average precipitation of 0.62 inch was a departure of 0.17 inch below the normal of the long record stations, being considerably lighter than the average for last July. Most of this precipitation occurred in moderate showers, though at a few places local thunder showers produced excesses of rain which in portions of southern Utah and western Nevada ran through the fields and down the streams in damaging quantities. On the average the rainfall was heavier in the eastern and southeastern portions of the district than in the middle and northwestern portions.

The rainy period covered about two weeks' time, the greater portion of the rain falling within the middle two weeks of the month in the middle and western portions and during the last two weeks in the eastern portion of the basin. There was an average of 4 rainy days, ranging from none at several places to 10 or more at scattered places in Utah. Thunderstorms were numerous in the northern and western portions of the district, and in the western portion they were reported as being unusually severe in certain localities. Elsewhere the electrical storms were comparatively few and light. No snow fell during the month so far as is known, and that remaining in the mountains of Nevada was reported by the section director to have receded beyond the 7,000-foot contour during the month. Water continued plentiful in all parts of the basin for irrigation and other purposes, and the comparative dearth of rain was not seriously felt anywhere.

PRECIPITATION AVERAGES FOR LARGE AREAS.

ALFRED H. THIESSEN, Section Director.

The fact that precipitation varies considerably over not only large but also over quite limited areas is a matter of common observation. Many factors enter into the question as to why different amounts of precipitation are recorded at stations quite near one another, chief of which are the relation of stations to mountain ranges, their elevation, latitude, nearness to large bodies of water, and locations in relation to the average tracks of storms. Any one of these factors or any combination of them may cause a great difference between the rainfall in different sections of an area, as a State or large county.

In calculating the average amount of precipitation for an area it is a common practice to add together the amounts recorded at each station within the area and

divide the sum by the number of stations considered. Using this method the average rainfall for an area may be represented by the following equation:

$$1.\quad Q=\frac{(R_a+R_b+R_c+\ldots.R_n)}{n},$$

where Q is the average rainfall, R_a, R_b, R_c, and so forth, represent the rainfall at stations a, b, c, and so forth, and n the number of stations.

The method outlined above is incorrect and may be so realized by a consideration of the cases exhibited in the following figures:

1	2	3	4
1	2	3	3
1	2	2	2
1	1	1	1

CASE 1, Fig. 1.

1		3	4
			3
1			1

CASE 2. Fig. 2.

1	2		4
	2		
1			1

CASE 3, Fig. 3.

1			
1		3	
1	1		1

CASE 4, Fig. 4.

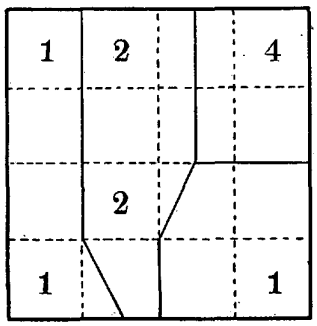


Fig. 5.

The cases represent the same area, but with different combinations of stations considered in each case in determining the average for the area. The stations are located in the center of each square. In case 1 data from all stations were received, and it is seen that the rainfall diminishes from the northeast to the southwest. In cases 2, 3, and 4 data from only six stations were received, but a different six in each case. In calculating the average rainfall in the four cases by the method just explained various results are obtained, and are shown in the table below:

	Number of stations.	Average precipitation, in inches.	Variation from true amount.
Case 1	16	1.88	0.
Case 2	6	2.17	15 per cent too high.
Case 3	6	1.83	3 per cent too low.
Case 4	6	1.43	24 per cent too low.

The true average for the area is 1.88 inches. This was calculated from data given in case 1, where the stations are evenly distributed, and data are available from each station. But in the other cases where data from many stations are missing, and those stations from which data are available are unevenly distributed, the averages calculated by the same method are discordant.

The discordant results are due to the fact that the extent of the areas represented by the data was not considered. The amount of rain recorded at any station should represent the amount for only that region inclosed by a line midway between the station under consideration and surrounding stations. Giving, therefore, each station its proper weight in reference to the area which it represents, we have, instead of the former equation the following:

$$2.\quad Q=\frac{A_a R_a+A_b R_b+A_c R_c+\ldots.A_n R_n}{A_a+A_b+A_c+\ldots..A_n},$$

where A_a, A_b, A_c, and so forth, stand for the areas represented by the rainfall recorded at stations a, b, c, and so on.

Let case 3 be considered from this new point of view.

Figure 5 shows this case with lines drawn midway between those stations where data are available. Assuming that the area of each small square is 4 and substituting in the last equation, we have:

$$3.\quad Q=\frac{4\times12+2\times20+1\times32}{12+20+32}=1.88 \text{ inches.}$$

which is the true average for the area.

The more stations in any area, the more nearly correct will the average be when found in accordance with the last equation.

When the stations are evenly distributed as in case 1, then as all areas are equal, the last evolved equation becomes the same as the first.

The average precipitation for an area is useful in making comparisons; as, the precipitation of one month compared with another. If it is desired to compare the rainfall of one year with that of another, one must either use data from the same stations in both years if he wishes to compute the average rainfall in accordance with equation 1, or use equation 2, which will give nearly the true value even if data from an entirely new set of stations were used, but, of course, the distribution of the stations in both cases should be very nearly the same.

The rainfall in Utah varies greatly, being quite heavy on the western slope of the Wasatch Mountains, and considerably lighter elsewhere. I have found the average annual rainfall of this State to be 13.25 inches when calculated according to equation 1, but only 11.11 inches

when found by using equation 2, making the first determination almost 19 per cent too high.

In using equation 2 the data were entered on a map of Utah, lines being drawn midway between the stations in much the same manner as shown in figure 5, with the exception that greater accuracy was sought for. A planimeter was used to obtain the square contents of the irregular areas, and substitution was made in the equation as illustrated in equation 3.

In Utah most of the weather stations are situated in a belt about 80 miles wide, extending from Rich County in a southwesterly direction to Washington County. In this belt lie the fertile valleys and consequently the bulk of the population; while to the northwest and southeast of this belt, the land is not nearly so thickly settled and weather stations are much less numerous. Therefore, having a great many stations in this belt of greater rainfall, these receive undue prominence in calculating averages for the State by simply adding the amounts at each station and dividing the sum by the number of stations. To give the data at each station its proper weight, equation 2 should be used.

