

CLIMATOLOGICAL DATA FOR AUGUST, 1912.

DISTRICT No. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

August, like the preceding month, was cooler and wetter than the average, but the departures were generally less marked than for July. A feature was the unequal distribution of precipitation in Arizona, the rainfall ranging from a trace over a considerable area in the northwestern part of the State to more than 10 inches in the southeastern part. Day temperatures were not so high as usual; in fact, readings of 100° or higher were relatively few, and occurred principally in Arizona. In the central and northern parts of the district cool nights predominated, and the freezing point was reached in western Wyoming and at one or more stations in the different areas, except western New Mexico and southeastern Nevada. The number of thunderstorms considered, there were few high winds, and but little damage from hail.

TEMPERATURE.

The mean of the 142 stations reporting was 70.8°, or 2° below the normal. The mean for August, 1911, was 72.8°. The highest monthly mean was 92.9° at Mohawk Summit, Ariz., and the lowest, 45.6°, at Corona, Colo. Except for a day here and there the first two decades were cooler than the normal, during which period there were a number of days with deficiencies ranging from 5° to 8°. The last decade averaged warmer than the normal in the northern and central portions of the district, but in central and southern Arizona the majority of days were cooler than the normal. In western Wyoming and western Colorado the highest temperatures occurred principally on the 26th, while in eastern Utah, western New Mexico, and Arizona the 8th and 9th were the warmest. On the other hand, there was no semblance of regularity in connection with the occurrence of the lowest temperatures, the minimum of the month occurring on every day at some station in the district.

Details of temperature are summarized in the following table:

Areas of States in district No. 9.	Temperature.					
	Mean.	Departure from normal.	High-est.	Station.	Low-est.	Station.
Western Wyoming.	58.3	-0.6	94	Green River..	25	Daniel.
Western Colorado.	61.4	-2.3	101	Palisades.....	23	Silverton.
Eastern Utah.....	68.6	-0.9	103	Hite and St. George.	25	Strawberry Tunnel (east).
Western New Mexico.	69.0	-1.7	101	Pratt.....	34	Dulce.
Arizona.....	77.7	-2.4	117	Maricopa.....	32	Flagstaff No. 1.
Southeastern Nevada.	79.0	108	Logan.....	42	Caliente.

PRECIPITATION.

The average for the 206 stations reporting was 1.88 inches, or 0.15 inch above the normal. The average for August, 1911, was 1.42 inches. The excess was for the most part due to heavy rainfalls on the watershed of the Mimbres in southwestern New Mexico and the upper Gila in southeastern Arizona. While rain fell every day at some station, showers were general in the northern half of the district on the 1st, from the 13th to 17th, and on the last 6 days. In Arizona and western New Mexico showers were frequent during the last 2 decades. The greatest monthly amount was 10.15 inches at Bisbee, Ariz., while none occurred at Nast, Colo., and Caliente, and Logan, Nev. No snowfall was reported.

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.
1.26	+0.26	1.21	-0.16	1.81	+0.31	1.79	-0.92	2.68	+0.27	4.08	+2.32	0.68	-0.55

The average number of days with 0.01 inch or more precipitation was 5 in western Wyoming, 7 in western Colorado, 5 in eastern Utah, 8 in western New Mexico, 6 in Arizona, and none in southeastern Nevada. For the district as a whole the average was 7 days.

MISCELLANEOUS.

The amount of sunshine was approximately normal in the southern part of the district, and appreciably above the normal in the northern part. The following values were reported: Grand Junction, 79; Durango, 87; Phoenix, 82; and Yuma, 92 per cent.

The relative humidity was somewhat above the average in Arizona. The following are the values: Grand Junction, 38; Durango, 56; Phoenix, 44; and Yuma, 50 per cent.

