

## CLIMATOLOGICAL DATA FOR NOVEMBER, 1913.

## DISTRICT NO. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

## GENERAL SUMMARY.

November was an unusually mild month in all parts of the district. Both temperature and precipitation were above normal for the district as a whole. No severe storms occurred, making it a favorable month for all outside work. In the Nevada area the temperature averaged higher than that for November, 1912, but the excess in temperature for the present November has been exceeded many times before. The precipitation, however, has been exceeded but twice since records were kept. In the Utah area the ground was open and plowing continued throughout most of the month in the lower agricultural valleys, though frost stopped this work before the close of the month in the higher valleys. Fall-sown crops advanced steadily; the rains were opportune, and soaked into the ground instead of causing floods; and in general the month was regarded as the most favorable November for many years. Snow fell in the mountains of the Utah area coincident with every rainstorm in the valleys; and at the close of the month the mountain tops and sides carried a good layer, but the foothills and valleys were generally bare.

The average number of clear days for the district was 11, partly cloudy days 8, cloudy days 11, and rainy days 7.

## TEMPERATURE.

The mean temperature for the Great Basin was  $39.5^{\circ}$ , or  $1.8^{\circ}$  above normal, and  $1^{\circ}$  higher than the November mean of last year. Excesses in the monthly mean temperature were the rule, the largest being  $7^{\circ}$ , at Carlin, Nev., whose mean was  $41.2^{\circ}$ . Deficiencies were reported at a very few stations and were comparatively small. The highest means were reported in west-central and southwestern Nevada, and at sheltered stations in the valleys of the western slope of the Wasatch Mountains. The highest local mean was  $49.2^{\circ}$ , at Indian Springs, Nev., and the lowest was  $30^{\circ}$ , at Cokeville, Wyo.

The month began with temperatures above normal over the entire district. This condition continued until the beginning of the last decade of the month, when a cold spell spread over all parts of the district and lasted four or five days. During this period most of the minimum temperatures were recorded. The temperatures during

the remainder of the month were seasonable, except the last two days, which were unseasonably cold at places in the Wyoming and Utah areas.

The following were the highest temperatures that occurred in the various areas of the several States of this district:  $58^{\circ}$  on the 1st at Evanston, Wyo.;  $66^{\circ}$  on the 1st, at Weston, Idaho;  $80^{\circ}$  on the 10th, at Fillmore, Utah;  $75^{\circ}$  on the 1st, at Silver Lake, Oreg.;  $82^{\circ}$  on the 2d, at Truckee, Cal.; and  $83^{\circ}$  on the 7th, at Beowawe and Elko, Nev.

The lowest were:  $3^{\circ}$  on the 23d, at Cokeville, Wyo.;  $10^{\circ}$  on the 23d, at Paris, Idaho;  $-10^{\circ}$  on the 22d and 23d, at Heber and Beaver, Utah, respectively;  $11^{\circ}$  on the 3d, and 21st, at Cliff and Silver Lake, Oreg.;  $5^{\circ}$  on the 23d, at Bridgeport, Cal.; and  $-5^{\circ}$  on the 30th, at Halleck, Nev.

## PRECIPITATION.

The precipitation for the district averaged 1.68 inches, or 0.62 inch above normal. This was twice as much as fell in November, 1912. In the valleys nearly all the moisture fell in the form of rain, while on the mountains there was considerable snow down to the 5,000-foot level. The precipitation chart shows a fairly equable distribution, and in almost every case the local amounts were in excess of the normal. The largest local monthly amount was 6.14 inches, at Cathedral Park, Cal., and the least was 0.35 inch, at Wendover, Utah.

The distribution of the rainfall throughout the month was especially favorable for agricultural purposes. There were four quite distinct rainy periods; from the 1st to 5th, 10th to 14th, 19th to 21st, and during the last 6 days of the month.

In the Nevada area the snow line at the end of November extended down to the 5,000-foot level. There were about 6 inches of snow at the 6,000-foot level, and from 9 to 32 inches at 7,000 feet or higher, depending on location. The precipitation for November in the different drainage basins was heavier than during any of the previous years at nearly all stations, and from September 1 to November 30 was heavier than for the same period during the past 3 years in the Truckee, Carson, and Walker basins, but not so heavy as last season in the Humboldt Basin, due to the unusually heavy October snowstorm of 1912.



