CLIMATOLOGICAL DATA FOR JULY, 1911.

DISTRICT No. 8, TEXAS AND THE RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL SUMMARY.

The month was characterized by much cloudy weather, with frequent and generally well distributed rains, and by warm days and relatively cool nights. Precipitation occurred every day in the month in some portion of the district, but it was mostly in local showers which yielded unequal amounts in near-by localities. In general the monthly amounts were decidedly above the normal in the Colorado and New Mexico areas and in the greater portion of Texas, embracing the Trans-Pecos region and all that portion of the State lying north and east of the Colorado River. In the remaining portions of Texas from the Colorado southward to the Rio Grande and westward to the Rio Pecos there was a considerable deficiency, although a few scattered localities were favored with some splendid rains. However, the precipitation was inadequate to relieve the prolonged drought in southwestern Texas, and this section is practically the only one in the district that was badly in need of moisture at the close of the month. So far as New Mexico is concerned this is the wettest July on record since 1895. The relative humidity was high in the greater portion of the district, and the number of days with 0.01 inch or more of precipitation averaged 17 in Colorado, 11 in New Mexico, and 7 in Texas. There were but few severe local storms during the month, although thunderstorms occurred frequently, and several deaths by lightning were reported. Considerable damage was caused in New Mexico by washouts and by floods of the Rio Grande and Rio Pecos.

The greatest and least monthly amounts of precipitation in Colorado were 5.58 inches at La Veta Pass and 2.39 inches at Garnett; in New Mexico, 11.54 inches at Torrance and 1.36 inches at Agricultural College; and in Texas, 14.95 inches at Henderson and none at Cotulla and Dilley. These last named places are located in southwestern Texas, in Lasalle and Frio Counties, respectively, and appear to be nearly in the center of the droughty area. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred at 4 stations in New Mexico and at 32 in Texas, the heaviest being 5.80 inches at Torrance, N. Mex., on the 9th, and the next heaviest, 5.35 inches at Liberty, Tex., on the 7th–8th.

TEMPERATURE.

The monthly mean temperature was 0.2° below the normal in Colorado and 2.4° below in New Mexico. In Texas it averaged about normal, although it was warmer than normal in the region of deficient precipitation and correspondingly colder in the remaining portions of the State. In New Mexico it was the coolest July since 1895, with the exception of July, 1906. There was not much change in temperature from day to day, although cool weather occurred on several days. The lowest temperatures were recorded in the greater portion of the district from the 24th to 26th. The daily range of temperature varied from about 8° on the upper Texas coast to about 30° in the northwestern portion of that State. The range was relatively small in Colorado and New Mexico due to unusual cloudiness.

The highest and lowest temperatures reported were: In Colorado, 96° at Saguache on the 13th and 37° at Wagon Wheel Gap Experiment Station on the 31st; in New Mexico, 102° at Plainview on the 30th and 32° at Red River Canyon on the 30th; and in Texas, 111° at Ballinger on the 23d and 52° at Plainview on the 25th.

PRECIPITATION.

Unusually heavy rains occurred over the Rio Grande watershed from the source of the stream to its junction with the Rio Pecos, but south of that junction there was a marked deficiency amounting to nearly 1.50 inches. The average for the entire drainage area was 3.76 inches, which is over 300 per cent more than reported for June. The greatest monthly precipitation was 8.31 inches at Rosedale, N. Mex., and the least 0.08 inch at Eagle Pass, Tex.

The precipitation over the Rio Pecos watershed was even heavier than over that of the Rio Grande, but in this case also there was a conspicuous deficiency over the lower portion south of New Mexico. The average for the entire drainage area was 4.76 inches, which is about 400 per cent more than reported for June. The greatest monthly amount was 11.54 inches at Torrance, N. Mex., and the least, 0.76 inch at Grand Falls, Tex.

The Texas watersheds west of the Colorado River showed a decided shortage of precipitation, while those east of that stream received a marked excess. Over the Colorado drainage area the precipitation was very nearly normal. The heaviest precipitation occurred over the Neches drainage area, with monthly amounts in several localities exceeding 11 inches. One station, Henderson, in this watershed, reported 14.95 inches, which was the heaviest in the district. The least precipitation occurred over the Nueces drainage area, and two stations in this watershed, Cotulla and Dilley, received no moisture during the month. The following are the average monthly amounts in inches for the various watersheds: Nueces, 0.64; San Antonio, 1.33; Guadalupe, 1.58; Lavaca, 1.52; Colorado, 2.61; Brazos, 4.69; Trinity, 4.96; Neches, 8.32; Sabine, 5.22; and coastal plains, 3.34. While these amounts for the watersheds as a whole average about 2.50 inches more than those reported for June, the Nueces watershed and adjoining sections were badly in need of moisture at the close of the month.

RIVER CONDITIONS.

The Rio Grande and the Rio Pecos were at flood stage during the month, and special mention of the floods of these streams has been made elsewhere in this summary.

Of the Texas streams the Nueces, San Antonio, and Guadalupe were at low water mark during the month. The Colorado, Brazos, Trinity, Neches, and Sabine had a good flow of water after the first decade, and, although they were falling at the close of the month, they carried a much larger volume of water then than at the beginning of the month. Flood stage was not attained, but the Brazos was nearly bank full on the 18th in the vicinity of Waco. There was an abundance of water in the lower Colorado for the rice that had not reached the stage of maturity and for all other irrigating purposes.

FLOODS OF THE RIO GRANDE AND OF THE RIO PECOS.

By F. H. BRANDENBURG, District Forecaster.

Rio Grande.—The rainfall on the watershed of the Rio Grande in New Mexico, in common with its upper reaches in south-central Colorado, was exceptionally heavy during July. In San Luis Valley, Colorado, rain fell on an average of 17 days, and in amount has rarely been exceeded in July, while near the southern border of Colorado it was the greatest of record. In New Mexico, especially the northern part, the persistence of rain was fully as marked. At Santa Fe the fall was the greatest for July in 35 years, and at El Paso, Tex., the greatest in 30 years. The heavy rainfall was reflected in the Rio Grande and flood stage was maintained in the greater part of its course during the entire month. Naturally the fluctuations in the height of the water were more pronounced than during floods resulting from the melting of snow, the usual cause. In the lower reaches of the river, notably at El Paso, six well-defined crests occurred: On the 7th and 12th, when 17.3 feet was noted; on the 18th, 16.8 feet; on the 21st, the highest stage, 18 feet, occurred. On the 24th and 28th stages of 17 and 16.9 feet, respectively, were noted. The previous highest reading of the El Paso gage is 17.3 feet. Below El Paso the river was reported to have reached the highest stage in 26 years. Notwithstanding timely advices of the different high stages which permitted the taking of steps to minimize the damage, a heavy loss was sustained, principally in the flooding of meadows, breaking of ditches, loss of land by erosion, and destruction of bridges.

Rio Pecos.—On July 21, as a result of rains in northern New Mexico, the Rio Pecos at Santa Rosa was changed from a narrow and shallow stream to a river 9 feet deep and 250 feet wide. Three days later and about the time of the arrival of this upstream flood at Carlsbad, a general rain set in on the watershed. Over a large area north, east, and west of Carlsbad the fall was heavy, and in localities torrential. At Carlsbad 3.75 inches fell in five hours. During the night of the 25th the highest stage was reached, but the exact height was not reported. On the morning of the 26th the river was 14 feet deep and 300 feet wide. At Barstow, Tex., on the 28th, a stage of 17.6 feet was reached, or only 2.4 feet lower than the memorable flood of October 5, 1904. Information is not available as to the extent and amount of damage.

A VIOLENT LOCAL STORM AT ABILENE, TEX.

By W. H. GREEN, Assistant Observer.

A disastrous thunder and hail storm occurred at this station on the 31st, moving from north to south. The strip damaged by hail is about 10 miles long and about 2 miles wide, beginning about 8 or 9 miles north of Abilene and ending about 1½ miles south of the city. The afternoon preceding the storm was warm and sultry, with a maximum temperature of 98° about 3.30 p. m., and southerly winds of 14 to 18 miles per hour. At 5.48 p. m. the wind shifted from south to southeast, and to northeast by 5.51 p. m., suddenly increasing to a velocity of over 50 miles per hour in about 10 minutes. The temperature dropped from 96° at 5.30 p. m. to 54° at 6.05 p. m., and in the next 15 minutes the pressure increased 0.19 inch. At 6.14 p. m. the wind shifted back through east to southeast, reaching a maximum velocity of 60 miles per hour from the southeast from 6.16 to 6.21 p. m.

Rain began at 6 p. m. and ended at 8.10 p. m., falling at an excessive rate from 6.06 to 7.16 p. m. Practically 3.50 inches, including hail, fell within one hour. Hail varying in size from half an inch to an inch and a quarter in diameter fell from 6.10 to 7 p. m. The hail, with the assistance of the force of the wind, knocked out practically all unprotected window lights in Abilene on the east side of buildings, except in the extreme west part of town, where the hailstones were much smaller than in other sections, while quite a number of window lights on the north and south sides and also those on the east side protected with screens were broken. Several dozen frail buildings were blown off their foundations, a few completely blown down, and two or three destroyed by lightning.

One young man, Vernon Milner, about 25 years old, was killed, being in a barn that was demolished by the wind. Another man, named Cunningham, was blown into Lytle Lake, an artificial reservoir for the city's water supply, and seriously wounded.

There is no evidence of a whirl or gyratory motion of the wind, and the station records show that the wind has reached as high a velocity before this several times, and on two occasions slightly higher, yet the damage from the wind and hail together was probably greater than on any previous occasion. It is believed that $150,000 is a conservative estimate of the amount of damages in Abilene and vicinity. The damage to the Weather Bureau building and apparatus was comparatively light.

TABLE 1.—*Climatological data for July, 1911. District No. 8, Texas and Rio Grande Valley.*

