

CLIMATOLOGICAL DATA FOR FEBRUARY, 1913.

DISTRICT NO. 9, COLORADO VALLEY.

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GENERAL SUMMARY.

The distribution of pressure in the Colorado Basin and adjacent region during most of the month was of the type common to February; namely, low pressure in the central and southern parts of the district held in place by high pressure on the opposite or eastern side of the Continental Divide.

The month was colder than the normal, with marked deficiency of temperature in the extreme northern part, where there was a persistency of anticyclonic conditions. In the remainder of the district low-pressure areas exerted the controlling influence, and the month as a whole was stormy and wet. The excess of precipitation was welcome to most interests, however, for it relieved to a large extent the anxiety regarding the water supply. The total for the preceding three months, November, December, and January, with that of the current month, for the basin of the Green was 2.47 inches, or 71 per cent of the normal; for the basin of the Grand, 4.43 inches, or 92 per cent; for the San Juan Basin, 4.16 inches, or 89 per cent; for the Little Colorado, 3.81 inches, or 90 per cent; for the Gila Basin, 4.44 inches, or 102 per cent; for the Mimbres Basin, 3.53 inches, or 121 per cent; and for the Colorado proper, 2.61 inches, or 70 per cent of the normal. For the corresponding months last year the totals were: Green, 2.65; Grand, 4.27; San Juan, 3.13; Little Colorado, 0.84; Gila, 1.33; Mimbres, 1.15; and Colorado proper, 0.99 inch.

TEMPERATURE.

The mean for the stations reporting was 34.6°, or 2.3° below the normal. The mean for February, 1912, was 36.9°. The highest monthly mean was 57.4° at Gilabend, Ariz., and the lowest, 5.4°, at Corona, Colo. The first four days were much colder than the normal in the extreme northern part of the district, and the 2d and 3d were moderately cold in the central part. From the 5th to 18th temperatures, except for a day here and there, were above the normal, while from the 19th to the end of the month cold weather was general with marked deficiencies during the first half and at the end of the period. The highest temperatures occurred generally from the 15th to 18th, while the lowest occurred at a large number of stations on the 3d, and at others during the last decade. Zero temperature or lower occurred in the different areas, except southeastern Nevada. The highest temperature was 82° at Gilabend, Ariz., on the 15th, and the lowest, -35°, at Daniel, Wyo., on the 2d.

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..... | 14.0 | -4.3 | 59 | Wamsutter. | -35 | Daniel. |
| Western Colorado..... | 23.1 | -1.4 | 58 | 2 stations.. | -27 | Fraser. |
| Eastern Utah..... | 27.7 | -1.8 | 67 | St. George.. | -31 | Manila. |
| Western New Mexico..... | 33.6 | -2.7 | 72 | 2 stations.. | -21 | Dulce. |
| Arizona..... | 44.0 | -2.9 | 82 | Gilabend.... | -17 | Lakeside. |
| Southeastern Nevada..... | 42.9 | +3.4 | 74 | Logan..... | 9 | Caliente. |

PRECIPITATION.

The average for the stations reporting was 2.07 inches, or 1.09 inches above the normal. The average for February, 1912, was 0.56 inch. The precipitation was frequent and well distributed, and the only dry period was from the 13th to 17th. An inch or more in 24 hours fell at a number of stations in New Mexico in the early part of the month, and in Arizona in the latter part, when heavy snow fell continuously for 4 or 5 days in the high districts. The greatest monthly amount was 12.21 inches at Corona, Colo., and the least, 0.14 inch at Yuma, Ariz. Monthly snowfalls of 10 inches or more occurred at 2 stations in western Wyoming, 42 in western Colorado, 12 in eastern Utah, 12 in western New Mexico, 26 in Arizona, and 1 in southeastern Nevada.

The average number of days with 0.01 inch or more precipitation was 4 in western Wyoming, 9 in western Colorado, 6 in eastern Utah, 7 in western New Mexico, 7 in Arizona, and 5 in southeastern Nevada. For the district as a whole the average was 7 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. |
| 0.84 | -0.19 | 1.79 | +0.34 | 1.98 | +0.80 | 2.82 | +1.95 | 2.79 | +1.61 | 2.03 | +1.10 | 1.82 | +0.61 |

MISCELLANEOUS.

The average amount of sunshine in percentages, with departures from the normal, was as follows: Grand Junction, 67, +5; Durango, 61, -11; Phoenix, 73, -4; and Yuma, 76, -6.

The relative humidity reported was: Grand Junction, 74, +9 per cent; Durango, 69, +2; Phoenix, 60, +10; and Yuma, 51, +6.

SNOWFALL IN THE MOUNTAINS.

Western Wyoming.—On low and moderate elevations of the Green watershed less than the normal amount of snow fell during the month, but for very high elevations the usual amount was reported. As a rule, the snow is drifted and well packed.

