Climatological Data for January, 1910.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The month of January, while much colder than usual and one of the coldest Januarys on record, was nevertheless 3.2° warmer than December, 1909, although normally it is several degrees warmer. Not only was the mean temperature higher than that of December, but the minimum temperatures were not so low. Nearly every station reported temperature deficiencies. This abnormally cold weather was due to the high barometric pressure over this district during the month. The precipitation averaged somewhat more than normal, and was fairly well distributed.

TEMPERATURE.

The mean temperature for the district averaged 23.2°, which was 3.9° below the normal. The local means ranged from 39.1° at Jean in the extreme southern portion of Nevada to 10.8° at Border in the extreme southwestern portion of Wyoming.

The warm weather which prevailed generally over the Great Basin on the last day of December, 1909, continued on the 1st day of January, 1910, except in Oregon and northern Nevada, where very cold weather prevailed. But after the 1st it became colder in all portions of the district until the 6th, and the lowest temperatures for the month were generally recorded during this period. After the 6th the temperature rose until the 16th, which marked the beginning of another cold spell which continued, however, only a few days. The last decade of the month was much warmer throughout the entire district.

The lowest temperatures generally occurred, as noted above, from the 2d to the 6th. The lowest reported in Wyoming was −27° on the 5th at Cokeville. In Idaho the lowest was −20° on the 12th and other dates at Paris. The lowest in Utah was −22° on the 6th at Pinto. Most of the stations in Utah reported their lowest temperatures as occurring on the 5th and 6th, but a few stations recorded their lowest on the 7th, 8th, and 13th. Burns, Oreg., reported −24° on the 2d, while the lowest at other stations in that State occurred on the 3d. In Nevada and the portion of California in District No. 10 the minimum temperatures were generally observed on the 5th and 6th, but a few stations in Nevada recorded their lowest temperatures on other dates. The lowest temperature for these two States was −28° at Elko and Quinn River Ranch, Nev., on the 11th and 5th, respectively, which was the lowest for the district.

The highest temperature for the month occurred during the last decade, except at a few stations in Utah and Nevada where they were recorded on the 1st. The highest temperature for the district was 65° at Scipio, Utah, on the 19th, and at Jean, Nev., on the 22d and other dates.

PRECIPITATION.

The precipitation for the district averaged 1.59 inch, which is 0.39 inch above the normal. The distribution varied greatly from the normal at stations very close to one another, some reporting amounts below normal and others amounts above normal. As a rule the greatest deficiencies occurred in Nevada and the greatest excesses in Utah. The greatest monthly amount was 7.83 inches at Glen Alpine Springs, Cal., and none occurred at Jean, Nev.

Precipitation occurred over practically the entire district on the 1st day of the month, and many stations reported large amounts on that day. It continued for a few days in Utah and at a few stations in the remaining parts of the district. Considerable precipitation occurred during the remainder of the month, the periods, however, were ill-defined over most of the district, but centered around the 15th and 25th, except in the portion of California, where quite general precipitation was observed on the 9th, and from the 13th to the 17th, and from the 23d to the 26th.

Most of the precipitation of the month fell as snow. In Utah the amount of snow which fell in the mountains during the month was less than usual, but the total depths of snow in the mountains and canyons at the end of the month was thought to be somewhat more than usual, insuring a good water supply for the ensuing season. In Wyoming there was less than usual at this season. Stations in Nevada reported less than the January fall of last year.

NOTES.

The cooperative observer at Burns reported that the winter had been severe up to the end of January and that the loss to stock was slight, but if the cold weather continued it would be heavy, as feed was getting scarce.

The Jordan River, which drains Utah Lake into Great Salt Lake, was reported on January 2 to be higher than ever before. The high temperatures of December 31, 1909, and January 1, 1910, had caused the snow in the mountains to melt to a large extent, swelling the streams enormously. It was not expected that the high water would do any damage, as the channels are capable of carrying all the water at its present stage.

The following information regarding the conditions in the Truckee and Carson basins is furnished by Mr. Thos. H. Means, Project Engineer, Fallon, Nev.:

> The dangerous conditions referred to previously are still present. On the last day of the year and on New Year's day we had heavy precipitation at Fallon, the first half of the storm being rain, passing into sleet, and finally into snow. Approximately 2.50 inches of precipitation fell. The storm seemed to have been a general one and I presume the precipitation was heavy in the mountains to the west of us. At any rate we have approximately from 6 to 12 inches of snow in the desert and foothills tributary to the Truckee and Carson rivers, lying on frozen, wet ground. This will rapidly melt in case of warm weather or warm rain and will bring down large quantities of water. There seems to be a good deal of light snow in the mountains higher up, but we do not expect a heavy flow from the higher portion of the watershed this time of the year as warm wind or rain on this snow will simply melt the top and the water will be largely absorbed by the underlying snow.

The observer at Paisley, Oreg., writes:

> I beg to say that some sheep losses were reported owing to frozen feed and that the losses among cattle were small. The heavy rain in November brought up the Chewaucan higher than ever known before, flooded the marsh, and destroyed 15,000 tons of hay. The town of Paisley suffered severely from an ice jam in the river which caused an inundation. The river was jammed for 2 miles with a solid pack of ice, and the entire town site was flooded with from 2 to 3 feet of ice and water. The ice still covers the town site (January 31, 1910). Over half of the people had abandoned their homes, but have now returned.

FLOODS ON THE DESERT NEW YEAR'S DAY, 1910.

The unusual occurrence of an energetic low pressure area passing over middle California and southern Nevada about New Year's Day, 1910, caused the exceptional phenomenon of disastrous floods on the desert; and but for the fact that the lower Great Basin is quite typically a desert region, and devoid of most of the enterprises of civilization, the loss would have been tremendous.

December snows were comparatively heavy and numerous in southern Nevada, and the rounded, wind-worn hills, and the sageless flats were covered with from a trace to several feet of snow, generally moist and solid, and in a very uncertain condition to remain there in the event of even a moderate thaw, or a light rain. Both of these flood-making conditions came at once on New Year's Eve, when the temperature rose to from 40° to 50°; strong warm winds swept in from the southwest and rain fell in torrents, all of which conditions persisted steadily for

about 48 hours. On the morning of January 3, as the low pressure center moved off to the southeast, the rain turned to snow, with a cold northwest wind, and the temperature dropped to near, or below, zero, stopping the floods almost as quickly as they began, but leaving the hills bare and brown.

During the night of December 31–January 1 the melting snow and drenching rain dashed quickly from the slopes to the natural drainways and into the beds of the streams, where the ice was quickly floated, and the formation of jams produced water heads which soon broke, only to form again in the narrow places back of clogged débris, again to crush forward with enormous force and in tremendous volumes, cutting the canyons and demolishing the improvements, but leaving the few mining towns, as a rule, far above the chaos.

The largest stream in the region of greatest flood is the Virgin, flowing across southwestern Utah, or "Dixie" as it is called because of its tropical tendencies of climate, northwestern Arizona, and southeastern Nevada. Its principal tributary is the Muddy River, which flows (when there is sufficient water) through the Meadow Valley Wash, west of the north and south Mormon Range of mountains, which is the route of the San Pedro, Los Angeles and Salt Lake Railroad. While the Virgin floods were the greatest known to settlers there, and farm buildings were carried away like packing boxes, and entire farms cut away, or buried with débris, the destruction in this valley was lessened because of its breadth, and of the greater length of the drainage slopes; but in the narrow box canyons of the Meadow Valley Wash, where the railroad runs, the results were truly terrible, the tracks and other railroad property being almost completely obliterated from Barclay to Guelph (just above Moapa), a distance of 83 miles. The towns along the line were deserted, and many buildings destroyed; however, the population of Caliente, the most important place, moved back into town with few exceptions, after the flood had subsided.

