National Park Service,
Yellowstone Park,
Wyoming.

REPORT

OF THE

ACTING SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

1906.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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OFFICE OF SUPERINTENDENT,
Yellowstone Park, Wyo., October 3, 1906.

SIR: I have the honor to submit the following report of the condition of affairs in the Yellowstone National Park and its management since the fiscal year ended June 30, 1905:

IMPROVEMENTS ABOUT THE ROOSEVELT ARCH AT NORTH ENTRANCE TO THE PARK.

The alfalfa field, which was planted two years ago near the Roosevelt Arch, has proved to be a complete success, and the hay cut from it was the salvation of the antelope herd and the means of keeping them almost entirely within the limits of the park during the past winter, and sent them off to their summer range in fine condition when the spring opened up.

I regret to report that the 12 small sequoia trees (*Sequoia gigantea*) from the giant forests in the Sequoia National Park, California, which were planted near the arch and on the plateau at the Mammoth Hot Springs have all died. These trees were carefully planted by a professional gardener, in accordance with the instructions which came with them, and during the winter they were partially protected by being covered with barrels which had holes bored thru them, and which were also raised above the ground so as to give all of the light and air needed.

BOUNDARY SURVEY.

It is again recommended that an appropriation be secured from Congress to the amount of $2,000 for the purpose of plainly marking the boundaries of the park in such a way that persons unfamiliar with the country can not cross it without being aware of the fact.

FOREST FIRES.

During the past summer we have again been remarkably free from forest fires. Only one fire which bid fair to be of any consequence was started, and this was quickly extinguished by the troops from Fort Yellowstone before it had gotten thoroly under way. A few camp fires were left burning by tourists, but these were extinguished by the regular patrols and scouts.

TELEPHONE LINES.

The telephone system in the park is still in a very unsatisfactory condition, so far as the administration and police of the park is concerned, and it will greatly facilitate matters in this direction when

the Government owns its own line thruout the park, and this will probably be an accomplished fact before the winter sets in.

The Yellowstone Park Association has authorized the War Department to put up cross arms on their poles, on which they have but one wire, and as we now have on hand the necessary wire and insulators, but little additional material is required for the purpose of putting up this line. It is believed that the Signal Corps of the Army will furnish the additional material required. The completion of this line will undoubtedly be a source of satisfaction to the Yellowstone Park Association, for at times their line is overcrowded with business, and they will be glad to get rid of all messages which pertain purely to the administration of affairs in the park.

HOTELS.

The hotels thruout the park have been run during the past season in a very satisfactory manner. While the tourist travel this year has not been as heavy as it was during the previous season, it was greater than that of 1904, and it is more than probable that it will increase steadily as time goes on.

The hotel accommodations seem to be ample for the present needs at all places except at the Mammoth Hot Springs and at the Grand Canyon. The hotel at the Mammoth Hot Springs is an old affair, and, while it has been greatly improved of late and is very comfortable for a reasonable number of people, it has not a sufficient number of rooms to accommodate the large crowds which occasionally meet there.

The hotel at the canyon is entirely too small and is also very inconveniently located. It is well up among the hills, and by road about half a mile from the edge of the canyon, which is too great a distance for many tourists to walk. The canyon and falls are absolutely hidden from view from any point at or near this hotel.

The United States laws forbid the erection of a hotel within 220 yards of the canyon or falls. In my opinion the new hotel should be built at a point about 220 yards back of Point Lookout or in that vicinity, where it would still be entirely out of sight of the canyon and yet be within easy walking distance from the edge of the canyon and from a point where a beautiful view of the falls can be had.

PERMANENT CAMPS.

The Wylie permanent camps have been much improved during the past summer and have been run in a very satisfactory manner. The old camp at Apollinaris Spring, which was located in rather a cold and damp spot, has been removed to a new location near the head of Swan Lake Valley, and about six miles from the Mammoth Hot Springs. This location is a better one for the camp and is more conveniently situated with reference to the length of drives for the tourists who patronize this company.

A new camp has been established on Lost Creek, near Tower Falls, which enables this company to take their patrons from the canyon over Mount Washburn to Lost Creek, and from there to Gardiner, the terminus of the railroad.

YELLOWSTONE NATIONAL PARK TRANSPORTATION COMPANY.

This company has greatly improved its plant during the past season. Three new stables or wagon sheds have been erected at the Mammoth

Hot Springs; three new buildings, consisting of a wagon shed, a stable, and a mess house, have been built at Gardiner, and a number of new coaches, surreys, and horses have been purchased.

THE MONIDA AND YELLOWSTONE STAGE COMPANY.

It was fully expected by this company that the Oregon Short Line Railroad would have completed its branch road to the mouth of Ray Canyon on or before the beginning of the past tourist season, but in this they were disappointed by the failure of certain railroad contractors. This would have given the Monida Company but a short drive to the entrance of the park on the west, a distance of about 15 miles. On account of the failure of the contractors to complete this work this company has been compelled to bring in its passengers from Marysville, Idaho, a distance of about 55 miles from the border or western entrance of the park.