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.		
Colorado.																				
Blanca	Costilla	7,865	2	61.9		82	10	41	9†	39	4.12		1.64	0	13	3	26	2	sw.	Dr. L. C. Audrain.
Cumbres	Conejos	10,015	4								5.50		0.70	0	22					Mrs. Ida M. Lively.
Garnett	Costilla	7,576	18	62.2	+ 0.5	87	10	41	31	42	2.39	+ 1.20	0.53	0	11	0	18	13	w.	Chas. Speiser.
Hermit	Hinsdale	9,843	4								4.53		0.81	0	20	5	10	16		Marion Mason.
La Veta Pass	Costilla	9,000	1								5.58		1.91	0	13	1	13	17	w.	Clara M. Wright.
Manassa	Conejos	7,700	5	61.2[b]		83[b]	10	39[b]	9†	39[b]	3.46		0.73	0	16	3	11	15	sw.	J. B. Chapman.
Platoro	do	9,675	4								4.86		0.70	0	27	3	13	15	w.	Walter R. Hook.
Saguache	Saguache	7,740	19	64.3	− 0.1	96	13	43	27†	43	3.50	+ 2.05	0.80	0	13	3	4	24	w.	Eugene Williams.
San Luis	Costilla	7,794	20	61.8	− 1.1	82	9†	42	31	39	4.62	+ 2.33	0.93	0	19	7	17	7	sw.	P. B. Albright.
Wagon Wheel Gap Experiment Station.	Mineral	9,235		54.2		73	9	37	31	34	4.28		0.71	0	20	3	12	16	s.	U. S. Weather Bureau.
New Mexico.																				
Agricultural College	Dona Ana	3,863	48	78.0	− 2.8	98	31	60	25	32	1.36	− 0.49	0.30	0	9	1	30	0	sw.	N. Mex. Agricultural College.
Alamogordo (near)	Otero	4,338	10	77.0	− 2.6	99	21	55	25	37	2.75	+ 0.95	0.78	0	18	0	26	5	sw.	Charles Sutton.
Alamogordo	do	4,320	2								2.69		0.87	0	12					Agent E. P. & S. W. R. R.
Alamos Ranch	Sandoval	7,800									7.69		1.29	0	21	10	8	13	w.	Harold H. Brooks.
Albuquerque	Bernalillo	5,000	35								2.14	0.0	0.60	0	10	14	8	9	w.	Pitt Ross, C. E.
Ancho	Lincoln	6,112	2								4.11		0.91	0	11					Agent E. P. & S. W. R. R.
Anchor Mine	Taos	10,600									6.70		0.90	0	14	1	27	3	nw.	C. H. Brigham.
Artesia	Eddy	3,350	4	76.4		96	23	56	25	34	7.76		5.50	0	5	25	5	1	se.	Will Benson, C. E.
Aspen Grove Ranch	Rio Arriba	9,000	2								4.46		0.63	0	17	3	27	1		Junius D. Maupin.
Batemans Ranch	do	8,900	2								4.58		0.80	0	13	2	22	7	e.	John W. Bateman.
Bluewater	Valencia	6,732	10	65.6	− 4.6	89	30	47	8	36	5.51		1.15	0	21	3	15	13	s.	Bluewater Development Co.
Boaz	Chaves	4,154	2	76.0		95	12†	53	25	38	1.51		0.52	0	9	6	19	6	se.	D. C. Savage.
Capitan	Lincoln	6,348	2								5.80		0.83	0	22	0	9	22	s.	Agent E. P. & S. W. R. R.
Carlsbad	Eddy	3,120	16	79.2	− 1.0	100	22	60	24	33	5.97	+ 2.64	3.75	0	10	14	12	5	se.	U. S. Reclamation Service.
Carrizozo	Lincoln	5,429	3	71.5		94	31	40	23	40	3.61		1.52	0	6	9	21	1	sw.	Agent E. P. & S. W. R. R.
Carson Park	Taos	7,650	1																	Lester S. Myers.
Chama	Rio Arriba	7,851	12	60.2	− 4.9	79	9	43	31	34	7.94	+ 5.35	1.25	0	17	6	22	3	ne.	Frank C. Johnson.
Cloudcroft	Otero	8,650	9	60.4		85	11	45	25	39	6.06	+ 2.53	1.20	0	19	8	16	7		Agent E. P. & S. W. R. R.
Corona	Lincoln	6,666	2																	Do.
Coyote	do	5,800	2								5.38		1.62	0	14	6	0	25	e.	Do.
Cundiyo	Santa Fe	6,889	2								3.14		0.88	0	12	7	10	14	w.	Juan Vijil.
Demonstration Farm	San Miguel	6,800	2								5.00		1.30	0	14					Erb & Westerman.
Duran	Torrance	6,272	2			93	31	52	25		7.68		1.52	0	13	6	18	7		Agent E. P. & S. W. R. R.
Elk (near)	Chaves	7,400	11																	Boyd Williams.
Escondido	Otero	4,014	2			100	18				2.14		0.61	0	16	9	14	8		Agent E. P. & S. W. R. R.
Espanola	Rio Arriba	5,590	13	69.4	− 2.6	89	10	51	13	36	4.25	+ 2.65	1.62	0	16	1	14	16	s.	Mrs. E. F. McBride.
Estancia	Torrance	6,140	6	74.6		95	16	52	20	36	7.79		1.29	0	13	17	8	6	e.	Agent N. Mex. Central R. R.
Fort Stanton	Lincoln	6,231	33	67.6	− 1.5	90	23†	47	25	36	5.62	+ 2.62	0.90	0	19	4	11	16	w.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	3	77.8		99	3	54	24	37	2.11		0.80	0	10	11	20	0	e.	F. A. Manzanares.
Gallinas	Lincoln	6,635	2								3.40		0.68	0	17	7	3	21	w.	Agent E. P. & S. W. R. R.
Gallinas Planting Sta.	San Miguel	7,500	4	61.8		82	18	45	25†	34	9.01		1.80	0	19	8	15	8	w.	U. S. Forest Service.
Glorieta Ranch	Sierra	5,700									2.96		0.80	0	12	8	13	10	e.	Charles M. Crossman.
Harveys Upper Ranch	San Miguel	9,400	2								8.32		1.42	0	21	5	17	9	nw.	Simon B. Warner.
Hillsboro	Sierra	5,224	13																	Dr. Frank I. Givens.
Hodges	Taos	8,484	2																	Austin Porter.
Hondo Reservoir	Chaves	3,904	2	77.9		100	23	57	25	34	4.77		2.70	0	11	14	11	6	se.	U. S. Reclamation Service.
Hope	Eddy	4,000	3																	A. W. Board.
Jemez Springs	Sandoval	6,100	1	67.0		86	31	52	25	33	4.80		1.15	0	18	5	9	17	sw.	Linus L. Shields.
Knowles (near)	Eddy	4,300	1	77.0		97	22†	55	25	32	4.22		2.00	0	10	11	16	4	se.	J. W. Mosley.
Laguna	Valencia	5,840	6	70.6		92	8†	52	4	34	6.26		1.60	0	10	13	4	14	w.	Gus Weiss.
Lagunita	Guadalupe	4,500	6																	P. A. Turnbull.
Lake Valley	Sierra	5,412	6								4.87		1.27	0	12	1	29	1	sw.	William P. Keil.
Las Vegas	San Miguel	6,384	24	67.3	− 1.8	86	18	49	25	35	3.55	− 0.43	0.72	0	16	13	12	6	s.	N. M. Normal University.
Liston	Chaves	5,000	1								2.34		0.65	0	8	3	25	3	s.	H. G. Liston.
Los Lunas (near)	Valencia	4,900	21	73.5	− 3.6	95	31	51	31	44	2.23	+ 1.09	0.61	0	9	6	21	4		Richard Pohl.
Magdalena	Socorro	6,557	6	67.4		90	23	50	31	37	5.40		0.90	0	15	6	23	2	e.	William Pender.
Mescalero	Otero	6,475		64.9		84	31	50	25	32	7.76		1.66	0	20	11	11	9	sw.	Rev. Richard H. Harper.
Mineral Hill	San Miguel	7,050	6								6.01		0.80	0	17	6	17	8	sw.	W. M. Nelson.
Monterey	Otero	4,436	2			94	18†				1.42		0.40	0	17	5	20	6		Agent E. P. & S. W. R. R.
Mountainair	Torrance	6,547	9																	Mrs. John W. Corbett.
Newman	Otero	3,989	2			100	19				2.91		1.00	0	9	14	0	17	sw.	Agent E. P. & S. W. R. R.
Noria	Dona Ana	4,114	2								4.22		1.28	0	12	10	14	7	w.	Do.
Orange	Otero	5,000	4																	James Brownfield, jr.
Orogrande	do	4,171	2								3.70		0.75	0	14	3	15	13		Agent E. P. & S. W. R. R.
Oscura	Lincoln	5,016	2								4.83		1.50	0	14					Eugene F. Jones.
Otis	Eddy	3,100	2								3.18		2.23	0	7	21	6	4	se.	A. M. Hove.
Otto	Santa Fe	6,200	2								5.19		1.30	0	16					O. H. Johnson.
Pastura	Guadalupe	5,285	2			98	31	50	2†		6.28		1.23	0	19	7	20	4	se.	Agent E. P. & S. W. R. R.
Placitas (near)	Bernalillo	8,000		61.2		78	18†	44	25	29	6.34		1.46	0	18	6	23	2	e.	George C. Ellis.
Plainview	Chaves	4,300		76.3		102	30	54	25	40	4.75		0.90	0	11	12	15	4	s.	L. P. Adair.
Red River Canyon	Taos	8,956	3	56.2		80	14	32	30	43	5.80		0.90	0	14	5	23	3	e.	Mrs. L. R. Penn.
Rincon	Dona Ana	4,030	13	77.0	− 2.2	98	30	60	25	33	3.69	+ 1.55	1.18	0	12	3	8	20	w.	Charles H. Raitt.
Rio Grande Dam	Sierra	4,265	13																	U. S. Reclamation Service.
Rio Grande Industrial School.	Bernalillo	5,000		73.7		94	31	49	31	45	3.02		0.90	0	10	8	16	7	s.	Rev. A. C. Heyman.
Rosedale	Socorro	6,910	6	64.2		83	30†	51	3†	29	8.31		1.84	0	20	9	7	15	w.	W. H. Martin.
Roswell	Chaves	3,578	13	77.5	− 1.4	98	23	58	25	35	2.93	− 0.53	0.74	0	12	11	16	4	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	14	77.1	− 0.3	98	14	61	9†	33	4.42	+ 2.72	1.27	0	7	17	1	13		Agent A. T. & S. F. R. R.
San Rafael	Valencia	6,509	7	67.4		95	17	40	6†	45	6.54		0.99	0	18	7	7	17	sw.	Dr. Charles M. Grover.
Santa Fe	Santa Fe	7,013	38	64.6	− 4.1	81	31	51	25	27	5.51	+ 2.80	1.77	0	19	7	17	7	ne.	Section Center.
Santa Fe Canyon	do	8,000	2								4.90		1.20	0	12	12	1	18	e.	C. Martinez.
Santa Rosa	Guadalupe	4,624	11	76.2		99	28	52	25	39	2.96	+ 0.28	1.11	0	16	5	26	0	w.	John L. Chapman.
Socorro	Socorro	4,600	19	74.9	− 2.5	94	23†	56	6	32	2.58	+ 0.86	0.49	0	16	24	6	1	se.	J. J. Leeson.
Stanley	Santa Fe	6,317	2	65.4		93	30	46	8	38	7.02		0.98	0	14	13	4	14	e.	Henry Winan.
Strauss	Dona Ana	4,080	12			100	18				4.56	+ 2.91	1.67	0	13	5	10	16	s.	Agent Southern Pacific R. R.
Taft	Guadalupe	5,000	1								6.23		2.00	0	11	7	22	2	s.	J. F. Nappier.
Tajique (near)	Torrance	6,900	1								4.73		1.30	0	17	9	15	7		U. S. Forest Service.
Taos	Taos	6,983	13	66.7	− 2.0	87	10	45	31	38	2.67	+ 0.85	0.59	0	20	7	21	3	w.	Alexander Gusdorf
Taos Canyon	do	8,959	2								4.00		0.53	0	21					L. Martinez, jr.
Tecolote	Lincoln	6,539	2								4.37		1.12	0	18	1	16	14	w.	Agent E. P. & S. W. R. R.
Three Rivers	Otero	4,559	2								2.52		0.66	0	11	11	10	10		Do.

TABLE 1.—*Climatological data for July, 1911. District No. 8*—Continued.