Mr. Channing Thomas, Railroad Editor of the Salt Lake Tribune, made an extensive study and report of the damage by the flood in Mormon Canyon, or Meadow Valley Wash, in which he has the following to say:

The scanty population in the devastated district was quite well aware of the danger that was imminent when the rain and warm weather set in, and they moved quickly to the higher places, hence there was no loss of life reported in the various towns. One trackwalker, caught by the floods in the darkness, was killed and a human body was seen in the angry waters, but was not recovered and its identity is unknown.

A westbound train consisting of 17 cars of steel for building construction, 2 cars of horses, and a few cars of miscellaneous freight was stopped for safety by the crew, on a high piece of track, but the floods tore away the mountain side and let the entire train, except the engine, tumble into the torrent. The horses were killed and the steel beams were strewn down the canyon from 3 to 8 miles, and were twisted and jammed and bent as if they had been so many wires.

A lone passenger train still stands marooned on the only other stretch of safe track remaining in the canyon, just a short way above Moapa.

A stack of railroad rails at Caliente was swept away, not a single rail being found nearer than one-half a mile, many of them having been polished bright in their travels. A number of steel gondola cars were torn from their trucks by repeated overturning, and the bodies were driven several miles from the track south of Guelph, and heavy timbers and other railroad wreckage have been found 18 miles off the right of way, down the Muddy toward the outlet on the Virgin.

At Caliente the water rose above the floors of many business houses and was several feet deep in the roundhouse after the local dike gave way, and 17 engines stood in water to the tops of the drive wheels. Smaller buildings near the main stream were carried away like barrels and the remainder of the town was deserted, the people having gone to the higher ground for safety.

After the disastrous washout in February, 1907, the railroad track through this canyon was laid 6 feet above the highest previous water stage known in 47 years, and during this year's flood the water averaged about 2 feet above practically the entire length of track, and was in places 8 feet above the rails. The passenger train and the lone freight engine are about 60 feet above the bottom of the Wash.

It is said to be the greatest calamity that has ever befallen a railroad in history, the destroyed property having cost about $2,000,000, which, owing to the canyon defacements, will cost about $3,000,000 to replace at a higher level; the directly resultant loss of business during the time of restoration is estimated at another $5,000,000.

The loss of property to ranchers and farmers in the lower Muddy and in the Virgin valleys was not particularly great in value for the reason that this region is but sparsely settled and there was comparatively little property to destroy. However, several farms were completely ruined and the occupants rendered destitute, having lost their buildings and animals as well as their crops in the fields.

Harry Gentry, of St. Thomas, Nev., says of the flood:

In December, 1909, we had our first snow for 20 years, and the warm weather, winds, and rains that occurred in the last of December and the first of January caused the largest body of water to flow down this valley any resident has ever known. The stream here, ordinarily but a creek, was 10 feet deep and 1,200 feet wide for a while. The bridges were taken out and the land was considerably washed, ruining several acres of grain and about 300 rods of fence.

Mr. Thomas J. Jones, postmaster at Overton, Nev., just above St. Thomas, on the Muddy River, says:

The storm was the heaviest for several years. The snow was the first I have seen in Moapa Valley, and was more than any of the old residents here have ever seen. There was little damage right here, but both valleys near here were flooded from the Virgin and the Meadow Valley Wash. From the railroad, near Guelph and Rox, the flood water spread into Moapa Valley carrying fences away and ruining the grain fields, littering them badly. Our valley was too wide to wash greatly. On parts of the Virgin, much of the land was washed away leaving some families homeless, and leaving the people in general suffering much more loss than we did here in the Moapa, though we lost about 200 acres of wheat and barley and probably 50 acres of garden truck. Our greatest loss is that our railroad to the East is gone, and our produce markets for this year are in doubt.

Mr. J. I. Earl says:

This was one of the most destructive floods that ever went down the Virgin River. A great deal of land has been washed away and much property has been destroyed. Mr. H. P. Iverson's home was washed away, together with his granary containing 100 bushels of wheat, his new farm wagon, his hay stacks, and his corrals. Mr. Samuel Reber, sr., also lost his hay and stock corrals. The dam and head works of the irrigation ditch, and some of the farms below it, at Mesquite, Nev., on the Virgin at the Nevada-Arizona line, have all gone down the river, and the dam and a number of miles of ditch at Bunkerville, the next community below Mesquite on the Virgin, were washed away. No lives were lost.

The Official in Charge of the Local Office of the United States Weather Bureau at Modena, Utah, says:

Local damage was slight. The stage carrying the mail for St. George, Utah, which left here at 9 a. m., December 31, was caught in the torrent of a swollen creek about 40 miles from here and the wagon, both horses, the mail bags, and the baggage were swept down stream and lost, the driver managing to escape with some difficulty. The total precipitation on the 31st of December and 1st of January was 0.90 inch, a large amount for this region, being mostly rain, and was accompanied by warm southwesterly winds causing rapid melting of the accumulated snows.

Mr. Joseph T. Atkin, Foreman of the Utah Agricultural College Experimental Farm at St. George, Utah, writes:

The damage caused by the floods of January 1, 1910, in this section amounted to many thousand dollars. On the Santa Clara (uniting with the Virgin from the north at St. George) alone, it did at least $15,000 damage. Much land was washed on the Virgin, and the water systems suffered greatly.

Mr. William Hurst, Supervisor in the United States Forest Service at Beaver, Utah, says:

Rain fell as high as the 8,000-foot contour on January 1, 1910, and to say there was a world of water puts it mildly. Every draw, hollow, stream, and drainage course was filled to its fullest carrying capacity, as the slopes had been covered with about 12 inches of snow, and in the hills it was much deeper. By the time the water had all concentrated in the channel of the Beaver River at Milford, or rather, tried to concentrate there, the stream was about a mile and a quarter wide. During my residence in this section of the State, covering a period of over 20 years, I can not remember of seeing so much water as I saw on January 1 in a drive to the town of Milford, on the Salt Lake route, the lower end of which was inundated, teams having to be sent to the railroad shops to get the men out. A fortunate freeze on the night of January 1 solidified everything again.

High temperatures, with rain or moist snow produced more or less flood conditions throughout the entire Great Basin, from Oregon to southeastern Utah on the 1st of January, and the greater part of this region was underlain with a layer of frost, which hastened the run-off even on the more level slopes. The

freeze following, throughout the Basin, being quite a hard one, closed the streams abruptly.

RELATION OF THE FARMER TO THE WEATHER BUREAU.

By Prof. LEWIS A. MERRILL, Agronomist, Utah Agricultural College.

THE ARID FARMER.

Not more than 10 years ago practically all the dry farming carried on in this State was confined to the section of the State lying north of Salt Lake City. For a great many years dry farming had been carried on in Cache, Boxelder, and Davis counties, but until 1904 it was believed by the farmers south of Salt Lake City that the production of grain without the use of irrigation water was impracticable. About that time a study was made of the amount of precipitation in some of the counties of the State, the records of which had been made by the voluntary weather observers, working under the direction of the observer at Salt Lake City. The records at these stations showed that the precipitation at Fillmore, Millard County, was equal to the precipitation at Logan, in Cache County, the center of the dry farming area of the north, and that the precipitation in Wasatch County and Juab County was in excess of that at Logan. It was found that even some sections of Washington, Iron, and Beaver counties had an average annual precipitation equal to that of those localities where dry farming was successfully practised.

As a consequence of the accumulation of this data experiments were conducted and demonstrations carried on, showing that by properly conserving the precipitation, cereals could be produced without the use of irrigation water, and in consequence there are thousands of acres of land in this State under cultivation at the present time by dry farming methods. The reclamation of this vast area has been due, very largely, to the establishment of the observation stations by the Weather Bureau.