7614—No. 10—11——2

TABLE 1.—*Climatological data for July, 1911. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	9	60.8	.....	88	13†	28	1	54	0.07	− 0.27	0.07	0	1	19	12	0	w.	S. W. Condron.
Cokeville	....do	6,204	1	57.8	.....	89	13	26	1	56	0.48	.....	0.25	0	6	27	1	1	w.	E. J. Tuckett.
Evanston	....do	6,860	14	60.4	− 1.4	86	12	30	1†	46	0.70	− 0.06	0.47	0	4	21	10	0	w.	Frank Tucker.
Idaho.																				
Geneva	Bear Lake	.....	3	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.13	0	2	30	1	0	.....	F. W. Boehme.
Grace	Bannock	5,400	5	65.7	.....	92	14†	35	9	48	1.03	.....	0.63	0	4	22	7	2	n.	Harold Cole.
Paris	Bear Lake	5,946	15	60.0[d]	− 3.4	89[d]	14	24[d]	1	51[d]	0.15	− 0.49	0.15	0	1	.....	.....	.....	sw.	John Norton
Weston	Oneida	4,460	14	66.5	− 1.5	94	15	34	1	47	0.50	− 0.08	0.25	0	3	22	6	3	s.	W. T. Chatterton.
Utah.																				
Alpine	Utah	4,900	14	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	22	6	3	.....	J. F. Carlisle.
Beaver	Beaver	6,000	8	68.6	.....	91	17	43	2	43	1.86	.....	1.04	0	11	5	25	1	sw.	James Connell.
Black Rock	Millard	4,872	11	69.6	.....	100	15	30	4	62[g]	0.97	.....	0.58	0	3	17	9	5	.....	W. D. Livingston.
Burrville	Sevier	.....	.....	63.6	.....	92	10†	36	1	51	0.85	.....	0.30	0	4	.....	.....	.....	.....	F. R. Curtis.
Castle Rock	Summit	6,244	8	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.75	0	4	16	11	4	.....	David Moore.
Cedar City	Iron	5,750	6	72.2	.....	96	15	45	2	35	2.88	.....	1.19	0	8	6	13	12	sw.	Parley Dalley.
Center	Tooele	.....	.....	67.6	.....	96	14	32	9	56	0.98	.....	0.49	0	6	14	15	2	n.	L. C. Peterson.
Clarkston	Cache	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.70	0	4	.....	.....	.....	.....	W. J. Griffiths.
Corinne	Boxelder	4,240	41	76.1	− 2.9	105	14	40	1	61	T.	− 0.43	T.	0	0	19	8	4	.....	A. C. Murphy.
Deseret	Millard	4,541	17	73.8	+ 1.8	98	15	40	2	46	0.10	− 0.05	0.10	0	1	15	9	7	n.	Samuel W. Western.
Enterprise	Washington	4,270	3	.....	.....	.....	.....	.....	.....	.....	2.11	.....	0.93	0	6	9	16	6	.....	John Day.
Fairfield	Utah	4,866	.....	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.28	0	4	21	8	2	.....	W. Harden Ashby.
Farmington	Davis	4,267	11	71.2	− 1.3	95	14†	39	1	45	0.11	− 0.26	0.06	0	2	28	3	0	sw.	Charles Boylin.
Fillmore	Millard	5,100	21	75.8	+ 0.5	102	11†	41	2	50	1.76	+ 1.13	0.85	0	5	.....	.....	.....	.....	J. J. Starley.
Frisco	Beaver	7,318	17	68.6	− 5.2	96	17†	33	1	45	2.53	+ 1.77	1.55	0	8	.....	.....	.....	.....	Essen Nordberg.
Garrison	Millard	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. M. Smith.
Government Creek	Tooele	5,277	11	70.5	− 2.6	93	7†	36	1	42	0.69	+ 0.25	0.47	0	3	19[b]	7[b]	3[b]	n.	Walter James.
Grantsville	....do	.....	2	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.19	0	3	23	8	0	n-s.	J. C. Woodmansee.
Grouse Creek	Boxelder	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.57	.....	0.26	0	4	14	11	6	sw.	Philip Paskett.
Heber	Wasatch	5,606	18	64.4	− 1.5	93	15	28	9	55	0.13	− 0.67	0.08	0	2	23	8	0	s.	John Crook.
Henefer	Summit	5,301	12	63.8	− 1.0	93	15	29	9	55	0.05	− 0.52	0.05	0	1	18	7	6	nw.	William Brewer.
Hooper	Weber	4,436	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. M. Jones, jr.
Ibapah (near)	Tooele	7,500	6	60.0	.....	82	13	33	1	41	2.34	.....	0.80	0	6	14	17	0	.....	J. S. Lawton.
Ibex	Millard	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John J. Watson.
International	Tooele	5,370	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. S. R. Co.
Iosepa	Millard	.....	.....	74.3	.....	102	31	39	1†	52	0.57	.....	0.57	0	1	11	10	10	.....	George K. Hubbell.
Joy	Juab	.....	.....	71.0	.....	95	14	42	9†	52	0.15	.....	0.15	0	1	16	13	2	.....	Samuel Hogans.
Kanosh	Millard	5,250	3	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.36	0	5	.....	.....	.....	.....	George Crane.
Kelton	Boxelder	4,230	33	69.2	− 8.2	95	16	47	1†	43	T.	− 0.36	T.	0	0	15	16	0	n.	F. W. Klock.
Lemay	....do	.....	.....	82.4	.....	96	15	65	1†	26	0.06	.....	0.05	0	2	17	12	2	.....	Agent S. P. Co.
Levan	Juab	5,010	21	70.6	− 0.8	95	14	41	1†	46	0.70	+ 0.10	0.19	0	7	22	5	4	sw.	William Brown.
Logan	Cache	4,507	20	69.5	− 1.9	90	14	38	1	35	0.12	− 0.30	0.06	0	2	.....	.....	.....	.....	Utah Exp. Station.
Low	Tooele	.....	.....	76.0[g]	.....	96	14†	48	8	32	T.	.....	T.	0	0	18[g]	4[g]	2[g]	.....	T. G. Morris.
Lucin	Boxelder	4,504	7	73.2	.....	97	15	44	2	49	0.05	.....	0.05	0	1	13	18	0	.....	C. J. Burke.
Lund	Iron	5,086	.....	72.4[a]	.....	97	11†	45	9	47	2.64	.....	1.12	0	9	4[a]	15[a]	11[a]	sw.	Job F. Hall.
