

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 9, COLORADO VALLEY.

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GENERAL SUMMARY.

As in June, stagnant and ill-defined low pressure prevailed throughout the Colorado basin during the greater part of July. While normally this is the prevailing distribution of pressure during the summer months, it is not usual for it to be attended by such low mean temperatures and widespread and copious precipitation as characterized the month. Freezing temperatures occurred during the first decade at a number of stations in western Colorado, and also at one or more points in other parts of the district. The persistency of precipitation was detrimental to haymaking, and injuriously affected the strawberry crop of Routt County, Colo. On the other hand, the waterholes have been filled and a luxuriant growth of grass now covers most of the ranges. Heavy rainfalls occurred in Arizona and New Mexico, but beyond filling the arroyos and temporarily delaying traffic no damage resulted. Wind storms were frequent in the southern half of the district. During the night of the 17th a violent electrical storm occurred in the Salt River Valley, Ariz. The section director reports that in localities the winds reached a velocity never before known in that State, particularly near Mesa and Chandler, where they approached the destructiveness of a tornado, and where two fatalities occurred by the wrecking of buildings. The damage caused by the storm in these localities is estimated at \$300,000.

TEMPERATURE.

The mean of the 145 stations reporting was 70.9°, or 3.3° below the normal. The mean for July, 1911, was 72.3°. The highest monthly mean was 90.6° at Sentinel, Ariz., and the lowest 45.7° at Corona, Colo. The first decade was cold; on the 3d, 4th, and 5th the average daily deficiency was generally more than 10°, and as much as 15° or 20° on the 4th in the central part of the district. The second decade was warmer, but not more than two days were warmer than the normal. The last decade was cooler than the normal, especially in central and northern Arizona. The highest temperatures occurred principally on the 10th, 11th, and 17th, while the lowest occurred generally on the 4th and 5th. Thin ice formed in northern Arizona at an altitude of 6,500 feet on these dates and the lowest temperature ever recorded in July occurred in central and northern Arizona.

Details of temperature are summarized in the following table:

Areas of States in district No. 9.	Temperature.					
	Mean.	Departure from normal.	Highest.	Station.	Lowest.	Station.
Western Wyoming.....	62.4	.....	92	Green River..	31	Pinedale.
Western Colorado.....	62.1	-2.6	101	Rangely.....	17	Chromo.
Eastern Utah.....	68.6	-2.9	105	Springdale (near).	24	Strawberry Tunnel (east).
Western New Mexico.....	70.7	-2.3	105	Cambray.....	29	Berger's ranch.
Arizona.....	77.2	-4.0	114	At 3 stations..	26	Flagstaff No. 1.
Southeastern Nevada.....	75.6	.....	113	Logan.....	40	Caliente.

PRECIPITATION.

The average for the 201 stations reporting was 2.65 inches, or 1.13 inches above the normal. The average for July, 1911, was 3.18 inches. The first 5 days were showery in western Colorado and eastern Utah; the rest of the decade was generally fair. On the 11th well-distributed rains set in over the central and southern parts of the district, and rain fell daily at the majority of stations till the close of the month. Monthly amounts in excess of 4 inches occurred at 8 stations in western Colorado, 6 in western New Mexico, and 28 in Arizona. The greatest monthly amount was 9.16 inches at Lakeside, Ariz., and the least amount, a trace, at Aztec, Ariz.

The average number of days with 0.01 inch or more precipitation was 6 in western Wyoming; 12 in western Colorado; 8 in eastern Utah; 9 in western New Mexico; 9 in Arizona; and 4 in southeastern Nevada. For the district as a whole the average was 9 days.

The average precipitation and departures from the normal on the different watersheds are given in the following table:

		Watershed.													
		Green.		Grand.		San Juan.		Little Colorado.		Gila.		Mimbres.		Colorado proper.	
Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.
1.10	+0.66	2.41	+0.51	2.20	+0.47	3.05	+2.07	3.51	+1.54	3.64	+0.82	1.47	+0.53		

MISCELLANEOUS.

The average amount of sunshine reported was as follows: Grand Junction, 70, -7 per cent; Durango, 79, +2 per cent; Phoenix, 76, -8 per cent; and Yuma, 90, +2 per cent.

The relative humidity was greater than usual. The following are the values: Grand Junction, 44; Durango, 56; Phoenix, 44; and Yuma, 51 per cent.

RIVERS.

In the upper tributaries of the Colorado there was a general fall in the stages. In the Green the fall was regular; but in the Grand a moderate rise began on the 17th, and in the San Juan a similar rise occurred on the 22d. At Topock, on the trunk stream, a sharp rise was in progress at the beginning of the month, the highest stage being reached on the 6th. A steady decline followed until the 28th.

TABLE 1.—Climatological data for July, 1912. District No. 9—Continued.