Since that time other stations have been located, and dry farming has been established as a successful farm practise in San Juan, Sevier, Kane, Utah, Tooele, and a number of other counties of the State. An important factor in connection with the determination as to the feasibility of dry farming in any given locality is the time at which the precipitation comes. While it is unquestionably true that success can be had, if proper methods of moisture conservation be followed independent of the time at which the precipitation occurs, yet greater success is attained when there is an ample supply of moisture during the growing months of April, May, and June. In localities where the precipitation is extremely light, if there is an assurance of ample supply of moisture during these three months, the prospects for successfully establishing dry farming are very much better.

Utah's dry farming area has developed around those centers where the Weather Bureau has already shown that there is an ample supply of moisture, and it has failed to develop in other localities where the Weather Bureau has shown that the precipitation is insufficient. There are other localities in the State where even the most venturesome has not dared to go, because there is no record of the amount of precipitation available.

The information from some of the most fertile areas of Utah, regarding the amount of precipitation, is so incomplete that the work of reclaiming these deserts is somewhat handicapped by the insufficiency of data at hand.

The chief concern of the arid farmer is to so conserve the precipitation in his soil that there will be little or no loss from evaporation. Many experiments have been made in recent years to determine the maximum and minimum amounts of water necessary for the production of vegetable organic matter. A problem the arid farmer has to solve—and this is also true of the man who is growing crops by irrigation—is the determination of the conditions under which the maximum amount of vegetable substances of best quality may be reproduced with a minimum amount of water. As a result of these experiments, it has been determined that cultivation of the soil largely reduces the evaporation of water, and the more cultivation received by the plant the less amount of water transpires from the plant in the production of a pound of dry matter. A number of other determining factors have been discovered. For example, it has been shown that shade diminishes greatly the evaporation of water from the soil, and that increasing the saturation of the soil increases in a somewhat larger ratio the yields of dry matter from that soil, and that approximately the same amount of water is required under various conditions of soil saturations for the production of a pound of dry matter. It has been found that fertile soils will produce crops with a much smaller amount of water than will infertile soils. The number of pounds of water required for the production of a pound of dry matter varies greatly with the crop, the soil, the season, and the method of cultivation practised, and the amount of water required for the production of plants is very much higher in our arid climate than in the humid sections.

In all of these questions the Weather Bureau, in ascertaining the necessary data in relation to the amount of precipitation, the velocity of the wind, and the number of days of sunshine, has a wonderful field, and it is a great pleasure to know that the Weather Bureau is greatly interested in establishing such data.

The writer regards the establishment of the Weather Bureau stations as fundamental to any locality where farming is to be practised, and particularly desirable in those localities where dry farming methods are to be relied upon entirely.

THE FRUIT GROWER.

Successful fruit growing in this State will depend largely upon the information furnished by the United States Weather Bureau.

Fortunately for the fruit grower, methods have been discovered whereby a greater part of the loss to the fruit crop from frost and freezing weather can be avoided. Recent experiments in orchard heating in Colorado have demonstrated that a safe temperature can be maintained when the thermometer goes down to 20° above zero, or even lower. The application of this discovery means that there is to be a revolution in the fruit-growing industry through the entire west. It means that the successful fruit grower will equip his orchard with apparatus to protect him from spring frosts.

In this work the Weather Bureau will have a very important part to play, since a warning will be sent out as to when frosts may be expected, and the fruit grower, relying upon this warning, will be enabled to adopt such methods as will result in saving the crop. The records from those stations where orchard heating has been most successful show that frosts are insidious in most cases, but the possibility of their coming can generally be forecast by the Weather Bureau. In the fruit-growing belts it will be necessary for a telephone to be installed on every fruit farm, and by cooperation with the Weather Bureau, the changes in the thermometer and general trend of air currents may be easily ascertained. Warnings can be sent out by the Weather Bureau, fires directed started in the orchards, and the crop can be saved.

THE IRRIGATION FARMER.

Utah has an area of 54,000,000 acres of land. Of this amount 20,000,000 acres are taken up by mountains and lakes. There are 12,000,000 acres of coal, salt, and mineral lands, leaving 22,000,000 acres of land subject to cultivation. If this land is ever put under cultivation most of it will have to be done by dry farming methods. There still remains, however, a considerable acreage of the most valuable land to be farmed by irrigation.