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.		
***New Mexico*—Contd.**																				
Tijeras Canyon	Bernalillo	6,214	1								4.16		0.65	0	12	11	12	8	sw.	U. S. Forest Service.
Torrance	Torrance	6,433	2								11.54		5.80	0	14	0	25	6	sw.	Agent E. P. & S. W. R. R.
Tres Piedras	Taos	8,076	6																	Edwin B. Seward.
Truchas	Rio Arriba	7,935	2	60.2		75	9	47	17	26	2.91		0.50	0	16	2	18	11	w.	Miss Ruth Rendon.
Tularosa	Otero	4,436	3																	Irby L. Fairless.
Vaughn	Guadalupe	5,952	2			90	30	50	14		4.06		1.25	0	12	0	20	11	nw.	Agent E. P. & S. W. R. R.
Virsylvia	Taos	7,500	1	66.5		85	23	44	7	28	4.74		1.24	0	20	20	7	4	s.	Dr. I. N. Woodman.
Winsors	San Miguel	8,200	13	58.6	− 0.2	85	17	37	5	43	9.91	+ 5.53	0.97	0	23	2	8	21	w.	Henry D. Winsor.
Texas.																				
Abilene	Taylor	1,738	26	82.8	+ 0.6	107	23	54	31	44	6.39	+ 3.99	3.81	0	9	3	18	10	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	17	82.2	+ 1.1	109	23	59	25	42	4.14	+ 1.19	1.68	0	4	16	9	6		N. L. Bartholomew.
Alice	Nueces	209		86.4[d]		103	21	71	26	27[d]	1.35		0.80	0	5	15	11	5	se.	R. M. Boerum.
Alpine	Brewster	4,482	1								3.27		1.35	0	4	17	14	0	se.	J. Frank Dobie.
Alvin	Brazoria	49	13	79.8		94	1	68	7†	22	12.34	+ 5.41	4.48	0	8	9[a]	9[a]	12[a]	s.	Alvin Japanese Nursery.
Anahuac	Chambers	23	2								4.58		2.12	0	13					B. H. Collins.
Antelope	Jack										3.76		1.75	0	6	11	16	4		Chas. C. Hawkins.
Aspermont	Stonewall										2.06		0.80	0	9					Bryant Link Co.
Austin	Travis	593	55	84.2	+ 0.5	99	23	60	18	30	1.86	− 0.54	1.38	0	4	10	16	5	s.	A. Deussen.
Ballinger	Runnels	1,637	15	84.2	+ 2.1	111	23	64	25†	37	1.49	− 1.55	0.42	0	7	11	10	10	s.	E. M. Eubank.
Barstow	Ward	2,573	4	83.0		109	23	64	25†	40	0.85		0.30	0	3	12	11	8	e.	Lee F. Freeman.
Bay City	Matagorda	53	1								2.71		0.80	0	9	10	3	18	s.	E. C. Quereau.
Beaumont	Jefferson	29	10	80.8	− 2.1	96	1	67	27	25	8.91	+ 3.95	3.43	0	12	4	0	27	se.	John Bender.
Beeville	Bee	225	15	84.3	+ 0.5	99	17†	70	4†	25	0.13	− 3.71	0.08	0	2	2	12	17	se.	L. E. Dickey.
Big Springs	Howard	2,396	13	85.1		109	23	62	25†	35	1.34	− 1.65	0.45	0	6	6	20	5	s.	B. Reagan.
Blanco	Blanco	1,350	15	84.4	+ 2.7	101	12†	67	4	30	1.37	− 2.16	0.77	0	3	13	17	1	s.	R. C. Crist.
Boerne	Kendall	1,412	19	83.8	+ 3.1	102	23	65	26	29	1.70	− 1.97	1.06	0	3	5	21	5	se.	F. W. Schweppe.
Booth	Fort Bend	81	10								4.51	− 0.52	0.84	0	15	14	0	17	se.	T. R. Booth.
Bowie	Montague	1,113	16	84.0	+ 0.7	107	23	61	25	37	4.40	+ 2.01	1.64	0	12	6	15	10	s.	Craig Anderson.
Brady	McCullough	1,500	10																	G. W. Virling, jr.
Brazoria	Brazoria	25	22	80.4	− 1.1	92	17	69	29	21	14.28	+ 8.97	2.41	0	20	20	5	6	s.	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	2								5.62		1.40	0	8	10	15	6	s.	Robt. E. Boyett.
Brenham	Washington	350	26	82.6	− 0.7	97	5	69	25	23	4.31	+ 1.20	1.34	0	12	5	13	13	se.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	2								2.96		1.30	0	6	8	12	11	s.	Claude Strange.
Brighton	Nueces	12	18	84.4	+ 1.5	95	4†	70	25	23	2.85	+ 1.56	2.50	0	2	26	3	2	se.	G. H. Ritter.
Brownsville	Cameron	38	47	83.0	− 0.8	96	26	70	26	26	0.63	− 1.25	0.40	0	4				se.	U. S. Weather Bureau.
Brownwood	Brown	1,342	19	83.8	+ 0.4	110	23	61	26	34	4.43	+ 2.33	2.90	0	4	7	21	3	s.	Mrs. Pearl Smith.
Cameron	Milam		3	84.6		100	3†	66	24	29	4.87		2.50	0	5	19	4	8	s.	J. E. Watts.
Carmona	Polk	330	3	81.2		98	1†	62	26	31	4.52		1.43	0	13	8	21	2	s.	M. S. Spitler.
Claytonville	Fisher	2,100	16	83.1	+ 2.1	110	23	60	27	38	1.26	− 2.42	0.50	0	5	3	13	15	se.	Wm. Lanius.
Clifton	Bosque	671									7.35		4.14	0	8	2	28	1	s.	R. M. Jones.
Coleman	Coleman	1,710	17	82.4	+ 1.4	106	23	63	26	30	4.92	+ 1.78	1.15	0	10	8	18	5	s.	J. E. Stevens.
College Station	Brazos	308	21	83.7	+ 0.3	101	4	66	26	31	5.67	+ 2.98	2.74	0	12	0	22	9	s.	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	17	81.4	− 1.2	107	23	59	26	37	3.20	+ 0.04	1.33	0	8				s.	R. M. Webb.
Columbia	Brazoria	34	22	81.2	− 0.8	97	17	67	27†	26	9.10	+ 4.88	2.85	0	8	8	20	3	s.	R. B. Loggins.
Columbus	Colorado	206	7								4.14		2.00	0	7	10	13	8	ne.	Mrs. Sophie Bridge.
Corpus Christi	Nueces	20	24	81.8	− 0.9	92	17	71	25	17	2.04	+ 0.38	1.96	0	5	16	11	4	se.	U. S. Weather Bureau.
Corsicana	Navarro	445	22	82.2	− 1.7	100	4	63	26	25	4.66	+ 2.01	2.70	0	10	10	16	5	s.	D. H. Winn.
Cotulla	Lasalle	425	4								0.00		0.00	0	0					Holland Agricultural Co.
Crockett	Houston	350	7	82.4		100	1†	63	25	29	7.15		3.00	0	11	5	23	3	s.	A. M. Rencher.
Cuero	De Witt	177	21	85.6	+ 0.8	103	24	66	26	28	2.84	+ 0.17	2.12	0	5	19	2	10	s.	H. R. Frobese.
Dallas	Dallas	466	22	83.8	− 0.1	106	5	60	26†	33	5.34	+ 1.94	2.08	0	12	7	1	23	s.	G. A. Eisenlohr.
Danevang	Wharton	145	15	83.6	+ 0.4	99	2†	62	26	31	3.23	− 1.67	1.00	0	11	13	10	8	se.	H. P. Hermansen.
Decatur	Wise	1,047	15																	Ft. W. & D. C. Ry.
Del Rio	Valverde	952	5	86.3	+ 1.6	105	22	67	26	27	0.54	− 1.68	0.28	0	5	17	12	2	se.	U. S. Weather Bureau.
Devine	Medina	653	1	87.2		106	22	72	1†	32	0.38		0.20	0	3	21	10	0	se.	M. A. Keller.
Dialville	Cherokee	575	7	80.8		100	5	62	25	28	8.70		2.60	0	8	9	15	7	s.	J. M. B. McKnight.
Dilley	Frio	569	1								0.00		0.00	0	0					John W. Miller.
Dublin	Erath	1,466	15	83.3	+ 1.5	106	23	61	26	31	4.06	+ 1.42	1.52	0	9	3	23	5	s.	Jno. O. Shafer.
Duval	Travis	820	22	83.2	− 1.2	99	23	66	18	26	2.47	− 0.17	1.55	0	4	15	11	5	se.	J. C. Edgar.
Eagle Pass	Maverick	800	34	87.4	− 0.4	104	22†	68	25	28	0.08	− 1.68	0.04	0	3	17	13	1	se.	Charles Tarver.
Eastland	Eastland	1,420	4	83.8		110	23	55	26	38	1.10		0.60	0	2	6	23	2		J. R. Gilbreath.
Edna	Jackson	71	2								1.43		0.70	0	3					E. L. Faires.
El Paso	El Paso	3,762	32	77.4	− 3.1	97	31	60	25	29	3.43	+ 1.30	1.47	0	15	6	21	4	e.	U. S. Weather Bureau.
Encinal	La Salle	558	3																	H. C. Braden.
Eola	Concho																			E. W. Neal.
Fairland	Burnet	1,000	22	84.6	+ 1.9	104	5	65	26	33	2.93	+ 1.04	1.35	0	7	15	14	2	s.	R. L. Bush.
Fallurrias	Starr		3	85.8		105	21	68	26†	35	0.81		0.45	0	2	20	10	1	se.	W. A. Gardner.
Flatonia	Fayette	465	3	83.6		100	5†	68	18	27	1.67		1.20	0	5	8	11	12	s.	Fred W. Laux.
Flint	Smith	483	1	82.2		101	1	60	26	31	3.17		1.00	0	11	11	10	10	sw.	F. C. C. Carter.
Floydada	Floyd										5.81		2.38	0	11					F. H. Schmidt.
Fort Clark	Kinney	1,050	40	85.0	+ 0.9	102	30	70	1†	29	T.	− 1.96	T.	0	0	28	1	2	s.	Post Hospital.
Fort McIntosh	Webb	460	43	88.9	+ 1.8	108	20	72	4†	30	0.71	− 1.23	0.50	0	3	13	10	8	e.	Do.
Fort Stockton	Pecos	3,050	14	81.7	+ 0.8	109	22	60	25	36	1.32	− 0.93	0.70	0	6	1	27	3	se.	H. H. Butz.
Fort Worth	Tarrant	670	16	82.4	− 1.3	101	4	64	24	24	6.26	+ 3.22	2.66	0	11	4	23	4	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	22	82.2	+ 1.3	100	23	63	25	29	1.28	− 1.18	0.85	0	6	3	26	2	s.	Arthur Striegler.
Gainesville	Cooke	738	21	84.0	+ 2.2	104	23	59	26	32	1.90	− 2.44	0.68	0	8					J. L. Hickson.
Galveston	Galveston	69	40	81.1	− 1.9	88	29	70	6	15	4.73	+ 0.75	1.57	0	15	7	16	8	s.	U. S. Weather Bureau.
Gatesville	Coryell	795	7	82.9		101	4†	62	18†	35	4.75		2.40	0	8	20	11	0		John Ryan.
Georgetown	Williamson	750	16	84.0	+ 0.8	101	14	65	26†	29	4.95	+ 1.96	3.01	0	5	22	7	2	s.	Prof. R. F. Young.
Gonzales	Gonzales	299	6								1.17		0.33	0	6	14	7	10	s.	J. M. Johnson.
Gorham	McLennan	444	2	85.4[g]		103[n]	5	64	24†	27[n]	8.31		4.02	0	6	4	25	2	s.	John Gorham.
Graham	Young	1,040	12	84.4	+ 0.1	110	6†	59	26	36	5.96	+ 3.15	2.12	0	11	10	16	5	s.	C. W. Johnson.
Grand Falls	Pecos		1								0.76		0.60	0	2	7	24	0		W. A. White.
Grand Saline	Van Zandt	399	3								3.47		1.40	0	6	8	20	3	s.	F. E. Whittemore.
Grapevine	Tarrant	670	21	83.1[e]	+ 0.1	104	5	62	26	31[e]	4.33	+ 1.00	0.80	0	12	2[e]	14[e]	10[e]	s.	W. J. Crowley.
Greenville	Hunt	550	11	84.0	+ 0.3	105	4	61	26	29	3.01	− 1.21	0.81	0	7	10	0	21	s.	J. P. Regan.
Hallettsville	Lavaca	235	19	84.9	+ 0.9	100	17	70	18	25	1.60	− 1.38	1.14	0	4	14	7	10	s.	Dr. J. E. Lay.
Hamlin	Jones	1,685									2.16		1.48	0	3					W. S. Carruthers.
Harlingen	Cameron	37									2.16		0.61	0	7	24	5	2	s.	Dr. C. W. Letzerich.
Harper	Gillespie										1.63		0.54	0	6	21	0	10		Christian Fritz.
Haskell	Haskell	1,553	16	83.5	− 1.1	105	5	64	26	32	4.20	+ 1.45	1.06	0	9	7	14	10	s.	P. D. Sanders.
Hebbronville	Duval		4								1.63		0.52	0	4					Henry Edds.
Hempstead	Waller	254	7								3.65		1.40	0	6	8	15	8	sw.	J. H. Hancock.