The president of the Monida Company informs me that the construction department of the Oregon Short Line has been directed to complete their branch line to the border of the park as soon as it is practicable to do so, and a recent letter from the general manager of this line informs me that owing to the extreme shortage of labor of all classes they do not anticipate that they will be able to build any farther this winter than to Big Springs, Idaho, but that they expect to complete their line next summer, not, however, before the opening of the park tourist season.

YELLOWSTONE LAKE BOAT COMPANY.

The Yellowstone Lake Boat Company several years ago, and before any road was constructed from Upper Geyser Basin to the Thumb, was granted the privilege of placing a small steamboat on Yellowstone Lake, to be run as an excursion boat. After the completion of the road from the Upper Geyser Basin to the Thumb, it was permitted to carry such passengers as desired to go from the Thumb to the Lake Hotel, a distance of about 18 miles, for a charge of $3 per head. Tourists who take this trip over the lake regard the charge as exorbitant, and many complaints have been made concerning it. In the past, efforts have been made to bring about some amicable arrangement by which the tourists who travel by the various stage companies could have the option of going from the Thumb to the lake outlet either by stage or by boat without additional charge, but without success.

In my last report I stated that the time had arrived when it seemed to me to be absolutely necessary for the Department to take some action as to the matter of transportation on the Yellowstone Lake, and strongly urged the introduction of competition in the boat business, but no action was taken by the Department. The condition of affairs of this corporation as regards its relations with the transportation companies in the reservation is just as bad to-day, and even worse, than it has been at any time during the past eighteen years, and it is about time to end it.

As I have stated before, the solution of this trouble is perfectly simple, and easier now than it has been for some time past, for the reason that the lease of this corporation expires on January 21, 1907, and as it has forfeited all claims to any consideration on the part of the Department, the lease should under no consideration

be renewed. If for reasons, however, which I do not know, it becomes necessary to renew the lease of the Yellowstone Lake Boat Company, then an additional lease should be given to some other individual or company which would be willing to come to some reasonable understanding with the various transportation companies with reference to carrying their passengers across the lake. If the solution to this trouble suggested above is not satisfactory, it is recommended that the various transportation companies doing business in the park be directed or permitted to place a suitable boat on the lake for the purpose of carrying their passengers across the Thumb to the Lake Hotel.

Some time since the Monida and Yellowstone Stage Company exprest a desire to do this, and made an official application for authority to put on such a boat, and I have no doubt but that the Wylie Permanent Camping Company would now be glad to join them in such a proposition. If this latter suggestion meets with favor, I strongly urge that it be adopted in the interest of peace and harmony for all concerned in the administration of affairs in the park and for the benefit of the many tourists who visit it.

LARGE GAME IN THE PARK.

In spite of the heavy fall of snow in the park last winter, the large game pulled thru in good shape, and the percentage of loss was very small.

As stated before, the alfalfa field near Gardiner and the hay cut from it proved of great benefit to the antelope. This field yielded about one hundred tons of hay, which was fed to the antelope at times when they most needed it. Like all other wild animals that are cared for and protected by man, they soon learned that when the snow fell deeply on the hills, they could find something to eat at the haystack near the soldier station. It was estimated that about 1,500 of these animals came down to the feeding grounds near the haystacks last winter, and as very few of them died or were lost from any cause, the number this year should be at least 2,000.

The elk also learned that forage for wild game was being issued at Gardiner, and after the antelope had been fed they came down in large numbers and cleaned up all of the coarser parts of the alfalfa that was not eaten by the antelope. I was told by an exceedingly reliable man in Gardiner that 1,200 elk had been seen and counted on this alfalfa field one evening during the latter part of the winter. This combination of elk and antelope within a few hundred yards of the town of Gardiner presents a game picture or scene which can not now be duplicated at any other place in the United States, and it is one which the people of Gardiner are doing well to assist in preserving.

The buffalo herd still continues to thrive and now numbers 57. This is a very encouraging increase from the original herd of 2 bulls and 18 cows with which the herd was started four years ago. During the past summer arrangements have been completed to move all of the young buffalo of this herd to a point on the Lamar River, where they will be eventually turned loose. The place selected for the purpose of establishing these young buffalo is at the mouth of Rose Creek, where it flows into the Lamar River. The land along the river bottom at this point is particularly well suited for raising hay of any kind,

and with comparatively little work in the way of clearing and ditching for the purpose of irrigating it almost any quantity of hay can be raised. A very comfortable log cabin has been built for the use of the buffalo keeper, and about 1 square mile of fine grazing land has been inclosed by a suitable fence of smooth wire.