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

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevalving 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.		
<i>Arizona—Continued.</i>																			
Indian Oasis	Pima	3,000	2																Joseph Menager.
Intake	Gila	2,230	7																U. S. Reclamation Service.
Jerome	Yavapai	4,743	14	75.6	- 1.4	95	8†	58	1	27	1.40	- 2.28	0.73	0	2	14	1	16	Dr. L. A. Hawkins.
Keams Canyon	Navajo	6,600	7	68.3		89	7†	48	7†	41	0.83		0.55	0	4	19	12	0	David E. Livesay.
Kingman	Mohave	3,326	11	78.7	- 2.5	105	8	55	4†	44	0.57	- 1.41	0.32	0	2	23	0	8	Agent A. T. & S. F. Ry.
Lakeside	Navajo	6,500	7	64.0		85	8†	44	20	39	2.34		0.62	0	7	7	4	20	Prof. Joseph Peterson.
Lewis Springs	Cochise	4,029	3								4.11		1.59	0	10	6	2	23	Agent F. P. & S. W. R. R.
Lowell Observatory	Coconino	7,180	1								0.62		0.25	0	6				Vesto M. Slipher.
McNeal	Cochise	4,150	2								3.85		1.40	0	15	5	20	6	Miles McNeal.
Mariacopa	Pinal	1,186	36	89.2	- 2.7	117	8	67	15	48	1.41	+ 0.39	0.73	0	3	23	7	1	Agent So. Pac. Ry.
Mesa	Mariacopa	1,244	17	88.5	- 3.8	106	7†	62	19	38	1.33	- 0.15	1.00	0	5	7	21	3	C. L. Diehl.
Mohawk Summit	Yuma	538	13	92.9	- 1.2	116	3†	71	28	44	0.48	- 0.43	0.45	0	2	21	3	7	Agent So. Pac. Ry.
Naco	Cochise	4,579	3								4.52		1.05	0	12	9	13	9	Agent E. P. & S. W. R. R.
Natural Bridge	Gila	4,990	23								5.53	+ 2.27	1.23	0	8	13	13	5	D. G. Goodfellow.
Oracle	Pinal	4,500	21								3.81	+ 2.85	1.95	0	5				J. W. Lawson.
Osborn	Cochise	4,676	3								5.49		2.35	0	10	1	11	19	Agent E. P. & S. W. R. R.
Paradise	do.	5,436	5	67.4		93	11	44	24	42	4.24		1.75	0	12	0	21	10	J. C. Hancock.
Parker	Yuma	345	13	87.3	- 4.2	115	7	60	17	43	0.95	+ 0.07	0.80	0	4	25	4	2	M. A. Israel, M. D.
Payson	Gila	5,550	4											0	4	18	10	3	Mart McDonald.
Phoenix	Mariacopa	1,108	17	86.2	- 2.8	108	7	69	15	36	0.72	- 0.24	0.51	0	4	18	10	3	U. S. Weather Bureau.
Phoenix (1)	do.	1,092	21	85.6	- 2.1	109	4†	65	7†	44	0.84	- 0.21	0.40	0	5	23	5	3	Geo. Acuff.
Phoenix (2)	do.	1,189	4	84.8		105	8	67	15	36	2.25		1.16	0	5	19	3	9	Salt River Valley Nurseries.
Pinal Ranch	Pinal	4,520	18								4.64		2.01	0	6				Irion & Craig.
Pinto	Apache	5,660	8								1.17		0.42	0	9	14	16	1	Mrs. Celia F. Henning.
Prescott	Yavapai	5,320	44	67.5	- 3.6	91	8†	48	1†	39	2.21	- 0.97	1.06	0	2	21	9	1	John W. Flinn, M. D.
Quartzsite	Yuma	800	5	89.0		115	8	65	18†	45	1.61		1.06	0	2	20	8	3	W. E. Scott.
Redrock	Pinal	1,864	4											0					W. J. Crowell.
Rice	Gila	2,665												0					Arthur Pritchard.
Roosevelt	do.	2,175	8	86.2		106	8	69	30†	32	2.18		1.20	0	5	7	23	1	U. S. Reclamation Service.