Manti	Sanpete	5,575	17	61.6	− 8.9	83	11	38	1†	38	1.21	+ 0.64	0.44	0	6	4	5	22	.....	J. M. Anderson.
Maple Creek	Utah	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.59	0	2	20	11	0	.....	Lewis W. Gillilan.
Marion	Summit	6,750	7	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.12	0	9	9	10	12	nw.	James Woolstenhulme.
Marysvale	Piute	6,180	12	66.1	− 0.2	93	10†	41	3†	52	1.40	+ 0.41	0.63	0	10	4	9	18	sw.	John W. Henry.
Meadowville	Rich	6,200	12	62.6	− 5.6	85	14†	31	1	39	0.20	− 0.29	0.15	0	2	25	6	0	w.	J. S. Moffat.
Mercur	Tooele	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.26	.....	1.01	0	8	3	28	0	nw.	T. H. Franklin.
Midlake	Boxelder	.....	.....	76.6	.....	89	14	55	8	20	0.00	.....	0.00	0	0	23	0	8	.....	Agent S. P. Co.
Milford	Beaver	4,962	7	71.8	.....	98	16†	37	31	57	0.93	.....	0.50	0	7	.....	.....	.....	.....	H. F. Aller.
Millville	Cache	4,848	16	.....	.....	.....	.....	.....	.....	.....	0.13	− 0.25	0.05	0	5	9	22	0	s.	Fred Yeates.
Minersville	Beaver	5,070	14	.....	.....	.....	.....	.....	.....	.....	0.91	+ 0.34	0.56	0	5	.....	.....	.....	.....	George Roberts, sr.
Modena	Iron	5,479	11	70.2	+ 0.5	93	15	46	2	43	1.84	+ 0.58	0.85	0	10	7	14	10	w.	U. S. Weather Bureau.
Morgan	Morgan	5,068	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Visick.
Moroni	Sanpete	5,519	3	67.4[f]	.....	91	12	43	2	37	1.27	.....	0.54	0	7	8[d]	13[d]	6[d]	sw	B. F. Eliason.
Mount Nebo	Utah	4,650	10	73.0	− 1.2[e]	98	7	45	2	37	0.59	+ 0.14	0.16	0	6	20	11	0	n.	D. C. Walkey.
Nephi (near)	Juab	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. Boswell.
Newcastle	Iron	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. W. Jones.
Oak City	Millard	4,900	7	.....	.....	96	14	.....	.....	.....	0.56	.....	0.48	0	2	11	19	1	.....	Peter Nielson.
Ogden	Weber	4,310	10	69.6	− 4.5	94	10	36	1	44	0.17	− 0.08	0.09	0	3	24	7	0	w.	A. Van De Graff.
Park City	Summit	7,800	14	63.0	− 1.4	88	13	30	1	46	0.44	− 0.38	0.32	0	3	10	15	6	.....	Gertrude Evans.
Park Valley	Boxelder	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.17	0	2	31	0	0	w.	Thomas Stirland.
Parowan	Iron	5,970	20	69.0	− 2.1	93	15	44	4	35	1.52	+ 0.58	0.60	0	10	16	0	15	.....	Scott Matheson.
Payson	Utah	4,637	8	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.25	0	4	17	12	2	sw.	D. L. Coombs.
Pelican Point	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.10	0	3	26	4	1	.....	B. M. Mendenhall.
Pine Cliff Ranch	Summit	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.70	.....	0.70	0	4	.....	.....	.....	.....	L. E. Leavitt.
Pinto	Washington	5,907	15	65.3	− 1.3	93	15	37	9	52	1.37	+ 0.32	0.55	0	11	5	12	14	s.	J. H. Harrison.
Promontory	Boxelder	4,913	40	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.20	0.00	0	0	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	23	69.9	− 3.2	98	14	34	9	55	0.20	− 0.03	0.20	0	1	8	23	0	n.	James A. Oliver.
Randolph	Rich	6,442	9	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.05	0	6	21[g]	0[g]	3[g]	sw.	William Rex.
Revier	Salt Lake	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.08	0	2	.....	.....	.....	.....	E. L. Terry.
Richfield	Sevier	5,350	21	69.6[d]	− 0.9	94	11†	43	9	50	0.42	− 0.13	0.32	0	2	16	1	10	.....	Joseph J. Jensen.
Saltair	Salt Lake	4,220	9	72.8[a]	.....	88	13†	48	1	23	0.33	.....	0.33	0	1	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	....do	4,360	38	74.2	− 2.0	93	14	46	1	29	0.02	− 0.52	0.02	0	2	19	11	1	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	18	67.1	− 2.9	94	12	30	1	57	1.65	+ 1.01	0.68	0	6	9	7	15	sw.	Thomas Memmott.
Silver City	Juab	6,127	2	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.48	0	6	14	17	0	sw.	J. L. Stark.
Spanish Fork	Utah	4,585	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Shippee.
Strawberry Tunnel	....do	7,650	6	61.8	.....	86	13†	29	2	46	1.78	.....	0.67	0	10	17	13	1	.....	F. W. Cater.
Thistle	....do	5,075	20	66.0	− 4.5	98	19	30	2	50	1.02	+ 0.43	0.68	0	3	10	17	4	w.	John Thorgeirson.
Tooele	Tooele	4,900	16	71.0	− 2.6	93	14	40	1	36	0.21	− 0.25	0.16	0	2	5	5	21	ne.	E. A. Bonelli.
Utah Lake Pumping Station.	Utah	4,500	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Knight.
Wendover	Tooele	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.09	.....	0.05	0	3	20	7	4	.....	Agent W. P. Ry.
Whisky Creek	Millard	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.45	0	1	.....	.....	.....	.....	T. B. Perkins.
Woodruff	Rich	6,500	13	56.7	− 4.1	91	1	21	8†	68[g]	0.50	+ 0.06	0.20	0	3	21	6	4	.....	J. Sidney Pusey.