Table with columns: Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snowfall, Number of rainy days, Number of clear days, Number of partly cloudy days, Number of cloudy days), Sky, Prevailing wind direction, Observers. Rows are categorized by Utah, New Mexico, and Arizona.

TABLE 2.—Daily precipitation for July, 1912. District No. 9—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				
Arizona—Contd.																																				
Maricopa	Gila												.07																							
Mesa II	Salt											T.	.03		T.		.55				.02				T.	.30	.03	.30			1.10			1.80		
Mohawk Summit	Gila											.01	.03				.12								T.	.20	T.				.80			1.57		
Naco	San Pedro										T.	.07	.35	.13			.11	.05	.22		.45	.20			1.65		.03							0.19		
Natural Bridge	Verde											.48	.15			.10			.27		.25	.25					.06	.04	.40				3.73			
Osborn	San Pedro											.09	.41			.14	.15	.03	.52	.25	.38	.23		.09	1.14		.50	.40	.40	1.00			3.64			
Paradise	Desert											.20	.92	.28		.12	.07	.12	.37	.12				.55	.08	2.58		.22	.16	.14				3.85		
Parker	Colorado																.10																	4.89		
Payson	Verde											T.	.34	.13			.01						T.		.29			.05	.50					1.78		
Phoenix	Salt											.02				T.	.38	.02			.16		T.	.29			.37	.37	.44	.16				1.29		
Phoenix (1)	do										T.	T.	T.			T.	T.	1.45			T.					.05	T.	.04	T.	.02	.06			1.29		
Phoenix (2)	do															T.	T.									.05	T.	T.	T.	.53				2.03		
Pinal Ranch	Gila																																	1.82		
Pinto	L. Colorado											T.	T.	T.																				2.22		
Prescott	Hassayampa											T.		T.	.16		.08	.16	.75		.20	.05					.23	.84	.18	.11	.22	.12	.24	6.19		
Quartsite	Colorado												.06	1.20	.03			.20										.05	.21					1.75		
Redrock	Santa Cruz												.15	.50																				3.95		
Roosevelt	Salt												.07	.05				.74		.69					.75		.95		.60					4.27		
Sacaton	Gila																.10				.08	.23	.40		.72	.82	.26		T.				1.33			
St. Michaels	L. Colorado		T.																															0.89		
Salome	Colorado																																	1.50		
Seligman	Verde												T.	.09	.05		.01	T.	.05						T.	.06	1.00	.05	.06	T.	.02	.03	.08	0.07		
Sentinel	Gila												.01					.97			.07				.38		1.29							4.86		
Silverbell	Santa Cruz												.10	1.30				.70		.10														0.65		
Snowflake	L. Colorado												T.	.12	T.				.12					T.			.10							2.04		
Springerville	do												.05																					1.62		
Supai	Colorado					.01								.36	.16			.11	.25															2.67		
Tempe	Salt													.02	.08	.13	T.	T.			.49						.21	.01	.70	T.				3.16		
Thatcher	Gila													.10	.26	.15																		5.42		
Tombstone	San Pedro													.70							T.	1.44	.39	.16		1.16	1.48	.38								
Truxton	Colorado																																			
Tuba	Little Colorado					.05												.16																	0.98	
Tucson	Santa Cruz											T.	T.	.62	T.			.28								.37		.39						3.00		
Tucson (1)	do												.20	.40					1.11			.01	.02	.01	.68	T.		.78	.02	.75	.11	T.		3.41		
Tucson (2)	do																																		3.49	
Vail	do																																		4.06	
Walnut Grove	Hassayampa																																		5.52	
Wickenburg	do																																		2.22	
Willcox	Desert																	.72	.10		.14		.49												3.30	
Williams	Colorado																																			
	Little Colorado													1.42	.90			.10																	4.97	
Winslow	Colorado																																			
Yarnell	Hassayampa																																			
Yuma	Colorado													.04							.14															0.18
Yuma (1)	do													.02							.06														0.06	
Nevada.																																				
Callente	Colorado													.10	.10																				0.32	
Logan	do													.03																						0.44

* 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 for July, 1912. District No. 9, Colorado Valley.

Table with 25 columns for Wyoming, Colorado, Utah, and New Mexico, and 31 rows for dates from 1 to 31. Columns include location names like Daniel, Green River, Durango, Grand Junction, Gunnison, Meeker, Steamboat Springs, Emery, Fort Duchesne, Hite, Moab, St. George, Bloomfield, and Fort Bayard. Each location has Max. and Min. temperature values.

Table with 22 columns for Arizona and Logan, Nev., and 31 rows for dates from 1 to 31. Columns include location names like Bisbee, Flagstaff, Fort Apache, Grand Canyon, Parker, Phoenix, Prescott, St. Michaels, Tucson, and Yuma. Each location has Max. and Min. temperature values.

*, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record. §§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.