TABLE 1.—*Climatological data for January, 1910. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .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.		
Wyoming.																				
Border	Uinta	6,085	8	10.8	− 1.8	42	23†	−22	5	41	0.66	− 0.70	0.25	.....	6	16	7	8	e.	S. W. Condron.
Cokeville	....do	.....	...	14.4	.....	48	23†	−27	5	44	0.38	.....	0.17	3.5	4	17	11	3	nw.	E. J. Tuckett.
Evanston	....do	6,860	14	18.8	− 1.7	46	23	−13	6	36	0.76	− 0.34	0.31	6.0	4	13	12	6	sw.	Frank Tucker.
Idaho.																				
Geneva	Bear	.....	2	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.72	6.0	5	22	4	5	.....	F. W. Boehme.
Grace	Bannock	5,406	3	19.6	.....	46	23†	−14	5	38	1.89	.....	0.67	13.0	7	9	14	8	s.	Cyril B. Dickson.
Oxford	....do	4,750	2	.....	.....	.....	.....	.....	.....	.....	1.76	.....	.....	12.0	.....	.....	.....	.....	.....	Edwin Smith.
Paris	Bear Lake	5,946	16	12.2	− 7.2	47	24	−20	12†	44	.....	.....	.....	.....	.....	19	6	6	w.	John Norton.
Stone	Oneida	4,520	2	14.6	.....	42	21†	−22	6	50	0.52	.....	0.16	10.5	6	17	11	3	n.	Thos. W. Roe.
Weston	....do	4,460	12	20.4	− 4.4	50	24	−10	5	33	1.32	− 0.13	0.35	.....	7	8	12	11	s.	Wm. Chatterton.
Utah.																				
Alpine	Utah	4,900	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Stevens.
Annabella	Sevier	5,250	5	.....	.....	.....	.....	.....	.....	.....	0.03	− 1.64	0.02	2.0	2	.....	.....	.....	.....	J. W. Fairbanks.
Beaver	Beaver	6,000	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Connell.
Black Rock	Millard	4,872	10	27.0[f]	.....	51[f]	31	−10[f]	8	39	1.28	.....	0.29	9.5	5	18	3	10	s.	W. D. Livingston.
Castle Rock	Summit	6,244	7	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.20	5.0	6	14	12	5	sw.	David Moore.
Cedar City	Iron	5,750	5	31.2	.....	60	23	−10	5	35	1.34	.....	0.66	5.0	6	15	7	9	ne.	Parley Dalley.
Corinne	Boxelder	4,240	40	14.6	−10.2	55	24	−10	13	37	1.45	+ 0.13	0.50	14.5	6	9	5	17	.....	A. C. Murphy.
Deseret	Millard	4,541	16	27.0	− 0.1	53	24†	−10	6	35	0.25	− 0.23	0.15	3.0	2	15	2	14	n.	S. W. Western.
Enterprise	Washington	4,270	2	.....	.....	.....	.....	.....	.....	.....	4.70	.....	.....	12.0	5	18	4	9	.....	John Day.
Farmington	Davis	4,267	10	27.1	− 1.7	53	24	− 3	5	....	2.70	+ 0.46	0.60	27.0	11	12	6	13	n.	Charles Boylin.
Fillmore	Millard	5,100	20	30.9	+ 0.3	62	24	−13	5	39	1.02	− 0.17	0.65	.....	6	.....	.....	.....	.....	J. J. Starley.
Friese Summit	Wasatch	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Victor A. Friese.
Frisco	Beaver	7,318	16	28.7	− 3.2	52	23	− 7	5	30	0.59	+ 0.12	0.34	.....	2	.....	.....	.....	.....	E. R. Smyth.
Garrison	Millard	.....	7	25.3[d]	.....	50	1†	−15[d]	5	36	1.39	.....	0.50	6.0	5	13[e]	6[e]	7[e]	s.	E. M. Smith.
Government Creek	Tooele	5,277	10	25.7	.....	51	23	−11	5	30	1.40	.....	0.40	11.0	9	13	6	12	s.	Walter James.
Grantsville	....do	.....	...	.....	.....	.....	.....	.....	.....	.....	0.99	.....	0.27	.....	4	.....	.....	.....	.....	Allen J. Fraser.
Heber	Wasatch	5,606	17	21.4	+ 0.3	52	24	−16	6	40	1.10	− 0.94	0.20	9.0	9	10	4	17	s.	John Crook.
Henefer	Summit	5,301	11	23.0	+ 0.4	56	24	−13	5	43	2.06	+ 0.04	0.60	11.5	12	13	7	11	nw.	Wm. Brewer.
Ibapah (near)	Tooele	7,500	5	23.8	.....	53	23	−12	5	35	2.21	.....	0.60	24.4	10	14	5	12	e.	J. S. Lawton.
Ibex	Millard	.....	...	31.8	.....	58	31	− 5	5	35	0.51	.....	0.18	4.0	5	11	7	13	s.	John J. Watson.
International	Tooele	5,370	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. S & R. Co.
Kanosh	Millard	5,250	2	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.70	.....	4	.....	.....	.....	.....	Geo. Crane.
Kelton	Boxelder	4,230	32	13.5	− 9.5	37	22	−19	5	35	1.40	+ 0.77	0.30	11.0	11	1	25	5	.....	F. W. Klock.
Levan	Juab	5,010	20	26.0	+ 1.7	51	24	−10	6	36	0.95	− 0.48	0.35	8.3	6	15	6	10	sw.	Wm. Brown.
Logan	Cache	4,507	19	20.4	− 3.7	50	1	−10	5	33	1.87	+ 0.43	0.60	11.0	8	16	4	11	n.	Edgar Brossard.
Lucin	Boxelder	4,504	6	16.8	.....	42	1	−15	3†	53	1.20	.....	0.50	7.0	5	.....	.....	.....	w.	C. J. Burke.
Manti	Sanpete	5,575	16	22.0	− 3.4	50	1	− 8	5	30	0.72	− 0.43	0.21	6.0	6	12	2	17	.....	J. M. Anderson.
Marion	Summit	6,750	6	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.73	8.8	9	8	4	19	s.	Jas. Woolstenhulme.
Marysvale	Piute	6,180	11	28.8	+ 0.5	56	23	− 7	6	39	0.57	+ 0.08	0.34	3.3	7	10	10	11	se.	John W. Henry.
Meadowville	Rich	6,200	11	16.8	− 5.4	47	22	−15	13	36	1.50	− 0.81	0.80	9.0	6	16	3	12	w.	J. S. Moffat.
Milford	Beaver	4,962	6	23.6	.....	52	1	−16	5	35	.....	.....	.....	.....	.....	26	0	5	.....	C. M. Temple.
Millville	Cache	4,848	15	.....	.....	.....	.....	.....	.....	.....	1.70	+ 0.18	0.38	.....	10	15	0	16	sw.	Fred Yeates.
Minersville	Beaver	5,070	13	.....	.....	.....	.....	.....	.....	.....	1.66	+ 0.75	0.90	7.0	6	.....	.....	.....	.....	Geo. Roberts, sr.
Modena	Iron	5,479	10	25.4	− 2.1	56	23	−19	6	37	1.51	+ 0.74	0.75	8.3	7	10	11	10	w.	U. S. Weather Bureau.
Morgan	Morgan	508	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Visick.
Moroni	Sanpete	5,519	2	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.21	10.5	6	6	23	2	sw.	B. F. Eliason.
Mount Nebo	Utah	4,650	9	27.2	.....	58	16	− 7	6	32	1.06	.....	0.42	6.5	4	16	5	10	s.	D. C. Walkey.
Mount Pleasant	Sanpete	5,859	18	26.0	− 1.4	52	24	−12	6	40	0.57	− 0.66	0.22	5.6	5	14	7	9	.....	C. B. Scoville.
Nephi	Juab	6,059	7	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.26	10.0	6	21	4	6	nw.	A. M. Madsen.
Oak City	Millard	4,900	6	28.5	.....	57	30	− 9	5	39	1.71	.....	0.44	8.5	9	14	10	7	sw.	Peter Nielson.
Ogden	Weber	4,310	9	24.2	− 3.0	47	24	− 3	5	27	2.66	− 0.14	0.60	16.0	8	8	10	13	nw.	Enoch Farr.
Panguitch Lake	Garfield	9,000	1	.....	.....	.....	.....	.....	.....	.....	5.20	.....	.....	32.0	6	12	9	10	s.	Jas. E. Prince.
Park City	Summit	7,800	13	23.0	− 1.0	64	19	−14	5	55	4.73	+ 1.46	0.85	.....	13	10	8	13	.....	Irvin Evans.
Parowan	Iron	5,970	19	27.1	− 1.7	54	23†	− 8	7	48	1.87	+ 0.87	0.50	11.8	6	.....	.....	.....	.....	S. M. Matheson.
Payson	Utah	4,637	7	.....	.....	.....	.....	.....	.....	.....	2.12	.....	0.60	28.0	10	5	10	16	sw.	D. L. Coombs.
Pinto	Washington	5,907	13	26.4	− 0.7	60	22	−22	6	48	2.13	+ 0.93	1.00	15.0	6	17	4	10	n.	J. H. Harrison.
Promontory	Boxelder	4,913	39	.....	.....	.....	.....	.....	.....	.....	1.30	+ 0.33	0.60	13.0	4	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	18	29.8	+ 3.0	60	24	− 1	6	30	1.29	− 0.03	0.40	12.2	8	7	20	4	n.	James A. Oliver.
Randolph	Rich	6,442	7	.....	.....	.....	.....	.....	.....	.....	0.71	.....	0.36	.....	3	10	6	5	sw.	William Rex.
Richfield	Sevier	5,350	20	31.2	+ 4.3	60	23	− 1	6	42	T.	− 0.66	T.	.....	0	19	2	10	.....	Joseph J. Jensen.
Saltair	Salt Lake	4,220	7	26.2	.....	55	1	7	5	24	1.14	.....	0.30	10.5	7	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	....do	4,366	36	28.5	− 0.3	56	23	1	5	27	0.99	− 0.36	0.24	14.3	10	6	10	15	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	15	28.8	+ 1.9	65	24	−13	6	53	0.94	− 0.30	0.28	2.0	7	12	10	9	sw.	Thos. Memmott.
Silver City	Juab	6,127	...	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.28	.....	5	8	7	16	s.	J. L. Stark.
Spanish Fork Canyon	Utah	4,585	1	30.3	.....	56	23†	− 2	5	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Thistle	Utah	5,075	18	23.6	− 1.7	56	30	−10	5	54	1.80	+ 0.16	0.60	18.0	4	21	6	4	.....	Denver & Rio Grande Ry.
Tooele	Tooele	4,900	14	26.4	− 1.7	58	24	−10	5	33	2.14	+ 1.04	0.68	.....	9	5	12	14	e.	E. A. Bonelli.
Utah Lake Pumping Sta.	Utah	4,500	5	27.8	.....	53	1	0	6	24	1.07	.....	0.36	8.0	9	11	16	4	sw.	W. A. Knight.
Woodruff	Rich	6,500	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. D. Brown.
Oregon.																				
Burns	Harney	4,157	20	17.6	− 5.7	46	30	−24	2	40	1.29	− 0.09	0.28	13.0	8	12	4	15	.....	J. C. Welcome, jr.
Christmas Lake	Lake	4,320	2	23.6	.....	52	23	−20	3	47	0.37	.....	0.10	5.0	9	1	9	21	sw.	John C. Green.
Paisley	....do	4,500	6	28.0	.....	55	30	− 9	3	32	0.30	.....	0.18	9.0	7	12	2	17	sw.	E. C. Woodward.
"P" Ranch	Harney	4,300	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. Jefferson.
Silver Lake	Lake	4,700	14	25.6	− 2.3	52	23	−17	3	36	2.65	+ 1.79	0.40	27.5	10	14	5	12	s.	Wm. Holder.
California.																				
Al Tahoe	Eldorado	6,235	....	26.5	.....	54	21	−13	5	53	4.72	.....	0.95	65.1	8	13	11	7	sw.	A. R. Sprague.
Boca	Nevada	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Glen Alpine Springs	Eldorado	6,850	....	23.4[a]	.....	50[a]	31	−10[a]	5	43[a]	7.83[a]	.....	0.03[a]	121.0	13[a]	10	6	15	s.	E. W. Porteous.
Tahoe	Placer	6,240	...	26.3	.....	52	23	− 6	5	36	4.81	.....	1.50	74.5	7	12	3	16	w.	Robert M. Watson.
Truckee	Nevada	5,819	39	18.2	.....	45	24	−20	5	39	6.90	.....	.....	69.0	8	13	0	18	s.	Southern Pacific Co.
Nevada.																				
Aurora	Esmeralda	.....	...	.....	.....	.....	.....	.....	.....	.....	1.10	.....	0.80	12.0	2	.....	.....	.....	.....	
Austin	Lander	6,594	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bert Acree.
Battle Mountain	....do	4,843	39	19.0	− 9.2	58	24	−20	6	48	1.60	+ 0.82	0.90	16.0	2	15	8	8	sw.	Southern Pacific Co.
Beowawe	Eureka	4,905	39	24.8	− 1.6	50	22†	−14	6	49	0.65	− 0.12	0.35	6.5	2	12	7	12	s.	Do.
Carlin	Elko	5,232	39	17.8	− 3.4	55	23	−17	5	51	0.29	− 0.58	0.26	7.7	2	20	0	11	.....	Do.
Carson Dam	Churchill	4,032	3	18.1	.....	41	23†	−16	5	33	0.97	.....	0.97	6.0	1	10	2	19	e.	U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	1	24.9	.....	53	23	−12	5	42	0.51	.....	0.20	3.8	7	9	19	3	nw.	J. H. Leishman.
Clover Valley	Elko	6,000	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. F. Wiseman.
Cobre	....do	.....	...	.....	.....	50[k]	13†	.....	.....	.....	0.38[r]	.....	.....	4.5[k]	1[k]	.....	.....	.....	.....	Southern Pacific Co.
Columbia	Esmeralda	5,750	3	29.6	.....	51	29	2	6	29	0.90	.....	0.87	2.0	2	14	11	6	nw.	A. Booth.
Dutton	Elko	5,100	2	20.0	.....	54	24	−22	3	33	0.60	.....	0.40	6.0	2	8	12	11	.....	Golconda Cattle Co.
Elko	....do	5,342	39	17.2	− 5.5	50	23	−28	11	61	0.43	− 0.91	0.36	15.2	4	9	5	17	ne.	Southern Pacific Co.
Ely	White Pine	6,421	19	24.0	− 0.1	52	14	−11	5	46	1.36	+ 0.33	0.30	10.8	7	19	4	8	w.	G. C. Hunting.
Eureka	Eureka	6,500	7	25.3	− 1.8	53	30	− 7	4	38	0.71	− 1.09	0.25	16.5	6	9	7	15	s.	Clay Simms.