TABLE 1.—*Climatological data for July, 1911. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Burns	Harney	4,157	20	67.6	+ 1.8	97	17	29	7	51	0.13	− 0.08	0.13	0	1	27	4	1	w.	J. C. Welcome, jr.
Cliff	Lake	4,300	4																	John C. Green.
Paisley	do	4,500	8	71.5		95[a]	16	39[a]	1	39[a]	T.		T.	0	0	26[a]	4[a]	0[a]	w.	E. C. Woodward.
Silver Lake	do	4,700	14	66.4	− 0.2	99	16	28	8	56	0.16	− 0.34	0.10	0	3	9	22	0	w.	L. W. Charles.
California.																				
Tahoe	Placer		1	58.8		84	15	32	1	41	0.00		0.00	0	0	30	1	0	w.	R. M. Watson.
Truckee	Nevada	5,819	40	67.9	+ 2.5	90	15†	44	1	34	0.00	− 0.19	0.00	0	0	6	25	0		Southern Pacific Co.
Nevada.																				
Austin	Lander	6,594	22																	F. O. Booe.
Battle Mountain	do	4,843	40	70.4	− 4.8	106	18	36	2	62	0.47	+ 0.34	0.25	0	2	23	7	1	w.	Southern Pacific Co.
Beowawe	Eureka	4,905	40	67.6	− 9.6	103	14	35	8	58										Do.
Carlin	Elko	5,232	40	72.0	+ 1.4	109	16	30	9	68	0.00	− 0.11	0.00	0	0	31	0	0		Do.
Carson Dam[a]	Churchill	4,032	4	76.1		98	17	55	25†	34	0.33		0.18	0	3					U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	3	69.4		94	14	41	9	46	0.61		0.24	0	6	15	11	3	w.	J. H. Leishman.
Clover Valley	Elko	6,000	11	67.9[e]	+ 1.2	92[i]	6	43[a]	3	41[i]	0.34	− 0.01	0.32	0	1	12	19	0		I. F. Wiseman.
Cobre	do		2				26	9			1.24		0.50	0	4	19	12	0	sw.	Southern Pacific Co.
Columbia	Esmeralda	5,750	4	74.0		97	15	44	1	42	1.39		0.90	0	9	17	13	1	nw.	A. Booth.
Dutton	Elko	5,100	3	75.7		95	16	52	8†	34	0.00		0.00	0	0	9	15	7	w.	Golconda Cattle Co.
Elko	do	5,342	40	68.1	− 2.8	96	16	32	9	54				0		11	17	3	w.	E. J. Clark.
Ely	White Pine	6,421	20																	G. C. Hunting.
Eureka	Eureka	6,500	8	68.4		93	14†	36	1	48	0.50		0.12	0	9	12	12	7	n.	Clay Simms.
Fallon	Churchill	3,965	6	74.2		100	6†	43	3	50	0.09		0.09	0	1	22	6	3	w.	U. S. Experiment Station.
Fernley	Lyon	4,200	38	74.2	− 3.7	100	16	38	9	55	0.07	− 0.24	0.07	0	1	20	9	2		Mrs. G. A. Steele.
Gardnerville	Douglas	4,830	11																	Wm. Dangberg.
Glenbrook	do		2																	C. C. Henningsen.
Golconda	Humboldt	4,697	32	71.8	− 4.5	97	16	40	2†	46	T.	− 0.07	T.	0	0	23	6	2	sw.	Southern Pacific Co.
Halleck	Elko	5,631	18	67.4	− 2.3	96	14†	30	8	54	0.26	− 0.14	0.23	0	2	15	16	0		Do.
Jean	Clark	2,074	3								T.		T.	0	0					Salt Lake Route.
Lewers' Ranch	Washoe	5,500	23	67.8		91	15	38	1	44	0.00		0.00	0	0	15	16	0		Ross Lewers.
Lovelocks	Humboldt	3,977	17	70.0	− 6.5	96	6	40	1†	46	0.06	− 0.07	0.05	0	2	21	9	1	s.	C. H. Allender.
Millett	Nye		3	68.2		92	5†	37	1	52	0.22		0.12	0	2	19	6	6	w.	Fred J. Jones.
Mina	Mineral	4,600	4	77.2		99	5	50	1	40	0.07		0.07	0	2	12	6	13	s	Southern Pacific Co.
Potts	Nye	6,990	18	68.2	− 2.4	94	5	33	1	56	0.12	− 0.54	0.06	0	3	7	3	21	s.	Miss Mamie Potts.
Quinn River Ranch	Humboldt	4,850	9	69.1		96	29	34	9	55	0.22		0.15	0	2					F. M. Payne.
Reno	Washoe	4,532	40	71.4	+ 3.9	95	14	42	1	44	1.59	+ 1.45	0.74	0	5	22	6	3	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	4																	U. S. Reclamation Service.
Tecoma	Elko	4,812	33	65.8	− 8.4	95	23	33	7	54	0.01	− 0.15	0.01	0	1					Southern Pacific Co.
Tonopah	Nye	6,090	4	73.2		93	15	49	1	31	0.99		0.48	0	7	8	22	1	w.	U. S. Weather Bureau.
Wabuska	Lyon	4,347	8																	Vic Bernard.
Wells	Elko	5,631	39	69.0	− 2.1	97	13	31	9	57	0.12	− 0.14	0.06	0	3	10	17	4		Southern Pacific Co.
Winnemucca	Humboldt	4,432	32	71.6	0	99	17	41	1	45	0.12	− 0.05	0.10	0	3	22	7	2	sw.	U. S. Weather Bureau.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulk; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1911. District No. 10, Great Basin.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Border	Bear																.07														T.		.07
Cokeville	do								T.								.25	.02	.06							.10	.01			.04	T.		0.48
Evanston	do								T.						.08			.03	T.	T.		.47				T.					.12		0.70
Idaho.																																	
Geneva	Bear																						.02			.13							0.15
Grace	do	.25																	T.		T.					.63	.07			.08			1.03
Paris	do																										.15						0.15
Weston	do																			.01							.25			.24			0.50
Utah.																																	
Alpine	G. Salt Lake																																0.00
Beaver	Sevier Lake				T.	T.		T.						.04	.07		T.	.03	.02	.31	.06	.04	.03		.08	T.		.11	.07				1.86
Black Rock	do																		.58			.30	.09	T.									0.97
Burrville	do																				.30	.20	.25	.10									0.85
Castle Rock	G. Salt Lake									.05						.05			.05				.75			T.							0.90
Cedar City	Desert					T.									T.			T.	.05	.14	.24	.25	.05			.41	.08	.66					2.88
Center	G. Salt Lake							.18									T.	.03		.01	.27	.16	.33						T.	T.			0.98
Clarkston	do																.10			.30						.10					.70		1.20
Corinne	do																		T.		T.										T.		T.
Deseret	Sevier Lake																						.10										0.10
Enterprise	G. Salt Lake																.04	.08	.93				.42		.54	.10							2.11