TABLE 1.—*Climatological data for July, 1911. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Texas—Continued.																				
Henderson	Rusk	500	2								14.95		4.50	0	10	9	12	10		M. Kangerga.
Hewitt	McLennan	664	16								5.72	+ 2.36	2.79	0	6					I. H. Earle.
Hico	Hamilton										3.67		1.14	0	7	21	4	6	s.	John A. Eakins.
Hillsboro	Hill	628	8	84.6		102	4	64	25	32	4.55		3.85	0	5					W. G. Escott.
Hondo	Medina	901	12	85.8		103	21†	69	4	29	0.67	− 2.66	0.35	0	4	21	10	0	se.	H. E. Haass.
Houston	Harris	138	21	81.4	− 1.6	93	24	69	26	21	6.59	+ 2.71	1.73	0	13	8	17	6	s.	U. S. Weather Bureau.
Huntsville	Walker	400	27	82.1	− 1.3	96	1†	66	26†	25	3.87	+ 0.96	0.78	0	7	13	0	18	se.	W. Y. Barr.
Jayton	Kent		1								2.85		1.00	0	7	5	20	6	se.	Wichita Valley Railway.
Jewett	Leon	496	7	84.0		103	3†	62	25	34	3.98		1.80	0	4	15	7	9	s.	Earle Adkisson.
Junction	Kimble	1,645	8	81.3		105	23	58	25	36	3.00		2.00	0	2	7	15	9	s.	Judge John S. Durst.
Kaufman	Kaufman	448	12	83.8	− 0.2	105	4	64	24†	31	5.61		2.00	0	6	13	12	6	s.	B. J. Hubbard.
Kerrville	Kerr	1,650	15	83.4	+ 3.3	101	21†	63	26	29	1.21	− 2.55	0.82	0	4	10	7	14	s.	Robert E. Horne.
Knickerbocker	Tom Green	2,050	7	84.5		109	23	60	24	38	1.49		1.10	0	4	17	10	4	s.	Jos. Tweedy.
Kopperl	Bosque	576	14								4.08	+ 1.34	1.75	0	6				s.	T. A. Johnson.
Lagrange	Fayette	276	1								2.49		1.25	0	7	14	4	13	se.	August Hermes.
Lamesa	Dawson	2,500	1								3.24		1.12	0	8					S. D. Austin.
Lampasas	Lampasas	1,026	19	83.0	+ 0.4	102	22	64	26	31	3.35	+ 1.49	0.98	0	7	20	3	8	s.	Mrs. K. I. Webber.
La Parra	Cameron	38	9																	Jno. G. Kenedy.
Laureles Ranch	Nueces	20	11																	Matt Cody.
Liberty	Liberty	38	7	80.4		94	3†	67	27	23	8.93		5.35	0	9	12	11	8	s.	Mrs. Fannie Sneed.
Llano	Llano	1,040	20	85.9	+ 0.6	104	22†	69	18†	29	1.11	− 0.63	0.46	0	5	13	14	4	se.	E. W. Torrence.
Llano Grande	Hidalgo	86	3			99	22†				2.30		0.73	0	7	1	5	25	se.	M. D. Wardlow.
Long Lake	Anderson	229	6								3.39		1.17	0	9	6	10	15	s.	Geo. W. Ellis.
Longview	Gregg	336	25	83.6	− 0.1	104	3†	63	25†	36	6.08	+ 2.85	1.53	0	13	14	0	17	se.	C. A. Propst.
Lubbock	Lubbock										6.75		2.02	0	9	7	18	6	se.	A. L. Paschall.
Lufkin	Angelina	325	4	81.3		98	1†	65	25†	28	11.40		4.00	0	11	13	12	6	s.	T. A. King.
Luling	Caldwell	418	22	85.0	+ 0.9	100	21	70	18†	26	4.00	+ 1.23	1.80	0	7	14	9	8	s.	John Carter.
McGregor	McLennan	713	1								4.73		3.20	0	4	18	10	3	s.	W. H. Whitley.
Marathon	Brewster	4,043	1	73.6		97	23	55	25†	37	4.60		1.10	0	8	14	9	8	s.	Rev. A. P. Willis.
Marble Falls	Burnet	771	3								2.36		1.60	0	3	9	5	17	s.	R. H. Cochran.
Marfa	Presidio		3								2.55		0.80	0	6					R. K. Colquitt.
Marshall	Harrison	375	2	80.8		102	5	59	25	32	7.51		2.67	0	11	0	24	7	sw.	Lee Scott.
Matagorda	Matagorda	12	1								2.85		0.75	0	6	25	6	0	s.	W. E. McNabb.
Mexia	Limestone	537	7	81.6		101	5	62	25†	29	3.61		1.85	0	10	2	16	13	s.	Miss Josephine Newman.
Midland	Midland		4								3.15		1.24	0	4	2[j]	19[j]	0[j]	s.	W. H. Neeb.
Mission	Hidalgo	140	1	84.3		100	16†	70	4†	28	1.09		0.56	0	4	12	19	0	se.	Glenn Perryman.
Mont Belvieu	Chambers	65	1								4.79		1.85	0	12	0	20	11	s.	A. R. Shearer.
Mountain View	Pecos	2,900	1																	Lucius W. Gosselin.
Mount Blanco	Crosby	2,750	22	78.1	− 0.5	98	12	57	25	30	3.52	+ 0.33	1.33	0	5	7	7	17	s.	H. C. Smith.
Nacogdoches	Nacogdoches	271	12	79.6	− 1.2	96	1	64	26	25	11.17	+ 6.13	2.75	0	12	11	3	17	s.	Miss Mary Hofmann.
New Braunfels	Comal	720	22	83.4	+ 0.6	99	21†	68	4†	26	0.79	− 1.90	0.44	0	4	11	18	2	s.	J. Giesecke.
Palestine	Anderson	510	29	79.9	− 1.6	95	5	63	26	27	3.72	+ 0.72	1.58	0	12	4	19	8	s.	U. S. Weather Bureau.
Panter	Hood	1,000	22								3.75	+ 1.03	1.03	0	6					E. H. Snider.
Pearsall	Frio	629	1								0.57		0.47	0	3					Earnest De Vilbiss.
Pierce	Wharton	102	5	77.6		93	1†	64	18	28	4.73		1.07	0	13	5	9	17		R. B. Pointer.
Plainview	Hale	3,370	15	75.0	− 1.8	97	6	52	25	33	10.06	+ 6.29	2.17	0	12	12	16	3	s.	J. F. Sander.
Port Arthur	Jefferson										9.31		2.50	0	9					Griffing Bros. Co.
Port Lavaca	Calhoun	20	10	83.4	+ 0.4	97	13†	70	6	23	3.79	− 0.48	1.43	0	5	15	14	2	s.	J. H. Bickford.
Post City	Garza	2,700	1								3.19		0.80	0	9	14	13	4	s.	W. L. Dodd.
Putnam	Callahan	1,591									2.20		1.23	0	9	7	18	6	s.	Rev. Joseph Reisdorff.
Raymondville	Cameron										0.78		0.46	0	5	11	19	1	se.	C. H. Pease.
Ricardo	Nueces	57	2	83.2		101	21	70	5†	25	0.98		0.90	0	3	16	11	4	se.	Lindsay Waters.
Riverside	Walker	169	7								6.90		2.40	0	8	22	1	8	s.	Mrs. C. W. Higdon.
Robert Lee	Coke	1,850	12																	H. D. Pearce.
Rockland	Tyler	136	7								5.72		1.10	0	12	8	9	14	s.	T. W. Bellamy.
Rockport **	Aransas	12	10	82.2	− 0.8	89	19	73	25	9	1.25	− 1.23	1.25	0	1	15	12	4	se.	Mrs. G. B. Grewe.
Rossville	Atascosa	558	4	86.6		106	21	63	25	32	0.90		0.47	0	3	9	21	1	se.	W. F. M. Ross.
Runge	Karnes	308	16								2.25	− 0.88	1.45	0	4					Reiffert & Frobese.
Sabinal	Uvalde	964	7	85.6		104	21†	68	4	32	0.33		0.20	0	3	6	18	7	se.	Jas. Johnston.
Salado	Bell		1								3.74		2.93	0	4	13	0	18	s.	L. M. Crockett.
San Angelo	Tom Green	1,847	20	84.5	+ 1.1	108	23	61	27	35	4.80	+ 2.17	2.84	0	6	19	7	5	s.	Sam Crowther.
San Antonio	Bexar	701	26	84.1	+ 1.7	102	21	64	25	28	1.03	− 1.19	0.33	0	7	12	11	8	se.	U. S. Weather Bureau.
San Augustine	San Augustine	360	2	81.0		98	3	63	26	27	6.38		3.65	0	11	5	9	17		F. A. Wilson.
San Juanito	Hidalgo		2	86.8		104	21	69	26	32	1.07		0.38	0	5	0	4	27	se.	J. B. McAllen.
San Marcos	Hays	588	18	83.6	+ 0.6	100	23	68	26	26	0.22	− 3.57	0.12	0	2	19	0	12	s.	Miss L. C. Ford.
San Saba	San Saba	1,712	10	83.7	+ 1.8	105	22†	61	26	34	1.03	− 1.73	0.40	0	7	20	11	0	s.	Jas. Burns.
Santa Gertrudes	Nueces		11								1.01	− 1.19	0.75	0	2					J. B. Wright, jr.
Sealy	Austin	201									5.68		2.50	0	13	7	13	11	s.	O. H. Albert.
Seymour	Baylor	1,320	5	81.3		108	6†	58	26	38	5.40		1.85	0	10	13	0	18	s.	S. C. Lee.
Snyder	Scurry			82.2		106	22†	58	26	36	1.42		0.48	0	8	4	14	13	se.	J. Allen Weaver.
Somerville	Burleson	251	2	83.6		99	5	66	26	28[d]	2.74		1.49	0	5	20	4	7	s.	W. A. Dolan.
Spur	Dickens	2,300		80.6		102	6	61	26	31	4.97		1.85	0	10	12	12	7	se.	J. D. Reagan.
Stamford	Jones			81.4		106	23	62	26	30	1.46		0.43	0	10	6	23	2		T. A. Williams.
Stowell	Chambers										5.20		3.10	0	6	11	0	20	s.	Arthur Bailey.
Sutherland Springs **	Wilson		1	88.7		106	23	69	4†	32	0.33		0.25	0	2	24	2	5	s.	W. A. Clark.
Taylor	Williamson	583	10	82.8	+ 0.1	98	23	66	18	25	2.59	− 0.03	2.34	0	7	13	14	4	s.	U. S. Weather Bureau.
Temple	Bell	630	21	83.8	+ 1.1	100	5†	66	25	25	3.02	+ 0.58	1.27	0	5	21	8	2	s.	W. Goodrich Jones.
Theodore	Winkler		1								1.15		0.35	0	6					W. H. Gibbs.
Thurber	Erath		1								4.57		1.32	0	7					J. K. Ball.
Tilden	McMullen		5																	Wm. Kuykendall.
Tivoli	Refugio		1																	W. H. Gisler.
Uvalde	Uvalde	937	3	85.1[d]		105	21†	68	4	32[i]	1.01		0.67	0	4	9	22	0	se.	F. M. Getzendaner.
Valentine	Jeff Davis	4,421	5	76.0		98	28	57	25	34	3.74		0.88	0	7	8	19	4	se.	Valentine Development Co.
Valley Junction	Robertson	289	11								5.70	+ 3.48	3.05	0	5	19	2	10	s.	T. M. Williams.
Victoria	Victoria	187	12	84.0	+ 0.7	99	31	70	18†	25	0.98	− 2.91	0.34	0	5	31	0	0	s.	C. C. Zirjacks.
Waco	McLennan	424	22	85.8	+ 2.8	104	5	65	25†	29	6.61	+ 4.26	4.10	0	5	9	0	22	s.	E. H. Hall.
Waxahachie	Ellis	556	14	83.0	− 0.2	104	4	58	26	32	6.29	+ 3.20	2.53	0	9	7	7	17	s.	C. D. Longserre.
Weatherford	Parker	864	22	83.5	0.0	105	5	61	26	31	5.80	+ 3.31	1.70	0	11	17	4	10	n.	Miss J. Stickfort.
Wharton	Wharton	105	9	83.1[g]		97[g]	31	68[g]	3	23[g]				0		4[g]	2[g]	18[g]	sw.	Mrs. F. M. Hughs.
Wills Point	Van Zandt	524	6	82.5		104	4†	62	25†	34	4.64		2.00	0	9	12	6	13	s.	W. W. Gibbard.
Winters	Runnels										1.46		0.70	0	6					Ed. P. Eason.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; 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. 8, Texas and Rio Grande Valley.*