TABLE 1.—*Climatological data for January, 1910. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	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, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Nevada—Cont'd.																			
Fallon	Churchill	3,965	5	17.0	−13.8	42	14	−15	5	41	1.98	+ 1.44	1.69	10.5	2	18	6	7	e.	U. S. Reclamation Service.
Fernley	Lyon	4,200	2	19.5	−11.7	51	31	−16	5	35	0.97	+ 0.13	0.78	5.0	3	9	12	10	w.	Mrs. A. J. Rankin.
Gardnerville	Douglas	4,830	10	24.0	− 7.2	50	14	−14	5	40	4.16	+ 2.03	1.10	31.0	6	11	6	14	e.	Wm. Dangberg.
Geyser	Lincoln	.....	5	22.4	.....	59	23	− 5	6	52	0.40	.....	0.40	4.0	2	14	13	4	s.	Mrs. J. F. Wambolt.
Glenbrook	Douglas	.....	...	27.0	.....	50	23	− 5	6	37	4.60	.....	2.01	72.5	5	14	0	17	sw.	C. C. Henningsen.
Golconda	Humboldt	4,897	31	16.5	−11.3	41	31	−16	5	29	0.37	− 0.27	0.30	5.1	2	19	7	5	se.	Southren Pacific Co
Halleck	Elko	5,631	17	.....	.....	.....	.....	.....	.....	.....	1.30	+ 0.03	1.30	13.0	1	6	7	18	sw.	Do.
Jean	Clark	2,074	2	39.1	.....	64[a]	22†	8[c]	6	42	0.00	.....	0.00	0.0	0	8	17	6	sw.	Salt Lake Route.
Leetville	Churchill	4,020	3	17.2	.....	43	22†	−17	5	39	1.25	.....	1.15	7.0	2	14	10	7	n.	U. S. Reclamation Service.
Lewers Ranch	Washoe	5,500	22	27.2	− 6.6	58	23	− 8	5	43	3.40	− 0.56	1.20	34.0	8	12	10	9	.....	Ross Lewers.
Lovelock	Humboldt	3,977	7	17.8	−14.8	46	24	−17	5†	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Case.
McAfees Ranch	Esmeralda	4,835	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rodenkirch.
Millett	Nye	.....	2	25.0	.....	52	23	− 8	4	40	1.50	.....	0.87	.....	7	15	4	12	s.	Fred J. Jones.
Mina	Esmeralda	4,600	3	30.1	.....	58	27	− 7	17	39	1.00	.....	0.80	10.0	3	21	3	7	sw.	Southern Pacific Co.
Mount Rose Ranch	Washoe	.....	.....	.....	.....	59[b]	31	.....	.....	.....	3.35	.....	.....	26.2	12	15	8	8	sw.	Fred Elkins.
Palmetto	Esmeralda	6,780	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Isaac McConnell.
Potts	Nye	6,990	17	21.7	− 3.0	48	22	−13	5	38	0.60	0.00	0.40	3.5	3	6	6	19	s.	Miss Mamie Potts.
Quinn River Ranch	Humboldt	4,850	8	16.6	.....	50	23	−28	5	56	0.66	.....	0.21	6.0	7	11	5	15	w.	F. M. Payne.
Reno	Washoe	4,532	39	24.8	− 6.6	54	23	− 6	5	39	0.98	− 0.69	0.29	12.9	9	9	13	9	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	3	16.4	.....	41	23	−19	5	37	0.54	.....	0.39	8.4	7	6	11	14	n.	U. S. Reclamation Service.
Tecoma	Elko	4,812	32	.....	.....	44[c]	23†	−20	16	57	0.40	− 0.30	0.40	4.0	1	13	10	8	sw.	Southern Pacific Co.
Tonopah	Nye	6,090	3	26.4	.....	49	23	− 2	5	25	0.55	.....	0.18	7.9	6	13	15	3	se.	U. S. Weather Bureau.
Wabuska	Lyon	4,347	7	19.8	.....	48	24	−15	5	47	1.22	.....	0.90	0.0	3	6	10	15	ne.	J. G. Young.
Wells	Elko	5,631	38	13.7	− 9.3	42	16	−15	6	44	.....	.....	.....	.....	.....	12	0	19	s.	Southern Pacific Co.
Winnemucca	Humboldt	4,432	31	20.0	− 8.8	47	23	−15	5	36	0.76	− 0.28	0.60	9.2	9	4	14	13	ne.	U. S. Weather Bureau.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
* Precipitation included in that of the next measurement.
** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
† Also on other dates.
‡ Separate dates of falls not recorded.
§ 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.
‖ Estimated by observer.
‖‖ 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 2.—*Daily precipitation for January, 1910. District No. 10, Great Basin.*