Fairfield	do																	T.					.28				.05		.08	.03			0.44
Farmington	do							.05													.06												0.11
Fillmore	Sevier Lake					.01	.01	T.											.82		.07		.85		T.				T.	T.			1.76
Frisco	Desert						.02													1.55	.25	.40	.05			.12	.09	.05					2.53
Garland																			.44											.67	T.		1.11
Garrison	Desert																																
Government Creek	do																			.10	.12	T.	.47										0.69
Grantsville	G. Salt Lake																					.19				.02				.03			0.24
Grouse Creek	Desert	.09					T.												.26			.16								.06			0.57
Heber	G. Salt Lake					T.	T.										T.			T.	T.	T.	.05				.08			T.			0.13
Henefer	do								T.										T.				T.			.05				T.			0.05
Hooper	do																																
Ibapah (near)	Desert	.56					.65	T.							T.	T.	T.	.10	T.	T.	.08	.80		T.		T.	.15	T.	T.				2.34
Ibex	do																																
International	G. Salt Lake																																
Iosepa	Desert								T.													.57											0.57
Joy	do																					.15											0.15
Kanosh	Sevier Lake																		.12			.19	.20						.36	.30			1.17
Kelton	G. Salt Lake																	T.															T.
Lemay	Desert																		.01		.05									T.			0.06
Levan	Sevier Lake				T.		.02												.02	.19	.12	.11	.19			.05			T.	T.			0.70
Logan	G. Salt Lake	.06																			.06												0.12
Low	Desert																T.				T.												T.
Lucin	do						T.												T.		T.	T.								.05			0.05
Lund	do														.20				1.12	.17		.25	.10		.11	.12		.36	.21				2.64
Manti	Sevier Lake														T.					.44	.13	T.	.29	.11		.03		T.	T.	.21				1.21
Maple Creek	G. Salt Lake					T.		T.							T.		T.	T.	T.				.59	.11									0.70
Marion	do					.08	T.		.02						*	.04			T.		T.	.12	.10			.09	.01			.04	.05		0.55
Marysvale	Sevier Lake				T.		.01		T.						T.			.16	.05	.03	.12	.63	.21		.14			.03	.02				1.40
Meadowville	G. Salt Lake																	.05	T.	T.										T.	.15		0.20
Mercur	do						.05	.02	T.						.01		T.		.01			.10	1.01				.01				.05		1.26
Midlake	do																																0.00
Milford	Sevier Lake						.08											.04	.05		.50	.20			.04		.02						0.93
Millville	G. Salt Lake																		.01	T.	.02					.05				.03	.02		0.13
Minersville	Sevier Lake			T.			.11													.56	.11		T.		.02			.11	T.				0.91
Modena	Desert					T.	.01					T.		.04	T.		T.	.31	.74	.11	.09	.15	.29	T.	T.	T.	T.	.03	.07				1.84
Morgan	G. Salt Lake																																
Moroni	Sevier Lake						.05	.04	.03						.13	T.		T.		.22	.26					T.	.54			T.	T.			1.27
Mount Nebo	G. Salt Lake														T.			.15	.10	.16		.05	.10			T.				.03			0.59
Nephi (near)	do																																
New Castle	Desert																																
Oak City	Sevier Lake														.08								.48										0.56
Ogden	G. Salt Lake																				.03	.05								.09			0.17
Park City	do														.10							.02								.32			0.44
Park Valley	Desert	.13																				.17											0.30
Parowan	do																	.43	.60	.08	.02	.06	.02	.01		.10	.03	.17					1.52
Pelican Point	G. Salt Lake																					.10					.03			.01			0.14
Payson	do					T.		T.							.25				.12	T.	.23	T.				T.							0.80
Pine Cliff Ranch															.70	.40						.32								.28			1.70
Pinto					.01	.10	T.							T.	.18		.02	.10	.55	.06	.06	.05	.20		T.		.04	T.					1.37
Promontory	G. Salt Lake																																0.00
Provo	do																				T.		.20			T.				T.			0.20
Randolph	do																	T.	.03	.05						.05	.05	T.		.03	.05		0.26
Revier															.08		T.			T.		T.								.08			0.16
Richfield	Sevier Lake																T.			T.	.32	.10						T.					0.42
Saltair	G. Salt Lake																		T.				.33										0.33
Salt Lake City	do																T.		T.			.01	.01										0.02
Scipio	Desert				T.	.09		T.										T.	.08	T.	.68	.13	.41			T.	T.		.26				1.65
Silver City	do																		.18		.14	.15	.48			.15		.02					1.12
Spanish Fork	G. Salt Lake																																
Strawberry Tunnel	do					.15	.06		.02						.37				.02	.06		.31	.11			.67	.02			T.			1.78
Thistle	do						.16		T.						T.				T.		T.	.68	.18				T.			T.			1.02
Tooele	do																T.			T.	T.	T.	.16			T.				.05	T.		0.21
Utah Pumping Sta	do																																
Wendover																	T.				.05				.01					.03			0.04
Whiskey Creek	Desert																					.45											0.45
Woodruff	G. Salt Lake														.20				.10	.20						T.							0.50
Oregon.																																	
Adel	SE. Drainage																																
Ana River	do																																
Bear Valley	do																			T.													T.
Burns	do																.13																0.13
Burns Mill	do																																0.00
Christmas Lake	do																																
Cliff	do																																
Diamond	do													.13	T.																		0.13