TABLE 1.—Climatological data for November, 1913. District No. 10—Continued.

| Stations.              | Counties.       | Elevation, feet. | Length of record, years. | Temperature, in degrees Fahrenheit. |                            |          |       |         | Precipitation, in inches. |                       |        |                            | Sky.                  |                           |  | Prevailing wind direction. | Observers. |   |  |  |
|------------------------|-----------------|------------------|--------------------------|-------------------------------------|----------------------------|----------|-------|---------|---------------------------|-----------------------|--------|----------------------------|-----------------------|---------------------------|--|----------------------------|------------|---|--|--|
|                        |                 |                  |                          | Mean.                               | Departure from the normal. | Highest. | Date. | Lowest. | Date.                     | Greatest daily range. | Total. | Departure from the normal. | Greatest in 24 hours. | Total snowfall, unmelted. | Number of rainy days, 0.01 inch or more. |                            |            | Number of clear days.   | Number of partly cloudy days.  | Number of cloudy days.   |
| <b>Oregon.</b>         |                 |                  |                          |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   |  |  |
| Burns.....             | Harney.....     | 4,157            | 22                       |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            | J. C. Welcomes, jr.<br>John C. Green.<br>S. F. Woodward.<br>G. W. Marvin. |  |  |
| Cliff.....             | Lake.....       | 4,300            | 6                        | 39.5                                | .....                      | 68       | 7     | 11      | 3†                        | 47                    | 1.40   | .....                      | 0.35                  | 2.0                       | 10                                       | 1                          | 13         |   | n.   |  |
| Paisley.....           | do.....         | 4,500            | 10                       | 44.8*                               | .....                      | 67*      | 1†    | 19*     | 14                        | 44*                   | 1.38*  | .....                      | 0.32*                 | 2.0*                      | 8*                                       | 4*                         | 12*        |   | 9*   | sw.  |
| Silver Lake.....       | do.....         | 4,700            | 16                       | 38.7                                | + 1.9                      | 75       | 1†    | 11      | 21                        | 55                    | 1.40   | + 0.40                     | 0.27                  | T.                        | 9  | 3                          | 22         |   | 5  | sw.  |
| <b>California.</b>     |                 |                  |                          |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   |  |  |
| Bridgeport.....        | Mono.....       | 6,500            | 0                        | 39.4                                | .....                      | 67       | 8     | 5       | 23                        | 50                    | 0.91   | .....                      | 0.32                  | 7.0                       | 8  | 16                         | 11         | 3   | s.   | A. F. Scott.<br>Carl Fluegge.<br>R. M. Watson.<br>Southern Pacific Co.   |
| Cathedral Park.....    | Eldorado.....   | 6,400            | 0                        | 39.6                                | .....                      | 64       | 10    | 17      | 21†                       | 27                    | 6.14   | .....                      | 1.30                  | 17.0                      | 12                                       | 7                          | 7          | 16  | s.   |  |
| Tahoe.....             | Placer.....     | 6,240            | 2                        | 36.0                                | .....                      | 62       | 1     | 9       | 23                        | 36                    | 4.05   | .....                      | 0.84                  | 18.0                      | 10                                       | 7                          | 0          | 23  | w.   |  |
| Truckee.....           | Nevada.....     | 5,819            | 41                       | 46.6                                | +10.1                      | 82       | 2     | 14      | 32                        | 42                    | 2.51   | + 0.15                     | 0.40                  | 19.0                      | 12                                       | 10                         | 4          | 16  | .....  |  |
| <b>Nevada.</b>         |                 |                  |                          |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   |  |  |
| Austin.....            | Lander.....     | 6,594            | 24                       |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | F. O. Boos.<br>Southern Pacific Co.<br>Do.<br>Do.  |  |
| Battle Mountain.....   | do.....         | 4,843            | 42                       | 40.1                                | + 1.4                      | 76       | 9†    | 7       | 22                        | 50                    | 0.95   | + 0.39                     | 0.30                  | 3.5                       | 4  | 13                         | 7          | 10  |  | .....  |