Stations.	River basins.	Day of month. 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	Total.
Wyoming.																																	
Border	Bear	.25						.10		.09	.11	.06					.05																0.66
Cokeville	do	.09	.10									T.					T.	.17						T.		.02			T.				0.38
Evanston	do	.16	.31		T.												.20	T.								.09							0.76
Idaho.																																	
Geneva	Bear	.72							.49			.30					.15										.09						1.75
Grace	do	.32	.67	T.	T.					.06		.24	T.		T	T.	.56	.01											.03				1.89
Oxford	do																																‡1.76
Paris	do																																
Stone	Deep Creek	.05	.04							.06	.12						.16								.09								0.52
Weston	Bear	.35	.32									.29					.24									.03	.04		.05				1.32
Utah.																																	
Alpine	Great Salt Lake																																
Annabella	Sevier Lake		.02								.01										T.												0.03
Beaver	do																																
Black Rock	do	.29	.28	.27	.18													.26															1.28
Castle Rock	Great Salt Lake	.20	.10				T.	T.					.05				.05									.05	.10						0.55
Cedar City	Desert	.66	.46	.06	.08							T.	.03				T.	.05								T.							1.34
Corinne	Great Salt Lake					T.		.50	.10			.40					.10									.35							1.45
Deseret	Sevier Lake		.10															.15															0.25
Enterprise	Desert	*	3.68	*	1.00												*	.02															4.70
Farmington	Great Salt Lake	T.	.20	.10	T.			.60	.40			.20	.20				.20	.10								.20	.40		.10				2.70
Fillmore	Sevier Lake	.06	.04	.05	.21							.01	T.					.65															1.02
Friese Summit	Great Salt Lake																																
Frisco	Desert	.25		.34																													0.59
Garrison	do	*	*	.89														*	.50														1.39
Government Creek	do	.05	.25	.10	.10	.05			.05								T.	.20								.40	.20						1.40
Grantsville	do	*	*	*	*	.40						.27					.23									*	.09						0.99
Heber	do	.20	.16	T.	.08			.15				.10					.20									.06	.08		.07				1.10
Henefer	Great Salt Lake	.60	.21	.04	.05			.09	.10			.03				T.	.10	.05								.49	.20		.10				2.06
Ibapah (near)	Desert	.60	.47	.07	.22	.24		T.	.01			T.					.14	.27								.16	.03	T.	T.				2.21
Ibex	do	.05	.18	.15	.06													.07															0.51
International	Great Salt Lake																																
Kanosh	Sevier Lake	.37		.58														.70							.04								1.69
Kelton	Great Salt Lake	*	.30	.10		*	.20	*	.20	.10							*	.20											.20			.10	1.40
Levan	Sevier Lake	.12	T.	*	.25							.13						.35								.06	.04		T.				0.95
Logan	Great Salt Lake	.60			.04		.10					.20				*	.48									.37			.08				1.87
Lucin	Desert		.50					.20	.10	.10							.30																1.20
Manti	Sevier Lake	.05	.20	.05								.07	.21					.12															0.72
Marion	Great Salt Lake	.73	.10	T.	.05	T.	T.	.10	T.			.04					T.	.13								.04	.07		.13	T.			1.39
Marysvale	Sevier Lake	.31	.07	.05	.02			T.	T.			T.	.02				T.	.04								.03	T.	T.					0.57
Meadowville	Great Salt Lake	.80	.30	.15						T.		.15						.05								T.	T.		.05				1.50
Milford	Sevier Lake																																
Millville	Great Salt Lake	.30	.38		.25			.15	.03			.11					.22									.22	.02		.02				1.70
Minersville	Sevier Lake	.90	.20	.25								.15						.05								.11							1.66
Modena	Desert	.74	.26	.40	.01							.04				T.	.03	.03								T.							1.51
Morgan	Great Salt Lake																																
Moroni	Sevier Lake	.09	.14	T.									.21				T.	.05								.17	.06						0.72
Mt. Nebo	Great Salt Lake	.42			.30													.30								.04							1.06
Mt. Pleasant	Sevier Lake	T.	.17	.03								T.	.22					.10								.05							0.57
Nephi	Great Salt Lake	.09	.14		.21								.13				.26									.07							0.90
Oak City	Sevier Lake	.05	.15	.10	.20						.27	.05						.40					.44			.05							1.71
Ogden	Great Salt Lake	.20	.25		.20			.60	.50			.20														.60	.01		.10				2.66
Panguitch Lake	Sevier Lake	*	*	4.50	T.							.20					.35									.15							5.20
Park City	Great Salt Lake	.85	.46	.50				.65				.43			.26	.21	.34	.45								.23	.14	.03	.18				4.73
Parowan	Desert	.44	.25		.50							.37						.28								.03							1.87
Payson	Great Salt Lake	.18	.30	T.	.60			.13	.14			T.	.05					.56								.07	.06	.03		T.			2.13
Pinto	Desert	1.00		.62	.35							.03					T.	.10						.03									2.13
Promontory	Great Salt Lake	.20								.30																.60		.20					1.30
Provo	do	T.		T.	.10			.40	.20			.02					T.	.20	.05						.30	.02						1.29
Randolph	do	.36	.20			T.	T.	T.	.15				T.	T.	T.											T.	T.	T.					0.71
Richfield	Sevier Lake																	T.								T.							T.
Saltair	Great Salt Lake		.11		T.			.18	.05								.20	.30								.24		T.	.06				1.14
Salt Lake City	do	.05		.05	.05			.17	.05			.06					.15									.24	.10		.07				0.99
Scipio	Desert	.15	.28	T.	.01	.10						T.	.14					.21								.05							0.94
Silver City	do	.28	.12	.11	.10												.06									T.							0.67
Spanish Fork Canyon	Great Salt Lake																																
Thistle	do			.40									.40			.40											.60						1.80
Tooele	do	.01	.33	T.	.68	.35		.03				.05						T.	.40						.27	T.			.02				2.14
Utah Lake Pump'g Sta.	do	.23	.03	.10			.36										.07									.20	.02	.03	.03				1.07
Woodruff	do																																
Oregon.																																	
Ana River	Interior Drainage	.03			T.		T.		.04						.08	T.			T.			.03		T.	.01		.04		T.		.14	0.37
Burns	do								.21										.20			.15	.28	.06	.14	.06		.19					1.29
Burns Mill	do	.30						.40							.30		T.	T.	T.				.90	.25				.40			.20	2.75
Cecil's Ranch	do																																
Christmas Lake	do		.01					.10											.01			.06	.05	.01	T.			.04	.04		.05	0.37
Diamond "H" Ranch	do																																
Paisley	do	.18																						.01	.02	.01	.01		.02		.05	0.30
Plush	do																																
"P" Ranch	do																																
Silver Lake	do	.40													.30	.30	.30	.30	.20	.20	.20			.20	.25								2.65
Valley Falls	do																																
California.																																	
Al Tahoe	Truckee	.95								.02					.62	.85	.54	.54						.50	.70								4.72
Bijou	do	.25													.74	1.40									.93								3.32
Boca	do	1.20	.10	.10			T.			.15			1.10	T.	.50	2.90								.50	.20	1.00							7.75
Bodie	East Walker						.40	T.								.28	T.							.40	.50	.90							2.48
Bridgeport	do																																
Brockway	Truckee	1.12								.25					.50			1.07								.87							3.81
Deer Park	do	.69	.43						*	.42					1.12	.15	.17	.27							*	.99	.58	.12					4.94
Donner Ice Camp	do	*	*	2.50				T.				T.		*	*	1.30		*	2.55			T.	1.35		.53								8.23
Fales' Hot Springs	West Walker																.92								.58								1.50
Glen Alpine Springs	Truckee	.03	.37						.25	.25			*	*	.74	1.48	1.34	.15							.75	.87	.70						7.83
Hobart Mills	do	.90	.22							.10	.04				.90	1.13	.85	.10				.09	.06	1.60	.13	.10							6.22
Lundy	East Walker									.10					.30	.95									.50								1.85
Markleysville	East Carson	1.60	.21	.10										T.	1.00	.56								.30	.96								4.73
McKinney	Truckee																																
Shields' Ranch	West Walker	.60													.10	.10	.40	.30							.10	.40							2.00
Silver Creek	East Carson	1.62	.40	.16									.10	1.09	.70									.31	1.60	.08							6.06
Tahoe	Truckee	.50							*	.21					.75	1.25	.66						T.	T.	1.50								4.81
Tallac	do	.10								.25					1.10	1.90	.40						T.			2.25	T.						6.00
Truckee	Truckee	.80								.10					*	*	*	3.60							2.40								6.90
Woodfords	West Carson	.50	.15												.20	.26	.18								.22	.17	.07						1.75