TABLE 2.—*Daily precipitation for July, 1911. District No. 10*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Continued.																																	
Embody	SE. Drainage												T.				T.									.22			T.				0.22
Fort Rock	do											T.	T.	T.		T.	T.	T.	T.	T.						.11	T.			T.			0.11
Paisley	do													T.													T.						T.
Seneca	do																																
Silver Lake	do														.02					.04						.10	T.						0.16
Valley Falls	do																																
California.																																	
Bijou	Truckee																												.10				0.10
Boca	do																																
Deer Park	do										10				.60									.08				.01				0.79
Glen Alpine	do											.03				.04													.02				0.09
Hobart Mills	do								T.					.05				.10										.08					0.23
Lundy	East Walker										.22	.05	.30	T.	T.	T.	.02	.06						T.					.05	T.			0.70
Markleeville	East Carson										.14	.04	T.		.17	T.	2.02	T.						T.				.10	T.				2.57
Shields' Ranch	East Walker										.09	.20		.12	.07	.12	.12	.05					.05						.10	.04			0.96
Silver Creek	East Carson																																0.00
Tahoe	Truckee											T.	T.			.25								T.					.25				0.50
Tallac	do																																0.00
Truckee	do																																
Woodfords	West Carson																																
Nevada.																																	
Arthur	Humboldt																	.03															0.03
Austin	Reese																																
Battle Mountain	Humboldt																	.25							.22								0.47
Beowawe	do																.09	.08	.19											.05			0.41
Bishop	do																																0.00
Carlin	do															.06			T.	.09					.18				T.				0.33
Carson Dam	Carson						.17	T.								T.	.02	.06	T.	T.		.08			T.	T.		T.	.24	.04			0.61
Cherry Creek	Humboldt						T.											.34				T.											0.34
Clover Valley	do																.50			.12	.50									.12			1.24
Cobre	do																																
Columbia	Desert			.03				.03					.10		.01	.09			.04				*	.90	.19							1.39
Dry Farm	Humboldt																		.02														0.02
Dutton	do																																0.00
Elko	do																																
Ely	do																																
Eureka	do						T.						T.			.10		.08	.02		.08	.12			.03	.02			.02	.03			0.50
Fallon	Carson												T.	T.	T.				T.						.09				T.				0.09
Fernley	Truckee													T.	T.	T.	T.		.07														0.07
Gardnerville	Carson																																
Glenbrook	Truckee																																
Golconda	Humboldt																								T.								T.
Halleck	do																	.23												.03			0.26
Jean	Desert																									T.							T.
Lewers' Ranch	Truckee																																0.00
Lovelock	Humboldt													T.		T.	.05								.01								0.06
Massacre Lakes	Desert																																
Mill City	Humboldt																																0.00
Millett	Reese												T.	T.		T.	.10	.12	T.		T.												0.22
Mina	Desert											T.	T.	T.				T.	T.	T.				*	.07				T.				0.07
North Fork	Humboldt																	.15												T.			0.15
Potts	Reese			T.			T.						T.	T.	.01	T.	T.	T.				.06			.05	T.							0.12
Quinn River Ranch	Humboldt																	.15	.07														0.22
Reno	Truckee										T.	T.	T.	.46	.14	.22	T.	.09	.68	T.					T.			T.	T.				1.59
Rose Creek	Humboldt																		.15														0.15
Skelton	do																																0.00
Smith	West Walker										.06			.10	T.	T.	.30	T.	.04						.18			T.	.05				0.73
Spooner's Ranch	Truckee																																0.00
Soda Lake	Carson																																
Tecoma	Humboldt						.01												T.		T.	T.								T.			0.01
Tonapah	Desert						T.						.16	.10		.08		.14	.34				.01	.16									0.99
Wabuska	Walker																																
Wells	Humboldt						.01											.05	.06			T.											0.12
Willow Point	L.Humboldt																																0.00
Winnemucca	Humboldt											T.		T.		T.	.07	.03							.02								0.12