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	
Colorado.																																	
Blanca	Rio Grande	T.	1.64	T.		T.	.29	.02			T.		.09	.22	.17		.05	.06	T.	.22	.90	.01		.40		.05		T.				T.	4.12
Cumbres	do	.53	.70	.40	.04	.10				.06	.31	.27	.03	.57	.02	.01	.04	.18	.25	.55	.20	.44	T.	T.	T.	T.	.31	.30	.04	.15			5.50
Garnett	do	.53	.22	.41	.03		.10						.09	.37	T.	.43			.06	.03	T.					.12						T.	2.39
Hermit	do	.22	.52	.26	.25	T.	.10	.51				.07	.05	.81	.10	T.	.03	.13	.27	.23	.20	.02	T.	.18	.40	.08	T.	T.	T.	.10	T.		4.53
La Veta Pass	do		1.91			.18	.09						.18	.30	.09	.11	.93	.59	.74	.15				.23		.08							5.58
Manassa	do		.61	.07	T.	.10		.15	.08			.46	T.	.25	.17	.03	.02		.32	.73	.20	.15		.05	T.	.07							3.46
Platoro	do	.07	.55	.24	.16	.08	.06	.30	.08				.21	.33	.32	.02	.13	.06	.13	.70	.52	.12	.03	.13	.05	.06	.05	.13	.10	.13	.10	T.	4.86
Saguache	do	T.	.80	.53									.20		.50			.35	.10	.20	.10	.15	.12	.25	.10	.10		T.					3.50
San Luis	do	.15	.93	.03	T.	.06	.18	T.	.03			.12	.28	.77		.05	.08		.11	.04	.49			.18		.57		.10	.33		.12		4.62
Wagon Wheel Gap Experiment Sta.	do	.43	.20	.17	.14	T.	.37	.10	.02			T.	.10	.68	.26	.02	T.	.05	.31	.17	.05	T.	T.	.44	.18	.54	T.	.04	T.	.01	T.		4.28
New Mexico.																																	
Agricultural College	Rio Grande	.25	.02				.11			.27	.30			.06	.10	.10												.15					1.36
Alamogordo (near)	do		.78	.04	.02	.02	.12	.15	.01	T.	.06	.09	.25	T.	T.	.04	.04	.01	T.	.15	T.					.04		.23	.67			.03	2.75
Alamogordo	do	.70	.02		T.	.10	.22			.05	.08	.31			T.	T.	.05			.24					.02			.87			.03		2.69
Alamos Ranch	do	.37	.73			.43	.06	1.00	T.			.24	.15	.38	.17		.43	.04	.26	.20	.49	.34	.08	T.	.78		.64	.65	.05	.20			7.69
Albuquerque	do	.07	.60	.06			.18	.03			.25				.44						.22	T.		.23			.06						2.14
Ancho	do	.43	.36		.91	.38	.30	.70		.50	.13							.15			.11	.14											4.11
Anchor Mine	do	.30	T.	.60		.90		.20				.30	.80	.40	.60	.30	T.			.50				.70	.60				.30	.20			6.70
Artesia	Pecos		.40				.11								1.65										5.50						.10		7.76
Aspen Grove Ranch	Rio Grande	.11	.48	.32			.49						.32	.11	.52		.63			.38		.12	.02	.34	.32	.06	.05		.03	.16			4.46
Batemans Ranch	do	T.	.73	T.	T.	.08	.37	.04	T.			.08		.20	.05		.30		.75	.80		T.		.59				.19	.40			4.58
Bluewater	do	.35	1.15	.36	.15	.06	.05	.25	.02			.47	.05	.23				.33	.25	.69	.13	.03		T.	.03	.68	.03	.12	.08				5.51
Boaz	Pecos							.28			.18			.05	.12				.04		.05	.52		.07	.20								1.51
Capitan	do	.22	.62	.43	.03	.03		.09	.10	.26	.83	.35		.45		.05	.01	.11	.32	.07	.05	.30		.40	.41	.47	.20						5.80
Carlsbad	do		.09				.05	.65	.10	.31	.16			*	.68			.18							3.75					T.			5.97
Carrizozo	Rio Grande	1.52	.04						T.			T.		.05				1.52		.17		.31					T.	T.					3.61
Carson Park	do																																
Chama	do	.65	1.25	.20		.10	.70	.08	T.				.48	.30	.17		.25		T.	1.00	.37	.38	T.	T.	.48		.62	.77	.14				7.94
Cloudcroft	Pecos	.94	.60	.80	.28	.05	T.	1.20	.15	.09	.13		.05	.38	.20	.24		.02	.13	.26	.20				.05			.29					6.06
Corona	do																																
Coyote	Rio Grande	1.10	.21	.65	.09	.14	.02	.77	.02		.44							1.62		.06	.07						.06	.13					5.38
Cundiyo	do	.38	.50	.20		.02	.10					.01		.23	.03		.09			.80				.30	.48								3.14
Demonstration Fm.	Pecos	.41	.06			.45	.10			.16		.20		.65	.22		.24				.79	.10		1.30				.20		.12			5.00
Duran	do	.30	.40	T.	.20	.10	.76	1.52	T.		1.31		.10	.34					.10	T.	1.48	.92	.15		T.					T.			7.68
Elk	do																																
Escondido	Rio Grande	.55	.01	.01	.03	.01		.02	.30	.03	.52	.09	T.	.07	T.	T.	T.			.07					.01		.17	.24			.01		2.14
Espanola	do	.20	.17	.48	.05	.15	.12		.34				.04	.02	.05	.11		T.			.38	.30	.07	1.62				.15					4.25
Estancia	do	.82	1.21	.19	T.	.42	.29	.17	.42	.33	.45			1.29				1.10		.96					.14			T.					7.79
Fort Stanton	Pecos	.36	.90	.44	.13		.01	.12	.50	.05	.69	.03	.02	.61	.09			.33	.14		.02				.88		.14	.16		T.			5.62
Fort Sumner	do		T.		.03	T.	.28	T.	T.	.35	T.	.10	T.	.24	T.	T.		T.	.03	T.	.80	.21	T.	.04	T.	T.	.03	T.					2.11
Gallinas	do	.08	.68	.19	.09	.30	.25	.28	.14	.53	.08	.01						.03		.09	.05	.35		T.	.12	T.	.13						3.40
Gallinas Pl't'g Sta.	do	.63	.59	.55		.04	.35			.81	1.09	.01	.15	.27	.19	.24	.10	T.	.54		1.80	.35			.62	.11	T.	T.		.57			9.01
Glorieta Ranch	Rio Grande	.32	.33	T.	31	T.	.01	T.	.31	T.	.62	.03		.10						.10	.03						.47	.33		T.			2.96
Harveys Upper Rch	Pecos	.46	.67	.32		.37	.23		.31	.64	.86	T.	.18	.64	.23		.60	T.	.26	.07	.19	.11			.14	T.	.07	.16	.39	1.42			8.32
Hillsboro	Rio Grande																																
Hodges	do																																
Hondo Reservoir	Pecos		T.	.09				.01	.24	T.	.08	.07			.11		T.	.03		.53		.40			2.70						.51		4.77
Hope	do																																
Jemez Springs	Rio Grande	.25	.33			.17	1.15	.05	.15			.55	.05	.03	.22	.03	.30	.23	.01	T.	T.	.10	.50		.54	T.		.14					4.80
Knowles (near)	Pecos						T.	.01	.12	.12				1.25	.75		.41	.06	.53		.02				.95						T.		4.22
Laguna	Rio Grande	1.60	1.55	T.	.35	.35	.95	T.			T.	T.		.25	.45					.20		.30				T.	.26	T.					6.26
Lagunita	Pecos																																
Lake Valley	Rio Grande	.24		.15	.75		.19	.04	.01	1.27	.12			T.	T.		1.02			T.		.01			.67		.40		T.				4.87
Las Vegas	Pecos	.72	.18	.03		.13	.17	T.		.10	T.	.08		.07	.64		.05				.15	.17		.18	.54			.40	.04	T.			3.55
Liston	do		.13			.61					.11			.12						.61	.15	.50			.11								2.34
Los Lunas (near)	Rio Grande	.30	.61					.51		.21					.07					T.	.22			.15			.10	.06					2.23
Magdalena	do	.75	.40	T.	.75	T.	.90	.40	T.	.45	.40	.05		.10			.05	T.	T.	.20	T.	.25				.15	.20	T.	.35				5.40
Mescalero	do	1.45	1.30	.30	.06	.05	T.	.01	T.	.35	1.00	.34	.19	.26		.09		.05	.13	1.66	.04	.01			.13		.04	.30		T.			7.76
Mineral Hill	Pecos	.70	.40	.45		.06	.63			.45	.18		.10	.09	.59		.20				.80			.06	.67			.20	.23	.20			6.01
Monterey	Rio Grande	.10	.05	.25	.04	.04	.02		.09	.07	.13	.02		.01		.01		T.	.02						.40		.01	.13		T.	.03	T.	1.42
Mountainair	do																																
Newman	do		.10	.56	T.	T.	.50	T.			.40	1.00				.05			T.							.10		.10				.10	2.91
Noria	do	.13	.07	T.		.37			.12	.05	.18	1.10	.39							.80		.58			.15			.28	T.		T.		4.22
Orange	do																																
Orogrande	do	.23	T.	.20	T.			.75	T.	.10	.50	.05	.07	.72				.01						.01	.11		.20	.27			.48		3.70
Oscuro	do	1.50		.67	.17	.19	.07				.23			.05				.40	.82	.25		.03			.31		.05	.09					4.83
Otis	Pecos		T.				T.	T.	T.	T.	.40			.15	.08		.10	.08		.14				2.23						T.		3.18
Otto	Rio Grande	1.30	.55	.37	T.	T.	.27	.15	.05	.56	.72	T.	T.	.18	.04		.07					.61			.16	.03	T.	.10	.03	T.			5.19
Pastura	Pecos	.42	.31	.03	.04	.02	1.23	.30	.03	.57	1.17			.23					.20		.31	.53		.43	.10			.20	.11		.05		6.28
Placitas (near)	Rio Grande	.68	.98	.08			.08	.18		.45	.15	1.46		.14	.18	.07	.08	.18				.18	.05		1.25	.09		.06					6.34
Plainview	Pecos							.42	T.		.25	.02		.87	.20	.36		.85	.90	.08	.20				.60						T.		4.75
Red River Canyon	Rio Grande	.30			.50	.80		T.				.20	.90	.30	.40	.20		.30		.20				.80		.50			.30	.10			5.80
Rincon	do	.23	.37	*	.10	*	.65			*	1.18	.10			T.										.45	*	.61				T.		3.69
Rio Grande Dam	do																																
Rio Gr'nde Ind.Sch.	do	.78	.90					.06		.04	.55	.11		.40	.02											.14	.02						3.02
Rosedale	do	.73	.73	.50	.32	.01	.15	.04	.02	1.84	.42	.79	.01		T.			T.	.03	.05	.15	.99			.10	.47	.93	.03	T.				8.31
Roswell	Pecos		.11				.19	.12	.54	.05		T.		T.			.07	.02		.07	.74			.02	.58		T.			.42			2.93
San Marcial	Rio Grande	.12	.15			.75	.25				1.14							.74							1.27								4.42
San Rafael	do	.45	.80	.28	.33		.20	.45				.99	.52	.35	.30		.29		.14	.47	.03				.08	.50	.30	.06					6.54
Santa Fe	do	.41	1.64	.49		T.	T.	.16	.06		.65	.49	.29	.43	.02		.03		.01	.02	.08	.02		.14	.02		.03	T.	.52	T.			5.51
Santa Fe Canyon	do	.50	1.20			.40	.20	.20			.50			1.00			T.		T.	T.	.40	.10	.10	.10					.20				4.90
Santa Rosa	Pecos	.25	.05		.01		.18	.15		.08	.10		.08	1.11	.07		.02			.02	.63	.07		T.	.03			T.	T.	.11			2.96
Socorro	Rio Grande	.30	.49	.12		.07	.08	.12		.20	.03			.02							.42	.35	.06	.10	.05	.11		.06					2.58
Stanley	do	.58	.78	.98	.23		.48	.17	.72		.48	.17	.22		.38				.42		.68							.73					7.02
Strauss	do				.78	.37			.58	.08	1.37	.30	.05							.18	.08				.35		.26	.04	.22				4.56
Taft	Pecos	.07		T.		T.	.18	.10	.08	2.00	.75			.08						1.55		1.12	.15							.15			6.23
Tajique (near)	Rio Grande	.09	1.30	.44	.20		.19	.66		.31	.15	.03		.13	.01	.09	.17				.32				.40	.05	.19						4.73
Taos	do	.59	.44	.12			.15					.04	.04	.05	.12	.10	.02		.03	.21	.02	.06		.51		.02	.03	.05	.02		.05		2.67
Taos Canyon	do	.53	.09	.14		.04	.41	.01	.01	T.		.03	.08	.20	.20	.02	.09		T.	.23	.48	.51		.50	.31			.04	.05	.03			4.00
Tecolote	do	.69	.21	.05	.09	1.12	.02	.52	.02	.21	.12							.04		.55	.02	.35			.05		.05	.03	.23				4.37
Three Rivers	do	.66	.12	.03			.25			.15	.29			.04			.24	.23	.33								.18						2.52
Tijeras Canyon	do	.48	.65	.27			.01	.13		.50		.65		.04				.21		.51	.50				.21			T.					4.16
Torrance	Pecos	.20	.70		.30		.20	.20		5.80	.15		.50	.10				T.			.90	.22			.05		.85	.05	1.32				11.54
Tres Piedras	Rio Grande																																
Truchas	do	.04	.02	.46	T.	.16	.45	T.	T.		T.	.50	.05	.06	.03		.04		T.	.25	T.	.25	.02	T.	T.		.06	T.	.50	.02			2.91
Tularosa	do																																
Vaughn	Pecos	.08	.38		.10		T.	.60		.50			.30	.95			.10			.50	.35		.10		.10					T.			4.06
Virsylvia	Rio Grande	.09	.19	.01	.20	.02	.41	.14	.02			.07	1.24	.22					.05	.02	.19	.01		.81	.22	.54		.09			.20		4.74
Winsors	Pecos	.91	.40	.65	.31	.23	.54	.19		.97	.03	.75	.64	.21	.73	.48	.32			.04		.48	.11		.66	.71		.18	.19	.18			9.91