TABLE 2.—*Daily precipitation for January, 1910. District No. 10*—Continued.

Stations.	River basins.	Day of month. 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	Total.
Nevada.																																	
Aurora	East Walker	.08														.03																	0.11
Austin	Reese																.62				.10						.30						1.02
Battle Mountain	Humboldt		.70													*	.90																1.60
Beowawe	do	.35														.30																	0.65
Buckskin	Walker																																
Carlin	Humboldt	T.					T.								T.	.26									.03								0.29
Carson Dam	Carson	.97											T.	T.		T.	T.								T.								0.97
Cherry Creek	Humboldt	.14	.20		T.				.02			.01					.02	.05								.07	T.						0.51
Clover Valley	do																																
Cobre	do																																
Columbia	Desert	.87	.03															T.															0.90
Dutton	Humboldt								.20							.40																	0.60
Elko	do	.03	T.		T.			T.		T.	T.				.03		.30								T.	T.	T.		.01		T.		0.43
Ely	do	.34	.37	T.	.04				.02			T.	.10				.39									.10							1.36
Eureka	do	.25	T.	.01	T.							.02			T.		.20								.15		.08						0.71
Fallon	Carson	1.69											T.			.29	T.						T.		T.								1.98
Fernley	Truckee	.78	T.				T.						T.			T.	.09	T.						T.	.10								0.97
Gardnerville	Carson	1.06	.30												.30		1.10	.30								1.10								4.16
Geyser	Humboldt	*	.40																														0.40
Glenbrook	Truckee																																
Golconda	Humboldt	.07	.30							T.															T.								0.37
Halleck	do														*	1.30																	1.30
Jean	Desert																																0.00
Leetville	Carson	1.15															.10																1.25
Lewers Ranch	Truckee	.80	.40							.20		.40				*	1.20								*	.40							3.40
Lovelock	Humboldt																																
McAfees Ranch	Desert																																
Millett	Reese	.87	.08				.08	.15	.12									.05	.15							T.							1.50
Mina	Desert	T.	.15													.80									.05						T.	1.00
Mount Rose Ranch	Truckee	*	.55						*	.40				*	.15	*	1.45					*	.10	*	.70								3.35
North Fork	Humboldt	.50					T.	.09	T.				T.		.07	.05	.10						T.			.10			T.				0.91
Palmetto	Desert																																
Paradise Valley	Little Humboldt	.60						.35						.05												.10	.10						1.20
Potts	Reese	.40	T.	.05	T.							T.					.15																0.60
Quinn River Ranch	Humboldt	.19						.02		.03	.02				.12	.21									.07								0.68
Reno	Truckee	.21	.05	T.			T.			.02	T.		T.	.07		.10	.29					T.	.01	.03	.20						T.		0.98
Rose Creek	Humboldt																																
Smith	West Walker														T.	.02	.22								.03								0.27
Spooners Ranch	Truckee																																
Soda Lake	Carson	.39	T.				.03			T.		T.			.05	.01	T.	.01					T.	.01	.04								0.54
Sweetwater	East Walker																																
Tecoma	Humboldt	T.	T.													T.	.40										T.			T.			0.40
Tonopah	Desert	.10	.12	.12								.01					.08								.12								0.55
Wabuska	Walker	.90	T.					T.								T.	.30								.02								1.22
Wells	Humboldt																																
Willow Point	Little Humboldt	.40															.20																0.60
Winnemucca	Humboldt	.28					T.	T.		.08	T.	T.	T.		.02	.15	.04					T.	.01		.03	T.	.05					.10	0.76

TABLE 3.—*Maximum and minimum temperatures at selected stations, January, 1910. District No. 10, Great Basin.*