Western Colorado.—The number of storms during February was close to the average, and while material additions were made to the snow covering, the run-off is not likely to be as great as might be inferred from the depths, which are made up to a large extent from comparatively recent snows. The prevailing cold weather has delayed the settling of the current falls; the early ones, however, are hard packed. On the Grand and Gunnison watersheds the snowfall was above the normal, the excess being confined principally to moderate elevations. For the Grand the depth, average elevation 8,800 feet, 33 inches, was the same as a year ago, while for the

Gunnison, average elevation 8,700 feet, it was 26 inches, or 1 inch greater. A deficiency occurred on the watersheds of the Yampa and White; the depth, 32 inches, average elevation 7,900 feet, was 9 inches less than at corresponding date last year. An excess occurred on the drainage of the San Juan, except near the head of the Animas River. The average depth, 26 inches, average elevation 8,000 feet, was 16 inches more than a year ago.

Eastern Utah.—On the watersheds of the Green and Colorado Rivers the snowfall was heavy, the snow layer being doubled during the month. At the end of the month the depth was about normal but greater than at the corresponding date last year. An average water supply may be expected.

Western New Mexico.—There was a general excess of precipitation during the month, and the depth on the San Juan watershed and in the northwest was more than doubled. The early part of the season will be much benefited. On the watersheds of the San Francisco, Gila, and Mimbres there was a large excess of precipitation, and heavy snow fell in the mountains.

Arizona.—At the end of the month the snow was from 3 to 8 feet deep in the mountains of the eastern and northern parts of the State. It is drifted and in a condition favorable to late melting. An ample supply of water for irrigation and the ranges is assured for the year.

TABLE 1.—Climatological data for February, 1913. 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), Sky (Number of rainy days, Number of clear days, Number of partly cloudy days, Number of cloudy days), Prevailing wind direction, Observers. Rows are categorized by Utah-Continued, New Mexico, and Arizona.

TABLE 2.—Daily precipitation for February, 1913. District No. 9, Colorado Valley.

Table with columns: Stations, Watershed, Day of month (1-28), and Total. Rows are categorized by state: Wyoming, Colorado, and Utah. Each row lists a station and its watershed, followed by precipitation amounts for each day of the month and a total for the month.