TABLE 2.—*Daily precipitation for July, 1911. District No. 8*—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	
Texas.																																	
Abilene	Brazos		T.	T.			.18							.16	1.28		T.	.75				.12		T.	.01					.08	.06	3.75	6.39
Albany	do			T.		T.	T.	T.	T.						1.68			1.32						.19							.95		4.14
Alice	Coast				.80	.10								.20												.20	.05						1.35
Alpine	Pecos								1.35						.56															.01	1.35		3.27
Alvin	Coast						.05	1.81	4.48			T.	T.	T.		.67			.13						1.60	T.	2.90		.70				12.34
Anahuac	do		.59				.20	2.12	.12		.21	.09		.40	.07	.22									.02	.05	.05				.44		4.58
Antelope	Trinity			T.					1.20					T.	.03	.24		1.75												.04		.50	3.76
Aspermont	Brazos						.10	.04	.15					.40	.80	.04	.27					.09								.17			2.06
Austin	Colorado				T.		.30		T.							.15	.03	1.38							T.								1.86
Ballinger ‖	do				.42				T.						T.	T.	T.	.20	.25						.20	.35					.05	.02	1.49
Barstow	Pecos							.29							.30										.26								0.85
Bay City ‖	Colorado		.25	.25		T.			.32	.22		.20			.13				.24			T.				.80	.30						2.71
Beaumont ‖	Neches			1.17			.39	1.05	3.43	T.	T.			.06	.49	.09	.83	.90	T.	T.						.12					.06	.32	8.91
Beeville ‖	Coast		T.	.05		T.								.08				T.									T.						0.13
Big Springs	Colorado									.42				T.	.41	.02	.01		.03		T.				.45					T.			1.34
Blanco ‖	Guadalupe		T.	T.	T.						T.				.56		.77		.04														1.37
Boerne	San Antonio	1.06						.06		T.					.58																		1.70
Booth ‖	Brazos						.14	.46	.06	.04	.26			.27	.60	.84	.64		.28	.03	.02					.80	.04		.03				4.51
Bowie	Trinity				.34	.83	.09	.05		.32				1.64				.17				.11	.09	.17						.55	.04		4.40
Brady	Colorado																																
Brazoria	Brazos		1.10	.17	1.69	1.96	.02	2.41	1.92	.27	.01	.09	.07	.21	.07	.04		T.	.20	.01	T.			T.	1.75	1.01	1.25	.03					14.28
Brazos ‖	do				.38					.77					.25	1.40			.80	.23			.78			1.01							5.62
Brenham ‖	do	T.	.18	T.			.10	.28	.05	.41	T.		T.	.04	T.	1.34	.20	.08	.83	.10									.70		T.	T.	4.31
Bridgeport ‖	Trinity			T.					T.		.66								1.30			.12	.25		.23					.40	T.		2.96
Brighton	Coast	T.												.35												2.50							2.85
Brownsville	Rio Grande	.40	.08	.07			T.			.08			T.																				0.63
Brownwood ‖	Colorado		T.					.20	T.	.90	T.					T.	T.	T.	.43							2.90							4.43
Cameron ‖	Brazos	.07				.09				.11							2.50	2.10															4.87
Carmona	Neches	T.	.25	T.	.05	.15	1.43	.14	T.	.12		1.04		.32	.01	.23		.37	.22				T.		.19						T.		4.52
Claytonville	Brazos						T.	.03					T.	T.	.50	T.	T.												.16	.17		.40	1.26
Clifton	do					T.		1.86	.21					.16	.07	.03		2.87	1.27				T.		.88								7.35
Coleman	Colorado		T.	.05			T.	.80	.08	.12				.75	.34	.63		.75				T.			1.15							.25	4.92
College Station	Brazos	.33	.03		.02		1.14	.09	.82					.11	.01	.17	.05	.16	2.74														5.67
Colorado	Colorado						1.00	.07	.04	.12			.12		1.33		.32								.20								3.20
Columbia	Brazos		.35				T.	1.75	.50						T.	1.05			T.				.65	2.85	1.15	.80							9.10
Columbus ‖	Colorado	T.	.20	T.			T.	T.	T.	T.	.62		T.			.16	.06		1.08	.02						2.00							4.14
Corpus Christi	Coast	.01	.06								T.					.01									.01	1.95							2.04
Corsicana ‖	Trinity						.02			2.70	.04			T.		.07		.02	.55				.20		.30	.73					.03		4.66
Cotulla	Nueces																																0.00
Crockett	Trinity		.14		.28		3.00	T.	.27	.18				.59	.75	.14			.78	.02			T.								1.00		7.15
Cuero ‖	Guadalupe										T.	T.	T.		.48	.12	.12		T.							1.15	.97						2.84
Dallas ‖	Trinity			T.			.05			.67				.04		1.04		.44	1.64			.04	.07	.09	.03	1.17					.06		5.34
Danevang	Coast		.20	.25	1.00			.50	.25	.30	.25			.20					.20						.04	.04							3.23
Decatur	Trinity																																
Del Rio	Rio Grande		T.	.01									.08		.07		T.		.10							.28							0.54
Devine	Nueces	.12	.20	.06		T.																		T.									0.38
Dialville	Neches		T.		.30	2.60	T.	.68	1.10					1.50		1.10	T.	1.25	.17				T.								T.		8.70
Dilley	Nueces																																0.00
Dublin ‖	Brazos				.09			.03	.20		.47			.14	T.	.21			1.52			.06				1.34							4.06
Duval	Colorado	.04	T.			T.	.20	T.	T.	T.					T.	.68		T.	1.55						T.						T.		2.47
Eagle Pass	Rio Grande	T.	T.	.03						.01						T.	T.								T.	.04							0.08
Eastland ‖	Brazos								T.					T.	T.	T.		.50	.60					T.								T.	1.10
Edna	Lavaca				.70					.33			T.					.30				.10						T.					1.43
El Paso	Rio Grande	.12	.12		T.	T.		.01	.05	.23	1.33	.14		.39	.05					.01		.69			.01		.10	.16	T.		.02		3.43
Encinal	Nueces																																
Eola	Colorado																																
Fairland	do	T.	T.	T.			.03	.05					T.	T.	.98	.05	.20	T.	1.35						.27	T.							2.93
Falfurrias	Coast	T.	.45	T.	.36		T.			T.			T.												T.		T.	T.					0.81
Flatonia	Guadalupe	T.					T.	.08	.30	T.					.06	T.	.03		1.20								T.						1.67
Flint	Neches						.73	.14	T.	T.		.30		.04	.13	.08	.05		.56			T.	.10		1.00						.04		3.17
Floydada	Brazos						.07	.33		.04			.09	.77	1.05			.04		.55	2.38	.18						.31					5.81
Fort Clark ‖	Rio Grande		T.					T.																									T.
Fort McIntosh	do		.06	.15																						.50							0.71
Fort Stockton	Pecos								.18	T.				.20	.70	.03												T.	.10	.11			1.32
Fort Worth	Trinity							.09	.27				.03	.09	1.76			2.60				.04	.75		.55					.01	.01		6.26
Fredericksburg	Colorado	T.	T.				.20	T.						.85	.02	.12	T.	.05				.04											1.28
Gainesville	Trinity				.09				.09						.22			.07				.02	.66		.07					.68			1.90
Galveston	Coast				.13	.05	1.50	.18	.20			.05	.33	.05	.20	.37	.63	.06	.14						T.	.20	.64	T.					4.73
Gatesville	Brazos							.60						.20	.20	.22	.25	.18	2.40						.70								4.75
Georgetown ‖	do							.02								.90	1.01		3.01												.01		4.95
Gonzales ‖	Guadalupe		.26		.16												.33	.19	.18									.05					1.17
Gorham ‖	Brazos			.40				.52						.19	1.75		T.	4.02	T.				T.		1.43					T.			8.31
Graham	do		T.	.30				T.	.25					2.12	.75		.45	.60	1.12			.08	.03	T.						.22		.04	5.96
Grand Falls	Pecos																											.60	.16				0.76
Grand Saline	Sabine					.98	1.40		.28	T.			T.		.18	T.	T.	.21	T			T.	T.		.42					T.			3.47
Grapevine	Trinity		.10			.80	T.	.20					.63			.75	.19	.48				.13	.34		.58				.05	.08			4.33
Greenville ‖	Sabine									.43								.25	.45				.81		.52	.45					.10		3.01
Hallettsville	Lavaca	T.	T.		T.			T.	T.	.30					.11	T.	T.		1.14						.05		T.						1.60
Hamlin	Brazos			.25											1.48																	.43	2.16
Harlingen	Coast	.30	.10	.30						.41	.61			.14	.30																		2.16
Harper	Colorado							.10						.22	.18	.31	.54	T.							.28								1.63
Haskell ‖	Brazos						T.		T.	.12	.70			.80	.30	.40			1.06			.72	.06							.04		T.	4.20
Hebbronville	Coast		.46	.44	.21																					.52							1.63
Hempstead ‖	Brazos		T.	T.		.25	T.	.45	T.		.20			T.	T.	T.	.50	1.40	.85	T.						T.							3.65
Henderson	Neches				.17	2.55	.20	T.	.23	.03					T.	4.50			3.90				.07		3.20						.10		14.95
Hewitt	Brazos	T.				T.		T.	.25					T.	.21	.04	T.	1.53	2.79						.90								5.72
Hico	do						.20		.25				T.	.70	.23			.25	.90			T.				1.14							3.67
Hillsboro	do								.01						.18	.01			3.85							.50							4.55
Hondo ‖	Nueces			.12						.05							.15									.35							0.67
Houston	Coast		.05			T.	.21	.22	.57	T.	.32	.15	1.30	.54	.06	1.24	T.	T.	.11	T.					.09		1.73				T.		6.59
Huntsville ‖	Trinity	T.		.63	T.	T.	.55	.37	.70	.65	T.			T.	.19	T.			.78														3.87
Jayton	Brazos									.10				1.00				.25	.10			.25								1.00		.15	2.88
Jewett ‖	Trinity					1.30	T.		.25						T.	.63		1.80													T.	T.	3.95
Junction	Colorado														1.00											2.00								3.00
Kaufman	Trinity		T.		.31	T.			1.05						.90		.53	T.	.82			T.	T.		2.00					T.		T.	5.61
Kerrville ‖	Guadalupe								.82						.09	.20		.10															1.21
Knickerbocker	Colorado		.07	T.				T.					T.	T.	1.10	T.			T.	.07					.25								1.49
Kopperl ‖	Brazos						.35		.80	.18						.10			1.75	T.						.90							4.08
Lagrange	Colorado	.10	T.				.04	.90	.07	.03					T.	T.	.10	T.	1.25														2.49
Lamesa	do		T.			T.	.74			.31			.08	.74	.13	.09					1.12				.03								3.24
Lampassas ‖	Brazos							.66	.85	T.					.30	.20		.18		.18						.98							3.35