Date.	Wyoming.						Utah.																				Burns, Oreg.		Elko, Nev.	
	Border.		Evanston.		Weston, Idaho.		Corinne.		Deseret.		Government Creek.		Marysvale.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.								
	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	40	32	42	32	45	33	25	7	48	42	41	36	43	35	45	26	45	38	51	36	53	45	53	42			20	−10	28	20
2	35	6	39	15	42	9	20	6	42	24	42	20	41	28	28	20	43	22	43	18	53	26	41	26			16	−24	30	− 1
3	19	−11	22	3	24	7	10	3	25	22	29	19	35	18	27	10	29	23	28	22	31	22	30	22			6	−19	24	−14
4	8	− 4	10	− 3	13	3	15	7	22	7	20	6	24	5	19	− 4	25	10	26	6	27	10	22	8			22	−17	15	−11
5	4	−22	6	−12	11	−10	10	2	21	− 8	10	−11	18	− 2	13	−17	18	− 3	22	− 5	16	0	17	1			18	−10	15	−20
6	8	−16	9	−13	16	− 6	21	1	18	−10	17	− 6	24	− 7	18	−19	19	6	25	− 7	26	− 1	18	5			33	8	15	−13
7	15	−12	23	5	26	11	26	16	25	6	30	10	32	5	32	− 2	26	13	30	− 8	27	11	27	16			30	6	30	7
8	16	−12	28	7	32	11	25	11	31	2	34	9	35	5	31	− 1	22	15	38	− 7	33	9	33	18			30	4	31	− 4
9	19	− 4	22	8	27	10	10	2	33	14	31	17	41	20	36	10	30	17	44	− 4	35	15	28	22			24	− 8	26	4
10	18	− 6	20	0	25	4	10	− 1	30	12	29	10	41	23	40	15	27	7	38	− 2	42	14	23	16			18	− 6	28	0
11	21	−12	25	10	22	2	15	3	37	20	38	14	41	29	35	10	25	16	40	7	43	22	31	19			24	0	26	−28
12	20	− 6	28	7	30	2	8	− 4	33	16	32	10	36	6	28	− 3	26	11	38	2	40	22	27	19			30	4	21	−10
13	4	−18	15	− 7	20	− 6	30	−10	26	12	28	10	37	7	31	2	22	− 2	36	6	32	9	36	9			29	5	28	−13
14	15	−17	36	2	34	3	28	− 3	46	11	39	26	43	22	41	12	40	13	41	11	48	25	44	26			34	12	37	13
15	26	− 8	39	7	40	20	45	− 7	48	32	45	27	46	38	41	28	43	23	43	13	56	28	52	26			39	0	42	−11
16	20	− 1	36	28	40	28	30	6	49	33	43	30	47	33	40	30	39	30	45	14	52	28	49	28			28	− 8	45	23
17	20	0	28	1	29	0	23	1	40	14	31	16	41	21	30	17	34	12	30	16	40	18	31	18			34	4	27	−15
18	24	− 2	32	17	34	8	32	4	32	1	37	7	36	− 1	34	7	32	14	39	0	38	10	37	19			39	1	29	−20
19	28	− 2	31	7	36	12	27	2	40	5	40	17	46	7	45	15	35	13	43	3	41	15	40	19			34	4	37	−24
20	20	− 7	38	4	33	2	25	4	39	7	38	15	41	5	38	12	33	17	47	5	41	14	40	23			38	12	42	−18
21	25	− 6	41	8	31	3	40	3	45	19	40	19	53	20	47	21	35	17	53	20	46	20	38	22			40	25	38	10
22	36	11	38	23	40	20	42	10	45	19	43	20	53	22	52	28	37	24	53	28	45	23	38	25			44	36	40	20
23	42	28	46	21	45	27	45	20	48	29	51	30	56	29	56	31	39	20	54	30	46	30	56	31			43	30	50	30
24	42	22	43	28	50	28	55	23	53	31	49	32	49	36	47	32	47	32	53	27	60	36	55	36			37	− 2	49	23
25	35	20	36	15	40	18	45	25	38	25	44	20	41	21	37	22	45	21	54	24	49	25	38	25			27	0	46	20
26	26	− 7	22	5	35	15	34	8	46	24	34	11	45	15	43	21	33	14	54	10	37	15	34	24			34	5	38	14
27	25	2	22	7	27	4	20	− 4	40	16	34	4	39	10	36	20	31	10	53	17	40	10	36	18			38	5	38	− 8
28	30	15	32	13	32	15	32	− 4	45	15	43	15	46	13	47	18	33	18	50	19	37	15	35	22			45	7	34	− 2
29	28	−10	28	1	32	2	15	− 6	42	18	34	16	46	23	39	26	31	11	48	20	40	25	35	21			42	5	38	− 6
30	30	−11	36	2	30	0	10	− 5	46	13	39	13	49	12	46	17	31	12	50	18	42	17	36	19			46	10	35	− 9
31	25	0	45	9	39	7	20	− 5	53	16	48	20	53	14	51	20	36	14	52	21	52	20	42	21			45	14	42	− 4
Mns	23.4	−1.9	29.6	8.1	31.6	9.1	25.6	3.7	38.3	15.7	35.9	15.5	41.2	16.5	37.2	13.7	32.6	15.9	42.6	11.6	40.9	18.6	36.2	20.8			31.8	3.3	33.0	−1.5

Date.	Nevada.																													
	Ely.		Eureka.		Fallon.		Jean.		Lovelock.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.							
	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	36	3	41	30	35	21	.....	.....	40	− 5	41	30	34	19	30	21	35	18	.....	12	40	15	32	11						
2	30	0	35	6	24	3	57	26	10	−13	43	32	27	11	24	−20	27	12	.....	12	21	13	23	− 1						
3	34	4	25	8	22	−10	54	12	10	−14	35	17	28	12	20	−19	19	4	.....	− 2	13	6	15	−13						
4	28	− 2	14	− 7	20	−10	42	26	20	−23	24	− 8	26	4	18	−15	20	− 1	.....	− 8	8	0	18	− 6						
5	24	−11	15	− 6	12	−15	30	14	22	−17	19	− 4	30	7	28	−28	18	− 6	.....	−13	13	− 2	20	−15						
6	30	−10	28	− 5	12	−11	32	8	33	−10	23	− 4	32	11	14	−20	37	5	.....	−19	24	10	18	−12						
7	33	13	34	15	25	2	.....	.....	36	− 9	29	10	39	12	34	2	42	17	.....	− 2	31	16	33	8						
8	32	2	30	11	25	1	42	11	40	− 8	27	5	38	18	21	− 6	32	17	.....	6	29	18	25	13						
9	34	21	32	20	29	2	46	22	12	0	34	15	38	9	34	11	31	22	.....	− 6	27	18	28	17						
10	36	5	31	16	22	4	47	25	20	−17	28	6	35	18	37	12	27	21	.....	− 8	29	18	32	7						
11	31	4	30	15	20	12	51	26	35	0	32	8	44	19	26	17	30	12	.....	8	29	20	23	2						
12	35	− 6	30	3	19	5	48	23	35	− 5	29	− 6	50	22	20	12	24	7	.....	−14	29	19	23	6						
13	34	− 1	30	14	18	4	55	25	20	− 7	39	1	47	21	30	− 7	41	2	.....	−18	32	20	35	8						
14	52	24	35	21	42	1	58	27	37	3	38	27	50	22	32	10	42	33	.....	−14	35	23	38	15						
15	40	18	37	28	39	3	62	33	40	2	40	30	54	21	29	4	37	27	.....	−13	37	32	32	13						
16	39	14	37	21	35	2	60	34	29	− 6	38	25	38	− 1	35	9	33	20	.....	−20	33	17	35	4						
17	33	9	28	5	29	0	55	28	26	5	29	10	32	− 7	16	− 5	29	6	.....	−13	22	14	19	− 2						
18	40	− 6	30	0	20	5	49	20	32	7	24	− 2	42	3	16	−10	28	− 4	42	−15	28	15	21	− 2						
19	41	9	45	10	27	− 4	53	25	20	− 4	33	2	41	12	28	1	40	11	38	−11	36	20	40	4						
20	37	4	45	14	21	− 8	54	19	22	6	39	− 1	45	22	23	− 6	33	4	40	4	39	26	32	2						
21	49	25	50	32	35	3	62	34	38	4	45	12	50	30	32	8	37	14	42	11	46	35	36	18						
22	51	28	46	29	38	25	64	29	41	5	40	22	55	33	43	24	44	33	40	12	46	35	44	32						
23	44	25	46	35	38	19	64	33	40	4	52	25	50	29	50	30	54	27	44	10	49	37	47	33						
24	40	24	42	28	41	26	64	33	46	1	47	26	33	16	41	23	37	24	44	14	38	18	47	26						
25	42	11	37	13	37	9	60	28	45	0	39	21	51	18	32	12	36	17	42	12	28	15	32	16						
26	50	14	35	18	38	12	63	21	39	− 2	43	25	54	20	38	13	45	21	42	− 8	34	18	40	14						
27	40	6	42	10	37	9	60	23	35	0	41	16	58	31	41	0	42	18	42	−10	42	25	41	12						
28	42	20	45	18	34	9	.....	.....	40	− 6	44	19	53	26	37	16	42	20	40	− 8	42	31	37	14						
29	39	22	42	14	31	10	.....	.....	41	− 5	42	24	54	20	37	− 2	39	23	30	−10	41	28	38	8						
30	50	10	53	15	29	10	.....	.....	38	− 3	43	20	55	27	27	3	39	20	32	−10	45	33	39	11						
31	46	14	45	22	30	11	64	23	39	−10	50	20	54	19	31	17	52	22	36	− 8	44	34	44	13						
Means	38.5	9.5	36.0	14.6	28.5	5.5	53.7[a]	24.5[a]	31.6	−4.1	36.5	13.6	43.3	16.9	29.8	3.3	34.9	14.7	39.6[a]	−4.2	32.6	20.2	31.8	8.3						