| Beowawe.....           | Eureka.....     | 4,905            | 42                       | 39.2                                | + 2.3                      | 83       | 7     | 12      | 23                        | 53                    | 1.18   | + 0.55                     | 0.35                  | 3.0                       | 4  | 12                         | 8          | 10  |  | .....  |
| Carlin.....            | do.....         | 5,232            | 42                       | 41.2                                | + 7.0                      | 75       | 7†    | 10      | 23                        | 45                    | 2.02   | + 1.50                     | 0.33                  | 2.0                       | 9  | 7                          | 18         | 5   |  | .....  |
| Cherry Creek.....      | White Pine..... | 6,450            | 5                        | 37.6                                | .....                      | 65       | 9     | 8       | 22                        | 37                    | 0.70   | .....                      | 0.20                  | 1.5                       | 8  | 9                          | 9          | 12  | w.   | J. H. Lelshman.<br>I. F. Wiseman.<br>A. Booth.<br>Walfrid Schiman.<br>E. B. Mills.<br>Western Pacific Co.<br>Clay Simms.<br>U. S. Experiment Station.<br>Mrs. G. A. Steele.<br>Forest Service.<br>Western Pacific Co.<br>Mrs. J. F. Wambolt.<br>C. C. Henningsen.<br>Southern Pacific Co.<br>Do. |
| Clover Valley.....     | Elko.....       | 8,000            | 12                       |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | .....  |  |
| Columbia.....          | Esmeralda.....  | 5,750            | 6                        | 41.4                                | .....                      | 71       | 8     | 15      | 22                        | 35                    | 0.83   | .....                      | 0.38                  | 0.4                       | 7  | 14                         | 10         | 6   | se.  |  |
| Dry Farm.....          | Elko.....       | 5,600            | 1                        | 38.8                                | .....                      | 64       | 9     | 12      | 22                        | 33                    | 2.19   | .....                      | 0.75                  | 4.0                       | 9  | 9                          | 0          | 16  | w.   |  |
| East Rochester.....    | Humboldt.....   | 7,500            | 0                        | 37.7                                | .....                      | 66       | 8     | 14      | 21                        | 20                    | 2.07   | .....                      | 0.80                  | 20.5                      | 5  | 14                         | 0          | 16  | w.   |  |
| Elko.....              | Elko.....       | 5,432            | 42                       | 39.8                                | + 6.0                      | 83       | 7     | 11      | 22                        | 51                    | 1.67   | + 1.00                     | 0.50                  | 2.5                       | 10                                       | 8                          | 15         | 7   | nw.  |  |
| Eureka.....            | Eureka.....     | 6,500            | 15                       | 38.8                                | + 0.8                      | 67       | 8     | 9       | 22                        | 36                    | 1.14   | + 0.40                     | 0.35                  | 10.0                      | 7  | 9                          | 9          | 16  | s.   |  |
| Fallon.....            | Churchill.....  | 3,965            | 19                       | 41.4                                | + 1.7                      | 73       | 9     | 15      | 23                        | 43                    | 1.14   | + 0.87                     | 0.80                  | 1.0                       | 7  | 10                         | 6          | 14  | ne.  |  |
| Fernley.....           | Lyon.....       | 4,200            | 40                       | 40.8                                | + 1.3                      | 72       | 9     | 9       | 23                        | 44                    | 1.71   | + 1.37                     | 0.98                  | 0.5                       | 6  | 14                         | 3          | 13  | .....  |  |
| Gardnerville.....      | Douglas.....    | 4,830            | 22                       | 41.4                                | - 1.3                      | 71       | 9     | 15      | 24                        | 43                    | 1.38   | - 0.36                     | 0.56                  | 2.4                       | 9  | 12                         | 6          | 12  | w.   |  |
| Gerlach.....           | Washoe.....     | 3,931            | 0                        | 47.0                                | .....                      | 78*      | 22    | 20      | 24                        | 52*                   | 1.05   | .....                      | 0.30                  | 0.2                       | 7  | 10                         | 0          | 20  | w.   |  |