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

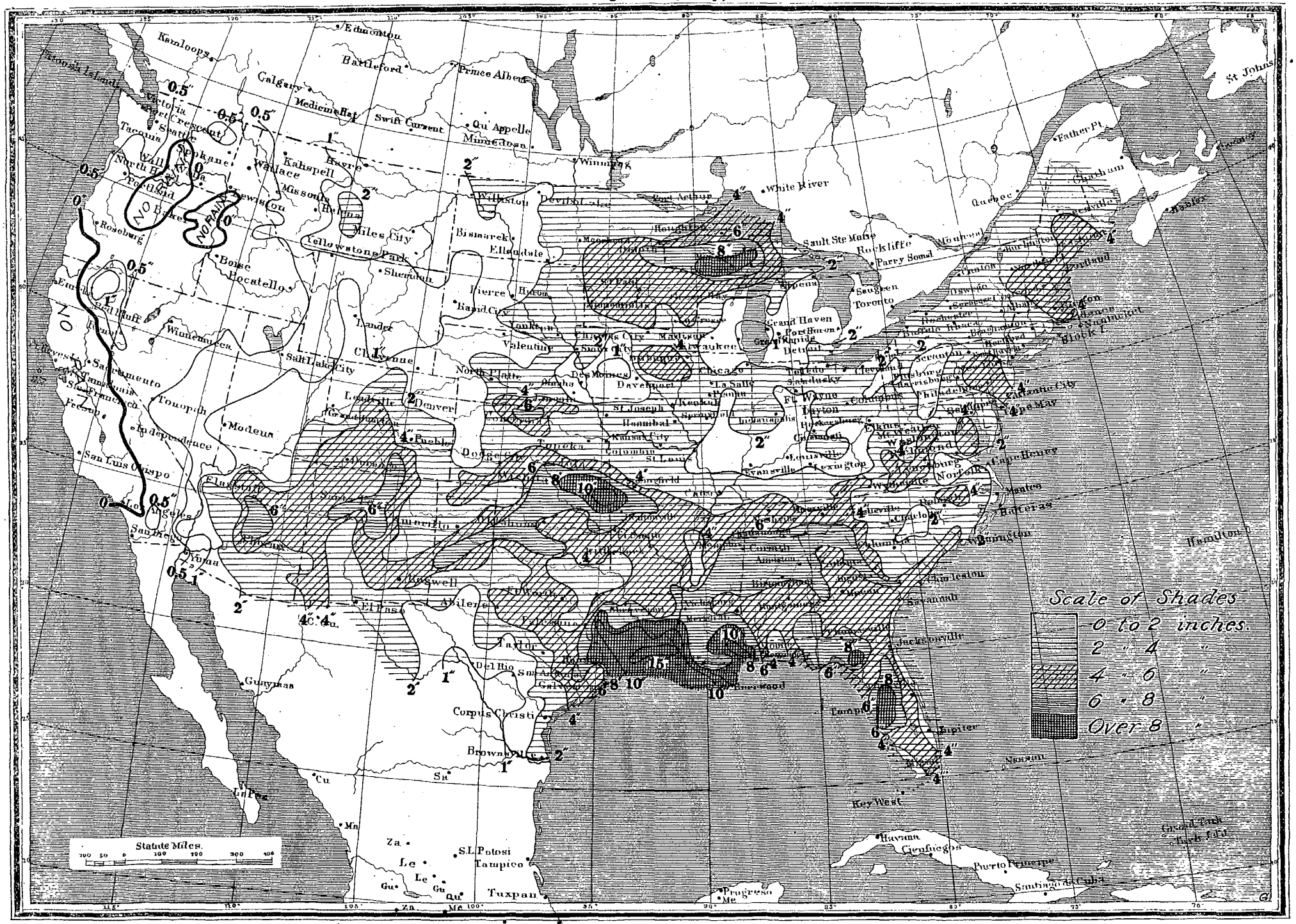
TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1911. District No. 10, Great Basin.*

Date.	Burns, Oreg.		Nevada.																							
			Elko.		Ely.		Eureka.		Fallon.		Jean.		Lovelocks.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	60	45	75	33	.....	.....	74	36	80	45	97	.....	80	40	78	37	82	50	76	46	80	42	72	41	77	49	75	41
2	85	46	81	34	.....	.....	82	39	88	45	100	.....	85	46	83	39	91	54	87	37	87	47	76	48	83	57	85	43
3	84	46	89	39	.....	.....	86	51	93	43	.....	.....	89	45	87	43	93	58	89	46	87	53	84	45	88	61	90	48
4	89	49	90	44	.....	.....	90	40	96	53	.....	.....	91	49	87	45	96	61	91	51	91	51	90	48	88	63	90	52
5	90	42	91	43	.....	.....	91	50	98	57	.....	.....	95	51	92	45	99	64	95	63	94	55	90	52	90	66	93	60
6	92	40	95	50	.....	.....	89	57	100	60	.....	.....	96	55	89	53	98	65	93	53	92	58	78	46	89	69	95	56
7	75	29	93	55	.....	.....	89	53	94	52	.....	.....	91	51	90	51	98	59	85	50	86	54	78	33	89	66	90	58
8	75	36	87	37	.....	.....	85	41	81	53	.....	.....	82	47	84	46	91	71	76	52	82	49	75	44	80	54	75	43
9	77	40	85	32	.....	.....	88	40	90	44	.....	.....	88	40	90	39	95	55	89	34	90	46	90	46	88	57	86	42
10	85	43	91	37	.....	.....	90	46	96	52	.....	.....	94	48	92	40	98	60	92	51	95	55	90	48	90	64	92	53
11	87	44	92	50	.....	.....	87	54	94	66	.....	.....	92	60	92	56	95	67	93	63	88	62	88	50	84	66	92	60
12	92	44	94	53	.....	.....	92	55	97	54	.....	.....	94	52	90	55	98	58	.....	.....	94	56	90	39	90	61	95	59
13	93	56	91	57	.....	.....	89	59	95	70	.....	.....	89	65	80	63	91	68	.....	.....	91	60	90	42	84	63	83	65
14	93	55	95	64	.....	.....	93	53	98	54	.....	.....	94	54	90	48	98	58	.....	.....	95	57	91	56	88	61	95	61
15	95	53	94	55	.....	.....	93	62	100	67	.....	.....	95	63	92	54	98	66	.....	.....	94	63	90	41	93	66	95	64
16	94	59	96	57	.....	.....	91	57	100	60	.....	.....	94	57	92	48	96	64	.....	.....	94	58	92	43	90	64	96	60
17	97	46	94	59	.....	.....	90	60	100	64	.....	.....	95	59	90	54	93	66	.....	.....	92	61	88	50	90	63	99	60
18	94	46	90	55	.....	.....	86	53	94	59	.....	.....	89	56	84	54	94	68	.....	.....	85	56	85	42	81	58	91	56
19	93	55	91	47	.....	.....	87	49	94	58	.....	.....	90	50	89	48	91	58	90	59	91	58	89	45	84	60	93	52
20	93	54	93	53	.....	.....	86	58	95	59	.....	.....	89	55	91	55	94	60	89	55	89	53	77	47	86	62	93	61
21	90	39	88	52	.....	.....	82	59	93	53	86	.....	88	51	88	54	95	62	89	59	87	49	88	46	81	60	92	50
22	86	45	88	46	.....	.....	83	47	90	52	90	.....	86	48	92	48	94	59	88	57	86	49	90	49	81	59	88	53
23	87	46	88	40	.....	.....	86	47	94	54	94	.....	88	51	87	54	92	61	92	47	91	55	95	41	84	55	86	55
24	90	57	89	43	.....	.....	82	51	88	65	104	.....	87	56	83	55	85	60	94	45	82	60	88	45	81	55	88	48
25	91	55	88	52	.....	.....	83	49	92	50	98	.....	86	46	86	45	90	62	83	53	87	52	90	47	84	61	90	53
26	89	42	87	42	.....	.....	84	46	93	51	100	.....	84	46	87	44	92	54	85	44	86	52	87	50	84	63	88	53
27	90	47	88	43	.....	.....	84	50	93	52	98	.....	87	46	85	51	90	56	88	43	90	50	89	49	83	63	90	48
28	95	55	91	44	.....	.....	84	54	94	59	100	.....	88	52	89	55	95	65	75	45	89	59	90	45	83	62	94	49
29	90	53	88	57	.....	.....	82	50	92	52	100	.....	86	50	87	45	90	59	96	60	84	50	78	48	83	60	90	59
30	89	52	86	40	.....	.....	84	45	90	51	104	.....	85	45	82	46	92	60	89	49	88	51	80	44	84	60	88	48
31	87	41	88	36	.....	.....	88	40	94	52	104	.....	86	45	90	42	95	61	88	42	88	51	88	42	88	63	89	45
Mns.	88.0	47.1	89.5	46.7	.....	.....	86.5	50.3	93.4	55.0	.....	.....	89.2	50.9	87.7	48.8	93.5	60.9	88.0[a]	50.2[a]	88.9	53.9	86.0	45.5	85.4	61.0	89.9	53.4