Sacaton	Pinal	1,280	5	85.6		113	8	65	15†	41	1.02		0.32	0	5	6	14	11	E. W. Hudson.
St. Johns	Apache	5,650	8	68.8		95	9	47	22	43†	2.62		1.10	0	5	6	14	11	Alex. Shreeve.
St. Michaels	do.	6,950	25	67.1	- 0.2	90	8	47	21	41	1.11	- 1.38	0.55	0	5	9	12	10	Rev. A. Weber, O. F.
Salome	Yuma	1,875	5	82.3		107	5†	53	14	49	0.07		0.07	0	1	18	11	2	Mrs. M. B. Swartz.
San Simon	Cochise	3,609	28											0					Agent So. Pac. Ry.
Seligman	Yavapai	5,219	7	68.9		105	26	44	16†	47	T.		T.	0	0	19	0	12	Agent So. Pac. Ry.
Sentinel	Mariacopa	685	14	87.2	- 6.0	113	4†	63	12	41	2.53	+ 2.13	1.58	0	3	20	4	7	Librarian, A., T. & S. F. Ry.
Silverbell	Pima	2,650	7	85.2		105	2†	65	13	33	1.25		0.50	0	3	20	0	11	Agent So. Pac. Ry.
Snowflake	Navajo	5,644†	5	67.4		95	7	41	7	54	2.13		1.30	0	5	4	14	13	Imperial Copper Co.
Springerville	Apache	6,862	2	62.5		86	9	44	21	38	2.91		0.72	0	14	10	9	12	William J. Flake.
Supai	Coconino	3,200	6	80.4		104	8	54	1	49†	0.89		0.48	0	5				U. S. Forest Service.
Tempe	Mariacopa	1,165	8	85.8		110	4	66	15	41	1.85		0.56	0	4	16	11	4	Laura B. Symons.
Thatcher	Graham	2,800	9	80.2		106	6†	50	16	48	1.15		0.76	0	5	7	22	2	F. H. Simmons.
Tombstone	Cochise	4,550	18	75.4	- 0.6	98	8†	57	30	32	2.05	- 1.76	0.78	0	7	8	21	2	Prof. J. H. Larson.
Truxton	Mohave	3,947	3	76.0		98	5†	40	2	53	2.19		1.55	0	5	28	0	3	E. N. Walcott.
Tuba	Coconino	4,500	13	74.2	- 0.9	98	9†	53	15	41†	0.35	- 0.45	0.23	0	3	18	4	9	Truxton Canyon Ind. School.
Tucson	Pima	2,390	32	82.6	- 2.7	106	8	64	7	41	0.96	- 1.46	0.33	0	9	5	24	2	H. P. Marble.
Tucson (1)	do.	2,380	4	80.6		106	8	58	7†	43†	1.09		0.26	0	10	8	16	7	University of Arizona.
Tucson (2)	do.	2,526	1	81.1		104	8	61	7†	43	1.56		0.55	0	10	15	5	11	James F. Record.
Vail	do.	3,421	13			101	8†				2.32	+ 1.10	1.70	0	3	12	15	4	U. S. Coast & Geodetic Surv.
Walnut Grove	Yavapai	3,649	20								1.67	- 0.49	0.53	0	5				Agent So. Pac. Ry.
Wickenburg	Mariacopa	2,072	13											0					J. O. Carter.
Willcox	Cochise	4,164	32	74.1	- 4.3	98	6†	50	11	43	1.96	- 0.52	0.80	0	6	0	19	12	Agent S. F. P. & P. Ry.
Williams	Coconino	6,750	12	65.2	- 1.4	88	22	40	2	41	1.96	- 0.80	0.55	0	5	20	11	0	Agent So. Pac. Ry.
Winslow	Navajo	4,853	4											0					E. J. Nordyke.
Yarnell	Yavapai	4,700	12											0					John F. Bauer.
Yuma	Yuma	141	32	88.8	- 1.3	113	6	66	19	42	0.14	- 0.21	0.10	0	2	27	4	0	E. L. Bartholomew.
Yuma (1)	do.	150	5	82.6		108	6	55	19	48	0.17		0.09	0	3	25	5	1	U. S. Weather Bureau.
<i>Nevada.</i>																			
Caliente	Lincoln	4,407	2	75.4		100	23	42	18†	53	0.00		0.00	0	0	31	0	0	Salt Lake Route.
Logan	Clark	1,355	5	82.6		103	8	55	17†	48	0.00		0.00	0	0	31	0	0	O. W. Jarvis.