| Geysers.....           | Lincoln.....    | 6,055            | 9                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | Western Pacific Co.<br>Mrs. J. F. Wambolt.<br>C. C. Henningsen.<br>Southern Pacific Co.<br>Do.<br>Ira McFarland.<br>Salt Lake Route.<br>U. S. Reclamation Service.<br>Ross Lowers.<br>L. F. Detwiler.<br>A. F. Tilford.<br>F. M. Bullock.<br>E. E. Middagh.<br>Fred J. Jones.<br>Southern Pacific Co.<br>A. S. Patterson.<br>Miss Maude Potts.<br>F. M. Payne.<br>E. J. Hyatt.<br>U. S. Weather Bureau.<br>Western Pacific Co.<br>U. S. Reclamation Service.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>High School. |  |
| Glenbrook.....         | Douglas.....    | 6,240            | 4                        | 39.4                                | .....                      | 74       | 2     | 18      | 22                        | 48                    | 1.29   | .....                      | 0.75                  | 7.3                       | 7  | 11                         | 6          | 13  |  | w.   |
| Golconda.....          | Humboldt.....   | 4,697            | 34                       | 40.8                                | + 0.3                      | 66       | 3     | 18      | 21†                       | 38                    | 0.63   | + 0.24                     | 0.18                  | 0                         | 8  | 4                          | 11         | 15  |  | w.   |
| Halleck.....           | Elko.....       | 5,631            | 20                       | 37.4                                | + 4.8                      | 80       | 8     | - 5     | 30                        | 49                    | 1.35   | + 0.53                     | 0.75                  | 3.0                       | 5  | 16                         | 5          | 9   |  | .....  |
| Indian Springs.....    | Clark.....      | 3,136            | 0                        | 49.2                                | .....                      | 71       | 8†    | 29      | 23†                       | 32                    | 1.50   | .....                      | 0.64                  | 0                         | 4  | 23                         | 1          | 6   | n.   |  |
| Jean.....              | do.....         | 2,074            | 5                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | U. S. Weather Bureau.<br>Western Pacific Co.<br>U. S. Reclamation Service.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>High School.   |  |
| Lahontan.....          | Churchill.....  | 4,200            | 1                        | 42.3                                | .....                      | 74       | 9     | 21      | 21†                       | 32                    | 1.44   | .....                      | 0.88                  | 0.2                       | 5  | 14                         | 9          | 7   |  | w.   |
| Lewers Ranch.....      | Washoe.....     | 5,500            | 25                       | 41.7                                | - 1.9                      | 70       | 9     | 15      | 22                        | 36                    | 3.33   | + 0.15                     | 0.80                  | 2.0                       | 7  | 9                          | 6          | 16  |  | .....  |
| Lida.....              | Esmeralda.....  | 6,037            | 0                        | 38.4*                               | .....                      | 66*      | 7     | 19*     | 23†                       | 32                    | 1.78   | .....                      | 0.73                  | 6.3                       | 4  | 16                         | 5          | 9   |  | nw.  |
| Lovelocks.....         | Humboldt.....   | 3,977            | 19                       |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | L. F. Detwiler.<br>A. F. Tilford.<br>F. M. Bullock.<br>E. E. Middagh.<br>Fred J. Jones.<br>Southern Pacific Co.<br>A. S. Patterson.<br>Miss Maude Potts.<br>F. M. Payne.<br>E. J. Hyatt.<br>U. S. Weather Bureau.<br>Western Pacific Co.<br>U. S. Reclamation Service.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>High School.   |  |
| McDermitt.....         | do.....         | 4,700            | 23                       | 38.7                                | + 1.2                      | 67       | 9     | 13      | 22                        | 34                    | 1.41   | + 0.54                     | 0.44                  | 1.5                       | 11                                       | 11                         | 9          | 10  |  | w.   |
| McGill.....            | White Pine..... | 6,338            | 22                       | 38.2                                | + 4.1                      | 69       | 9     | 0       | 23                        | 51                    | 1.01   | + 0.16                     | 0.28                  | 3.8                       | 8  | 11                         | 6          | 13  |  | s.   |
| Millet.....            | Nye.....        | 6,002            | 5                        | 39.7                                | .....                      | 69       | 6†    | 7       | 22                        | 46                    | 0.43   | .....                      | 0.40                  | 0                         | 2  | 13                         | 5          | 12  |  | s.   |
| Mina.....              | Mineral.....    | 4,600            | 6                        | 44.4                                | + 0.7                      | 72       | 7†    | 11      | 22†                       | 41                    | 0.27   | + 0.04                     | 0.22                  | 0                         | 2  | 14                         | 5          | 11  | s.   |  |