TABLE 2.—*Daily precipitation for July, 1911. District No. 8*—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	
Texas—Continued.																																	
La Parra	Coast																																
Laureles Ranch	do																																
Liberty ‖	Trinity			T.		.45	T.	T.	5.35		.25		1.00		.08	.42	.10	.08	T.	T.	T.	T.		T.		1.20					T.		8.93
Llano ‖	Colorado		T.	T.				.20		T.				T.	T.	.05	.46	.12	.28												T.	T.	1.11
Llano Grande ‖	Rio Grande	T.	.65	.11	.38	.11			.04																		.28	.73					2.30
Long Lake ‖	Trinity			.03			.66	.40	.39							.44	.20	.07	1.17												.03	T.	3.39
Longview ‖	Sabine						.80	.06	.55	.15				.07	.10	1.28	.25	.07	.50						1.00	.05						1.20	6.08
Lubbock	Brazos				T.				.15	.32				T.	1.10	.07	T.	2.00	.01		2.02	.90			T.			T.	.18	T.			6.75
Lufkin	Neches		T.				1.59	.04	.09	.28		1.10			4.00	1.48	2.05	.17	.47												.13	T.	11.40
Luling ‖	Guadalupe		.15	T.				T.	1.80	.06		.03				1.51	.25		.20														4.00
McGregor	Brazos							1.00	.25					T.				3.20							.28								4.73
Marathon	Rio Grande								1.10	.80				.80	.60	.30													.70	.20	.10		4.60
Marble Falls ‖	Colorado														.02			.74	1.60														2.36
Marfa	Rio Grande	.55							.80						.30					.10								.50		.30			2.55
Marshall	Sabine				.10	.15	.17		.70	.02			.01			2.67	.16		2.51						.62						.40		7.51
Matagorda	Coast						.50				.25		.50	.75					.40							.45							2.85
Mexia ‖	Brazos			.17			.50	T.	T.	.10	T.				.05	.47	.30		1.85	.01			T.			.15					.01		3.61
Midland	Colorado													.91	1.24			.20				.80											3.15
Mission ‖	Rio Grande	T.	.56	.12	T.	.05				T.																	.36						1.09
Mont Belvieu	Coast		.02		T.	T.		1.85	.70			.14		1.41	.01	.17	T.	.06		T.					.18		.03				.02	.20	4.79
Mountain View	Pecos																																
Mount Blanco	Brazos							.07		T.					1.16			T.			.70	1.33							.26				3.52
Nacogdoches ‖	Neches			T.		.97	2.75	T.	.48	.40			.60		.60	.30	1.48	.60	.52	1.57			T.	T.							T.	.90	11.17
New Braunfels	Guadalupe	.14						.04							.17	.44																	0.79
Palestine	Trinity		.02			1.37	.21	.01	.05	.18		T.		.13	.06	.52	.36	.76	.05				T.		T.					T.	T.		3.72
Panter	Brazos	T.	T.	T.	T.	T.	.26	T.	1.03				T.	.90	.32	T.		.49	T.			T.			.75		T.			T.		T.	3.75
Pearsall	Nueces	.07		.47																					.03								0.57
Pierce	Colorado			1.03		.06	.05	.20	.29	.19			.24	1.07	.14	.11			.50						.23	.62							4.73
Plainview	Brazos						T.	.23	1.80	.05				.06	.77		.04	1.67		T.	2.17	1.40	1.11						.17	.59			10.06
Port Arthur	Coast						2.50	2.50	1.06				.55	.75		.50	.50	.15														.80	9.31
Port Lavaca	do				T.						T.	.57	1.43		.97			.39	T.	T.					.43								3.79
Post City	Brazos									.10				.18	.94		.13	.32			.05					T.			.40	.80	.27		3.19
Putnam	do		T.	T.			.16	.01						1.23	.03			.40			T.				.08					.03	.06	.20	2.20
Raymondville ‖	Coast	.46	.06	T.		.14						T.	.07	.05																			0.78
Ricardo	do				.03										.05											.90							0.98
Riverside ‖	Trinity			1.15	T.		1.45	.45	1.95	.35				.10	T.	T.	.80		.65														6.90
Robert Lee ‖	Colorado																																
Rockland ‖	Neches			.15			.55	.35	.70					.15	.10		.90	.37	.80	1.10	.15											.40	5.72
Rockport	Coast	T.	T.	T.										T.	T.											1.25							1.25
Rossville	Nueces	.47		T.					T.						T.	.32	.11																0.90
Runge	San Antonio	.22														1.45										.30	.28						2.25
Sabinal	Nueces			.20											.10												.03						0.33
Salado	Brazos					.04										.37	.40		2.93														3.74
San Angelo	Colorado		.64				T.	.12		.10				.25		.85								T.	2.84								4.80
San Antonio	San Antonio	.26	T.	.06			T.			.05					T.	.33	T.									.04	.29						1.03
San Augustine	Neches		T.		.14	.14	.16	T.	.02			T.	T.	T.	.30	3.65	.28	.11	1.50	T.					.06					T.	.02		6.38
San Juanito	Coast	.10	.21	.18	.38						.20															T.							1.07
San Marcos ‖	Guadalupe														.10		.12																0.22
San Saba	Colorado	T.	.03				.17								.06	.17	.02		.18						.40								1.03
Santa Gertrudes ‖	Coast																										.75	.26					1.01
Sealy	Brazos	.03	.62				.12	1.01	.05	.37	.09	.09		.03	T.	.17			.58						2.50	.02					T.		5.68
Seymour	do						T.	.20		.20				1.85	.21	.60	.12	.66	1.10			.35								T.		.11	5.40
Snyder ‖	Colorado							T.		.04				.06	.42	.36	.22		.02											.05	.25		1.42
Somerville	Brazos	T.					.67		T.					.20	.18	T.		.20	1.49														2.74
Spur ‖	do			.01						.52				.15	.75	1.46		.19			.01	1.85	.01							.02			4.97
Stamford	do									.15			.27	.04	.10	.25		.09			.43			T.						.05	.03	.05	1.46
Stowell	Coast						.20	3.10	.60					.50				.20													.60		5.20
Sutherland Springs	San Antonio	.08														T.									T.	.25							0.33
Taylor	Brazos	T.	T.		T.		.12		.02						T.	.07	.02	.76	1.58						T.						.02		2.59
Temple ‖	do		.10						T.							.90	.50	1.27							.25								3.02
Theodore	Pecos									.25				.05	.35			.03		.21				.26									1.15
Thurber	Brazos								.59					.99	.45				.83				1.32		.29							.10	4.57
Tilden	Nueces																																
Tivoli ‖	Guadalupe																																
Uvalde	Nueces		.67	.23						.07					.04	T.	T.								T.		T.						1.01
Valentine	Rio Grande		.71							.56	.35	T.		.37	.07		.88													.80			3.74
Valley Junction ‖	Brazos						.50		.45								1.00	.70	3.05														5.70
Victoria ‖	Guadalupe		.12								.25			.19					.08							.34							0.98
Waco ‖	Brazos						.21		.20							.56			4.10							1.54							6.61
Waxahachie ‖	Trinity						.67	.34		.34				T.	T.	.77		T.	1.37		T.	T.	.23		.10	2.43						.04		6.29
Weatherford ‖	do				T.		T.		.78	.45				.06	.03	1.70			1.45		T.	T.	.05	.06	.93					.20	.09		5.80
Wharton ‖	Colorado																																
Wills Point	Sabine		.07		.28		.47	.07	1.20						.07		T.	.07	.41			T.	T.		2.00								4.64
Winters	Colorado	.19							.13						.10		.70	.10	.24						T.								1.46