Date.	Wyoming.				Utah.																					
	Border.		Evanston.		Corinne.		Deseret.		Government Creek.		Ibapah.		Marysvale.		Meadowville.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	66	28	67	30	80	40	77	43	73	36	64	33	75	43	69	31	75	50	70	36	70	46	80	40	70	46
2	76	30	76	30	86	46	86	40	80	38	65	34	80	45	69	35	78	46	80	40	79	49	85	36	75	52
3	82	35	77	36	88	42	88	45	84	44	74	41	85	41	80	49	88	47	83	48	90	62	89	42	84	56
4	83	42	78	37	90	53	92	51	89	58	78	43	88	46	83	44	86	52	81	53	79	44	95	47	87	60
5	85	47	82	43	102	42	92	58	91	56	80	49	77	47	80	45	86	63	86	52	85	51	96	46	88	65
6	83	67	75	46	101	57	89	59	88	61	76	40	80	49	81	48	87	52	84	50	82	53	90	56	86	67
7	85	43	80	43	101	58	93	59	93	58	75	45	89	43	84	50	90	51	85	52	85	51	95	49	93	64
8	72	48	77	47	99	53	77	55	77	52	68	37	80	56	70	45	83	59	89	53	86	55	78	56	75	55
9	74	27	71	30	99	56	85	45	83	41	77	36	89	41	74	35	90	47	92	55	90	61	88	34	80	51
10	80	31	78	37	101	58	94	58	90	47	80	44	93	41	77	38	92	51	94	54	90	62	94	39	86	57
11	84	32	84	35	102	41	95	52	91	50	80	44	93	50	78	38	90	61	93	52	87	60	96	44	88	63
12	86	36	86	40	100	58	96	58	92	48	80	46	92	51	81	48	90	59	90	46	88	61	95	52	91	66
13	88	39	85	52	101	57	95	59	92	55	82	47	91	50	83	44	88	59	92	48	87	54	96	50	91	73
14	88	49	84	48	105	60	97	61	93	64	78	50	84	52	85	50	88	59	88	47	88	58	98	55	93	70
15	88	49	84	46	104	62	98	61	93	62	80	52	92	50	83	56	93	58	86	49	93	54	97	53	92	66
16	88	47	81	43	98	60	95	83	89	60	81	53	90	50	85	49	93	61	90	52	92	56	91	53	89	68
17	88	48	81	48	100	58	96	58	91	59	79	48	89	53	82	50	88	57	89	51	90	58	91	49	89	64
18	86	46	77	52	100	67	90	65	88	61	79	46	79	55	80	59	84	56	87	53	82	58	92	59	85	70
19	84	44	80	47	98	57	91	60	89	58	78	54	80	56	79	48	82	58	91	56	83	57	91	57	86	65
20	82	40	80	43	97	53	93	62	86	61	78	47	84	54	83	44	81	56	92	54	83	49	93	52	87	65
21	85	39	82	48	98	56	88	63	87	60	75	44	71	55	81	48	74	58	90	55	73	57	93	53	86	66
22	87	38	74	51	100	57	85	60	82	57	73	44	79	53	79	59	79	56	92	56	80	54	87	58	83	63
23	86	32	79	40	96	53	90	54	84	52	77	45	79	52	74	37	82	57	91	56	80	57	90	48	82	61
24	85	34	80	47	101	48	89	59	86	51	75	44	77	55	79	52	86	58	89	53	70	46	90	48	86	65
25	84	32	78	48	101	59	90	59	84	58	78	47	79	51	82	49	84	57	89	55	80	56	90	53	87	67
26	80	33	76	47	98	65	89	58	82	55	72	44	81	48	79	49	83	53	91	56	85	59	90	48	87	62
27	80	36	77	38	95	53	89	63	86	58	69	44	80	52	81	42	83	55	90	56	83	55	91	50	87	68
28	81	34	78	41	101	55	90	59	89	59	65	44	79	45	85	50	84	53	88	54	81	51	90	48	86	63
29	84	32	79	40	98	57	93	60	88	59	75	44	82	47	79	48	86	51	87	55	80	49	93	47	87	63
30	86	53	74	40	97	56	90	58	83	53	75	43	80	45	78	47	86	52	85	50	84	54	91	45	84	58
31	80	33	77	37	95	48	90	47	85	51	78	47	78	47	78	45	88	50	86	47	84	54	90	42	86	61
Mns.	82.8	38.8	78.6	42.3	97.8	54.4	90.4	57.2	86.7	54.3	75.6	44.5	83.1	49.1	79.4	45.9	85.4	54.9	87.7	51.4	83.5	54.5	91.1	48.7	85.7	62.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Total Precipitation, July, 1911.



Departure of the Mean Temperature from the Normal, July, 1911.