| Oasis Ranch.....       | Esmeralda.....  | 5,106            | 0                        | 43.4                                | .....                      | 71       | 7†    | 15      | 23                        | 47                    | 1.65   | .....                      | 0.60                  | 6.0                       | 5  | 18                         | 6          | 6   | .....  |  |
| Potts.....             | Nye.....        | 6,990            | 20                       | 34.3                                | - 0.5                      | 63       | 5     | 5       | 22†                       | 43                    | 0.06   | + 0.39                     | 0.04                  | 0.7                       | 2  | 9                          | 0          | 21  | s.   |  |
| Quinn River Ranch..... | Humboldt.....   | 4,850            | 11                       | 38.7                                | + 1.4                      | 72       | 8     | 9       | 23†                       | 47                    | 0.86   | + 0.35                     | 0.37                  | 0                         | 6  | 14                         | 1          | 15  | s.   |  |
| Rebel Creek.....       | do.....         | 1                |                          |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   | U. S. Weather Bureau.<br>Western Pacific Co.<br>U. S. Reclamation Service.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>Southern Pacific Co.<br>U. S. Weather Bureau.<br>High School.   |  |
| Reno.....              | Washoe.....     | 4,532            | 42                       | 42.0                                | + 1.0                      | 73       | 9     | 20      | 22                        | 38                    | 1.51   | + 0.42                     | 0.51                  | 0.3                       | 10                                       | 10                         | 6          | 14  |  | w.   |
| Sand Pass.....         | do.....         | 4,198            | 0                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   |  | .....  |
| Soda Lake.....         | Churchill.....  | 4,534            | 6                        |                                     |                            |          |       |         |                           |                       |        |                            |                       |                           |  |                            |            |   |  | sw.  |
| Tecoma.....            | Elko.....       | 4,812            | 35                       | 38.4                                | + 4.4                      | 71       | 4†    | - 2     | 23                        | 65                    | 0.89   | + 0.49                     | 0.57                  | 1.0                       | 5  | 8                          | 9          | 13  | sw.  |  |
| Tomopah.....           | Nye.....        | 6,090            | 8                        | 40.3                                | .....                      | 65       | 8     | 18      | 22                        | 22                    | 0.80   | .....                      | 0.45                  | 3.0                       | 6  | 10                         | 14         | 6   | se.  |  |
| Wells.....             | Elko.....       | 5,631            | 41                       | 35.2                                | + 1.6                      | 65       | 7†    | 0       | 16                        | 55                    | 1.50   | + 1.06                     | 0.30                  | 2.0                       | 7  | 6                          | 14         | 10  | .....  |  |
| Winnemucca.....        | Humboldt.....   | 4,432            | 34                       | 38.9                                | + 1.4                      | 70       | 9     | 15      | 22                        | 39                    | 1.37   | + 0.63                     | 0.32                  | 1.7                       | 10                                       | 12                         | 8          | 10  | ne.  |  |
| Yerington.....         | Lyon.....       | 4,375            | 0                        | 39.8                                | .....                      | 72       | 9     | 13      | 24                        | 43                    | 1.30   | .....                      | 0.63                  | 0.6                       | 9  | 13                         | 7          | 10  | sw.  |  |

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 November, 1913. District No. 10—Continued.

Table with columns: Stations, Watershed, Day of month (1-30), Total. Rows are categorized by state: Oregon (e.g., Ana River, Bear Valley), California (e.g., Bijou, Boca), Nevada (e.g., Arthur, Austin). Precipitation values are in inches, with 'T' for trace.

\* 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 November, 1913. District No. 10, Great Basin.

Table with columns for Wyoming (Border, Evanston, Weston, Idaho) and Utah (Corinne, Deseret, Fillmore, Government Creek, Meadowville, Modena, Ogden, Parowan, Provo, Salt Lake City). Rows show daily temperature ranges (Max/Min) and monthly means (Mns.) for dates 1-30.

Table with columns for Nevada (Burns, Oreg., Cherry Creek, Elko, Eureka, Fallon, Gerlach, Las Vegas, McDermit, Millett, Mina, Reno, Tecoma, Tonopah, Winnemucca). Rows show daily temperature ranges (Max/Min) and monthly means (Mns.) for dates 1-30.

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.