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 August, 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									
<i>Arizona—Contd.</i>																																									
Maricopa.....	Gila.....											T.	.73																						.65	.03	1.41				
Mesa	Salt.....											.10	.10		T.																			T.	.10	.10	1.33				
Mohawk Summit..	Gila.....																																					.03	0.48		
Naco.....	San Pedro..				.37	.05							1.05	.06						.01						.90	.02	.65	.20				.03	.25	.93		4.52				
Natural Bridge..	Verde.....												.60	1.00																				.68	.05	T.	.62	1.23	5.53		
Oracle.....	San Pedro..												T.																					.11	.06	1.04	.65	1.95	3.81		
Osborn.....	do.....					.12						2.35	.03		.03			.62								.45	1.10						.37	.35	.07			5.49			
Paradise.....	Desert.....			.12	T.							T.		1.75	.47	.16	.40									T.	T.						.62	.06	.04	.07	.08	.29	4.24		
Parker.....	Colo.....																																	.02	.80				0.95		
Payson.....	Verde.....																																								
Phoenix.....	Salt.....												.20	T.	T.		T.									T.	.01	T.	T.	T.			.50	.01			T.	0.72			
Phoenix (1).....	do.....												T.	.11	.05		T.									T.	T.	T.	.16			.12	.40			T.	T.	0.84			
Phoenix (2).....	do.....												1.16	T.	.23		T.									T.	T.	T.				.22	.33					.31	2.25		
Pinal Ranch.....	Gila.....												.19	.05						.04														.57	1.78			2.01	4.64		
Pinto.....	Little Colo..	T.	T.	.10	T.								T.			T.	.14			T.						T.	T.						.38	.13				.42	1.17		
Prescott.....	Hassayampa												.02	.26	1.00											T.	.05	.04					.08	.39					.37	2.21	
Quartzsite.....	Colorado.....																																				1.06			1.61	
Redrock.....	Santa Cruz..																																								
Rice.....	Gila.....																																								
Roosevelt.....	Salt.....												.18																						.65	.15		.45	.75	2.18	
Sacaton.....	Gila.....																																	.32			.06	.28	.16	1.02	
St. Johns.....	Little Colo..												T.	T.			.60																	.65				1.10	.20	2.62	
St. Michaels.....	do.....			T.		T.										.30																		.55	.10			.11	T.		1.11
Salome.....	Colorado.....															.07																									
San Simon.....	Gila.....															T.																									
Seligman.....	Verde.....																																								
Sentinel.....	Gila.....												1.58																												
Silverbell.....	Santa Cruz..																																								
Snowflake.....	Little Colo..				T.																																				
Springerville.....	do.....			.20									T.																												
Supai.....	Colorado.....			.02									.25																							.06	.36	.01	.08	.72	.05
Tempe.....	Salt.....													.23	.56																						.50	.56			
Thatcher.....	Gila.....			T.									T.	T.	.02	T.																				.05	T.			.07	
Tombstone.....	San Pedro..				.21																																				
Truxton.....	Colorado.....																																								
Tuba.....	Little Colo..			.23																																					
Tucson.....	Santa Cruz..												T.	T.	T.	.02																									
Tucson (1).....	do.....													.01	.02																										
Tucson (2).....	do.....													.06	.60	T.																									
Vail.....	do.....													.02	.60	T.																									
Walnut Grove.....	Hassayampa													.53																											
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Yuma (1).....	do.....																																								
<i>Nevada.</i>																																									
Caliente.....	Colorado.....																																								
Logan.....	do.....																																								

* 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 August, 1912. District No. 9, Colorado Valley.

Table with columns for Wyoming, Colorado, Utah, and New Mexico, each with sub-columns for various locations like Daniel, Green River, Durango, Grand Junction, Gunnison, Meeker, Steamboat Springs, Emery, Fort Duchesne, Hite, Moab, St. George, Bloomfield, and Fort Bayard. Rows list dates from 1 to 31 and monthly means (Mn.).

Arizona.

Table for Arizona weather data with columns for Date, Bisbee, Flagstaff, Fort Apache, Grand Canyon, Parker, Phoenix, Prescott, St. Michaels, Tucson, Yuma, and Logan, Nev. Rows list dates from 1 to 31 and monthly means (Mn.).

a, 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.