TABLE 2.—Daily precipitation for February, 1913. 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 | | | |
| <i>Arizona—Continued.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phoenix..... | Salt..... | | | | | T. | .01 | .17 | .05 | | .17 | | | | | | | | | | .01 | | .02 | .45 | T. | | .81 | .24 | T. | | 1.93 | |
| Phoenix (1)..... | do..... | | | | | T. | T. | .14 | .09 | .18 | | | | | | | | | | | T. | | .03 | .45 | T. | | .77 | .38 | .14 | | 2.18 | |
| Phoenix (2)..... | do..... | | | | | | | .10 | | | .18 | | | | | | | | | | | | | | | | .18 | .34 | | | 1.80 | |
| Pinal Ranch | Gila..... | | | | | | .95 | .62 | .53 | .10 | .28 | | | | | | | | | | .07 | .03 | *.12 | .79 | .01 | .15 | 2.05 | .82 | .30 | | 7.00 | |
| Pinedale..... | Little Colorado..... | | .06 | | | | .02 | .18 | .15 | | .10 | | | | | | | | | | | * | 1.45 | | | .20 | .05 | .16 | | 2.37 | | |
| Pinto..... | do..... | | .30 | | | | .01 | .11 | .20 | T. | .10 | | | | | | | | | | .08 | | .85 | | | | .20 | .05 | .16 | | 2.00 | |
| Prescott..... | Hassayampa..... | | T. | | | | | .49 | .35 | .01 | | | | | | | | | | | | .15 | .15 | .90 | | | .46 | .12 | .36 | T. | 2.99 | |
| Prescott Dry Farm..... | Verde..... | | | | | | | .48 | .09 | | | | | | | | | | | | | .11 | .04 | .35 | | | .25 | .35 | .15 | | 1.82 | |
| Quartzsite..... | Colorado..... | | | | | | .05 | .08 | .21 | | | | | | | | | | | | | .05 | | .41 | | .02 | .42 | .12 | | | 1.36 | |
| Redrock..... | Santa Cruz..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rice..... | Gila..... | | | | | | .06 | .58 | .45 | .02 | .45 | T. | | | | | | | | | | .05 | T. | .15 | .11 | | .48 | .58 | .35 | .03 | 3.31 | |
| Roosevelt..... | Salt..... | | | | | | | .68 | .17 | | | | | | | | | | | | | .21 | | 1.20 | .12 | 1.03 | .43 | 1.37 | .13 | | 5.34 | |
| Sacaton..... | Gila..... | | | | 10 | | | .14 | | | | .25 | | | | | | | | | | .06 | | | .43 | .16 | | .44 | .07 | .07 | | 1.72 |
| St. Johns..... | Little Colorado..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Michaels..... | do..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salome..... | Colorado..... | | .09 | | | | | .10 | .09 | | | | .02 | | | | | | | | | | .07 | .04 | 3.40 | | | T. | | 2.00 | | 5.81 |
| San Simon..... | Gila..... | | | | | T. | | .20 | .20 | .20 | | | | | | | | | | | | | | | | | | | | | | 0.90 |
| Seligman..... | Verde..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.50 |
| Sentinel..... | Gila..... | | | | | | | | | | | .46 | | | | | | | | | | | | .50 | | | | | | | | 1.28 |
| Silverbell..... | Santa Cruz..... | | | | .25 | | .25 | .35 | | | .18 | | | | | | | | | | | | | .32 | | | | | | | | 2.93 |
| Snowflake..... | Little Colorado..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.00 |
| Springerville..... | do..... | | T. | | | | .25 | T. | | | | | | | | | | | | | | | | | | | | | | | | 1.00 |
| Supai..... | Colorado..... | | .12 | | | | .10 | .16 | .05 | .62 | | | | | | | | | | | | | | | | | | | | | | 1.36 |
| Tempe..... | do..... | | .04 | | | | | .03 | .04 | | | | | | | | | | | | | | | | | | | | | | | 0.82 |
| Thatcher..... | Salt..... | | | | | T. | .02 | .16 | .03 | .02 | .27 | .01 | | | | | | | | | | | | | | | | | | | | 2.75 |
| Tombstone..... | San Pedro..... | | | | | | .05 | .30 | .16 | T. | .25 | | | | | | | | | | | | | | | | | | | | | 1.50 |
| Truxton..... | Colorado..... | | | | | .35 | .75 | .05 | .25 | .38 | | .06 | | | | | | | | | | | | | | | | | | | | 3.02 |
| Tuba..... | Little Colorado..... | | .04 | | | | .10 | .11 | .13 | .01 | | | | | | | | | | | | | | | | | | | | | | 1.57 |
| Tucson..... | Santa Cruz..... | | | | | .18 | T. | .33 | .59 | T. | .09 | .08 | | | | | | | | | | .05 | .24 | .02 | .90 | | .55 | .04 | .11 | .04 | | 2.03 |
| Tucson (1)..... | do..... | | | | | .22 | .15 | .24 | .45 | | .11 | | | | | | | | | | | | | | | | | | | | | 1.86 |
| Tucson (2)..... | do..... | | | | | .18 | .02 | .44 | .40 | .06 | .19 | T. | | | | | | | | | | | | | | | | | | | | 1.77 |
| Vail..... | do..... | | | | | .55 | .55 | .05 | * | 1.22 | | | | | | | | | | | | | | | | | | | | | | 1.95 |
| Walnut Grove..... | Hassayampa..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5.52 |
| Wickenburg..... | do..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Willcox..... | Desert..... | | | | | T. | | | | T. | 1.05 | .16 | | | | | | | | | | | | | | | | | | | | 2.07 |
| Williams..... | Colorado..... | | | | | | | | | .05 | | | | | | | | | | | | | | | | | | | | | | 2.85 |
| Winslow..... | Little Colorado..... | | .20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Yuma..... | Colorado..... | | | | | .01 | .01 | .05 | .07 | | | | | | | | | | | | | | | | | | | | | | | 0.14 |
| Yuma (1)..... | do..... | | | | | T. | .02 | .05 | .07 | | | | | | | | | | | | | | | | | | | | | | | 0.14 |
| <i>Nevada.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calliente..... | Colorado..... | | .05 | | | | | .02 | | | | | | | | | | | | | | | | | | | | | | | | 1.17 |
| Las Vegas..... | do..... | | | | | | .05 | .01 | .72 | | | | | | | | | | | | | | | | | | | | | | | 1.70 |
| Logan..... | do..... | | | | | | T. | T. | | | | | | | | | | | | | | | | | | | | | | | | 0.23 |

* 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 February, 1913. District No. 9, Colorado Valley.

Table with columns for Wyoming, Colorado, Utah, and New Mexico. Sub-columns include locations like Daniel, Green River, Durango, Grand Junction, Gunnison, Meeker, Steamboat Springs, Emery, Hite, Moab, St. George, Vernal, Bloomfield, and Fort Bayard. Rows show daily temperature data (Max/Min) and a final row for means.

Table for Arizona and Logan, Nev. Sub-columns include Bisbee, Flagstaff, Fort Apache, Grand Canyon, Parker, Phoenix, Prescott, St. Michaels, Tucson, Yuma, and Logan, Nev. Rows show daily temperature data (Max/Min) and a final row for means.

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.