* 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. 8, Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.																Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountain-air.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Springs.		Brownsville.		Corpus Christi.	
	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....	80	50	70	51	84	66	94	71	76	57	.....	.....	69	54	93	67	70	56	92	61	94	73	97	72	86	71	84	78
2....	64	51	69	52	89	64	93	67	70	54	.....	.....	69	54	88	66	62	55	90	59	93	72	97	70	88	73	86	76
3....	73	48	73	50	89	65	92	63	74	53	.....	.....	70	51	90	61	67	54	91	64	95	73	100	67	88	73	85	78
4....	73	47	74	46	91	66	94	66	78	54	.....	.....	72	51	93	62	76	53	91	65	96	71	100	69	90	71	85	74
5....	77	47	73	49	88	63	98	66	82	53	.....	.....	76	56	96	62	76	55	96	57	99	74	103	73	90	72	88	76
6....	73	54	70	52	82	66	98	65	80	54	.....	.....	70	51	94	66	73	54	89	63	100	75	103	81	91	74	90	76
7....	72	48	77	47	86	66	96	69	77	54	.....	.....	68	53	90	64	70	54	89	61	91	73	98	79	90	76	86	79
8....	78	47	76	49	88	67	95	67	77	53	.....	.....	72	53	87	63	76	53	92	62	90	73	92	78	88	77	86	79
9....	83	42	82	43	89	67	92	66	78	55	.....	.....	77	53	90	66	78	56	92	62	95	75	92	76	90	74	86	79
10....	87	45	82	47	82	65	87	68	72	53	.....	.....	73	53	84	64	73	54	87	60	95	74	95	77	92	74	86	79
11....	80	51	80	49	89	64	90	67	77	54	.....	.....	71	57	90	64	75	57	92	62	96	76	101	79	91	74	86	76
12....	81	54	75	54	91	66	95	67	83	69	.....	.....	77	54	95	65	77	57	96	65	99	77	106	80	92	76	87	76
13....	73	54	74	48	92	67	93	70	78	59	.....	.....	79	54	86	70	73	58	80	64	89	74	95	80	93	74	88	77
14....	74	52	73	52	86	68	95	68	79	55	.....	.....	75	53	85	67	73	53	84	62	84	71	92	70	94	73	87	79
15....	80	46	78	47	92	69	87	67	82	56	.....	.....	72	53	88	66	78	54	88	61	92	69	93	71	92	75	88	77
16....	75	48	76	47	91	67	79	65	80	55	.....	.....	77	55	91	65	74	57	83	64	90	72	93	69	92	75	90	76
17....	79	45	77	45	91	61	83	67	83	55	.....	.....	76	59	92	66	78	53	94	61	92	67	96	71	92	77	92	75
18....	75	50	77	50	93	68	90	65	86	56	.....	.....	78	54	93	65	76	58	95	62	91	69	93	68	91	76	86	79
19....	72	50	73	53	88	69	93	69	77	57	.....	.....	75	56	95	70	75	58	93	65	94	74	100	75	92	77	86	79
20....	71	54	75	53	91	71	92	71	87	55	.....	.....	77	54	93	68	76	55	88	61	95	77	99	73	92	77	86	80
21....	75	50	74	50	96	68	97	72	80	56	.....	.....	74	54	92	68	76	57	89	62	97	76	98	73	91	77	87	78
22..	81	47	76	52	93	64	100	68	87	57	.....	.....	81	52	96	68	78	54	91	64	102	73	107	74	91	76	86	78
23....	77	48	77	49	95	65	96	69	90	55	.....	.....	80	55	98	65	80	55	91	66	107	79	109	74	91	78	82	77
24....	72	48	68	47	80	72	85	60	77	51	.....	.....	71	55	76	62	65	54	96	58	83	67	94	64	93	78	86	78
25....	70	45	70	47	85	60	80	61	72	47	.....	.....	67	52	77	58	69	51	81	52	85	65	87	62	91	76	83	71
26....	79	46	76	48	91	65	88	62	80	52	.....	.....	72	52	86	59	75	56	92	60	88	63	92	62	96	70	86	75
27....	77	45	77	48	87	64	92	67	80	57	.....	.....	70	52	87	67	73	53	93	62	95	71	98	70	92	75	86	76
28....	79	46	77	47	92	67	95	67	86	53	.....	.....	76	55	92	65	78	53	99	60	96	73	100	74	91	76	85	78
29....	80	43	78	43	95	68	94	70	86	54	.....	.....	81	53	94	67	75	52	93	60	91	71	98	72	92	75	86	78
30....	80	43	79	43	97	72	95	69	90	54	.....	.....	83	56	91	63	80	54	97	59	97	72	103	70	92	75	86	76
31....	81	41	78	42	98	66	96	65	88	53	.....	.....	83	59	95	60	81	54	97	60	98	54	101	70	92	75	87	77
Mns..	76.5	47.9	75.3	48.4	89.7	66.3	91.4	66.9	80.4	54.8	.....	.....	74.5	54.0	90.2	64.8	74.4	54.7	91.0	61.4	93.8	71.7	97.8	72.4	91.2	74.8	86.5	77.1

Texas.

Date.	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	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....	93	75	88	68	96	75	92	68	97	75	87	80	88	77	92	74	98	70	94	72	91	59	91	74	100	65	88	70
2....	93	74	84	66	94	73	92	68	96	76	86	80	90	74	90	74	95	72	90	72	90	60	91	72	98	71	88	73
3....	93	72	85	68	95	73	91	67	98	80	87	79	96	73	93	75	98	70	94	72	92	60	93	74	100	66	93	73
4....	93	70	90	69	97	72	93	65	101	78	84	78	96	73	92	75	93	73	93	74	94	61	95	70	102	65	96	72
5....	97	71	88	69	99	73	95	65	101	78	86	75	97	73	93	75	97	70	95	68	94	61	96	73	106	72	97	73
6....	98	74	85	68	101	74	97	65	99	75	85	70	90	77	83	72	85	68	85	69	97	64	91	74	108	70	82	73
7....	98	78	87	67	100	76	95	68	96	72	81	75	95	75	86	73	86	71	89	72	94	64	95	72	88	65	94	72
8....	96	78	85	69	98	77	93	68	88	73	82	70	95	75	86	71	91	71	84	72	92	64	95	76	90	66	91	75
9....	95	78	85	66	98	77	92	66	93	73	86	80	95	75	88	74	91	70	89	72	89	64	94	73	99	66	95	76
10....	96	77	81	61	101	78	92	65	94	74	86	80	95	75	89	72	94	70	89	73	89	64	96	75	98	65	93	75
11....	98	76	85	63	102	75	97	68	97	76	86	76	96	73	92	75	95	69	92	74	92	62	96	74	103	70	95	72
12....	99	78	90	68	100	77	99	67	96	73	86	74	99	75	89	72	94	70	92	72	95	66	96	74	108	72	94	74
13....	98	76	91	65	100	76	97	69	91	71	82	74	96	74	83	73	97	71	88	74	85	66	96	74	95	62	95	76
14....	98	76	80	69	100	78	78	67	88	68	85	74	90	77	86	73	96	69	87	73	79	64	95	72	93	64	94	75
15....	94	75	86	68	101	77	89	67	91	68	83	75	96	75	86	72	81	72	80	72	87	61	93	72	95	64	93	74
16....	99	73	88	71	104	76	93	67	88	72	85	71	96	77	91	74	90	69	88	69	82	66	93	75	94	66	94	72
17....	100	78	91	68	104	77	98	66	93	70	87	79	100	76	91	75	92	70	87	71	88	60	99	75	94	64	96	71
18....	100	77	91	71	105	76	98	69	83	70	82	71	92	70	86	75	88	71	87	68	81	61	96	74	83	62	89	66
19....	101	78	84	68	104	89	99	70	90	75	87	81	95	75	90	76	93	72	89	73	89	66	98	76	95	67	93	74
20....	99	80	89	73	108	78	103	74	93	76	87	82	97	77	91	76	91	73	88	75	84	62	98	77	92	70	93	76
21....	104	78	88	61	107	87	100	72	89	79	87	81	97	77	91	75	90	75	88	76	86	64	102	74	92	65	95	75
22....	105	78	91	70	106	77	109	73	88	75	86	81	98	78	93	75	92	77	84	76	85	63	101	75	103	72	97	76
23....	104	77	94	70	107	77	107	71	98	75	87	81	97	79	92	76	93	75	91	74	87	65	101	74	90	62	98	73
24....	99	72	79	61	105	80	97	67	85	64	88	78	99	77	93	72	92	73	81	68	83	57	99	72	94	63	89	69
25....	83	67	82	60	98	72	85	60	83	66	79	74	89	72	85	71	90	65	82	65	77	52	76	64	93	59	86	68
26....	92	67	87	67	99	72	93	62	85	65	81	72	93	72	80	69	89	65	87	63	83	55	86	69	91	58	88	68
27....	98	74	84	66	104	74	99	68	90	70	84	76	95	72	88	70	90	67	87	67	88	62	96	71	98	66	92	72
28....	98	74	90	70	102	74	100	71	89	74	85	79	96	72	91	73	93	70	89	71	91	64	95	74	100	76	94	72
29....	98	76	94	70	104	75	100	67	84	74	88	80	97	72	92	73	90	70	88	71	86	65	96	73	94	66	94	71
30....	99	77	94	72	102	76	98	66	90	74	87	81	98	73	89	76	91	73	90	74	88	61	97	74	98	61	95	74
31....	101	77	97	68	103	76	103	68	92	76	87	81	99	74	92	75	96	68	91	73	86	66	97	73	97	68	95	74
Mns..	97.4	75.2	87.5	67.4	101.4	76.4	95.9	67.5	91.8	73.1	85.2	77.0	95.2	74.6	89.1	73.6	92.0	70.6	88.3	71.5	87.9	62.2	94.9	73.3	96.5	66.1	92.8	72.7

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.