It is intended to keep the young buffalo in this inclosure and to feed them until they have become thoroly at home at this point. After this has been accomplished they will be gradually turned loose, and it is believed that they will not wander far from the haystack which will at all times be kept on hand ready to be fed out to them. All of the old buffalo will be kept in the pasture at the Mammoth Hot Springs as heretofore, and their young will be moved up to the new pasture on the Lamar from time to time as they become old enough to be driven there. If nothing more is accomplished by this division of the herd I am of the opinion that it is advisable to divide it so that in case of sickness or disease of any kind in either band it would not necessarily be communicated to the other.

ENLARGEMENT OF FORT YELLOWSTONE.

I desire to repeat my recommendation concerning the increase in the size of the garrison at Fort Yellowstone. In my opinion it is absolutely necessary for the proper protection of the park that this post should be increased to a four-troop or squadron post. If all the men in the two troops stationed here were selected (as I have requested that they should be), and men suited for the duties required of them, the present garrison would be sufficient, but as it is only a small proportion of them are old soldiers, and it is very difficult to find a sufficient number of suitable men to fill the many important details required of them. This enlargement of the post has been repeatedly recommended by the department commander and other distinguished officers of the Army, but it will probably never be made unless a special appropriation bill is past by Congress for the purpose of constructing the necessary barracks and quarters. The amount required for the construction of the additional buildings will be about $75,000.

FISH AND FISH HATCHERY.

The United States Bureau of Fisheries has greatly improved its buildings and surrounding grounds at the fish hatchery near the West Thumb of Yellowstone Lake. The large pine trees were trimmed and the fallen timber and underbrush hauled out and burned. The exterior of the hatchery building has been very much improved by the addition of windows, cornice, and cedar shingles for siding, the finish being painted white, and the shingles allowed to weather stain. Timbers were also gotten out for the erection of a log cottage and barn, and the buildings are partially completed.

Mr. D. C. Booth, superintendent of the fisheries station at Spearfish, S. Dak., who has charge of the work in the park during the summer, reports that they collected during the season 2,455,000 eggs of the black-spotted trout (*Salmo clarkii*). These eggs were held at the hatchery until they were sufficiently matured, when the greater part of them were shipped to various parts of the United States for planting. A large number of these were shipped to Spearfish, S. Dak., to

be hatched and later distributed as fry thruout the Northwest. All of the shipments of both eggs and fish were received at their various destinations in excellent condition.

During the season they made the following plants of trout in the park:

Brook trout (*Salvelinus fontanalis*), brought from the hatchery at Spearfish:		
May 25, Willow Creek	35,000	
May 26, Lava Creek	25,000	
May 26, Indian Creek	20,000	
May 26, Gibbon River, above Virginia Cascades	20,000	
		100,000
Rainbow trout (*Salmo irideus*), brought from the hatchery at Spearfish:		
May 25, Gibbon River, below Virginia Cascades		10,000
Black spotted trout (*Salmo clarkii*), from hatchery in the park:		
July 25, Fisheries Creek	100,000	
July 31, Duck Lake	115,000	
		215,000
Total number of fish planted in the park		325,000

Mr. Booth reports that the shipment of black spotted trout eggs made in July, 1903, from the fish hatchery in the park to North Wales arrived in good condition, and has resulted in introducing the trout of Yellowstone Lake into the waters of Great Britain.

TOURIST TRAVEL THROUGH THE PARK.

The aggregate number of persons carried through the park over the regular route during the season of 1906 is as follows:

Yellowstone National Park Transportation Company, entering via northern entrance of park	7,788	
Monida and Yellowstone Stage Company, entering via western entrance of park	2,059	
Others at hotels, traveling with private transportation, bicyclers, etc.	588	
Total		10,435
Wylie Permanent Camping Company, and accommodated at its permanent camps	1,745	
Other licensees of personally conducted camping parties	1,134	
Total number camping, traveling with licensed transportation		2,879
Total number of tourists traveling through the park with private transportation, as "camping parties"		3,868
Grand total of all visitors to the park, season 1906		17,182

During the season 5,188 tourists took the trip across the Yellowstone Lake with the Yellowstone Lake Boat Company. Of this number 2,791 entered the park with the Yellowstone National Park Transportation Company, 618 with the Monida and Yellowstone Stage Company, 1,638 with the Wylie Permanent Camping Company, and the balance, 141 people, were campers.

CONSTRUCTION AND REPAIR OF ROADS, BRIDGES, ETC., AND OTHER IMPROVEMENTS IN THE PARK.

The following statement, furnished by Lieut. E. D. Peek, Corps of Engineers, U. S. Army, who is in charge of improvement work in the park, shows what has been done in the way of improvements in the park, repair of roads and bridges, etc., under the regular appropriations made by Congress for this purpose.

IMPROVEMENT OF YELLOWSTONE NATIONAL PARK.

The work which has been done during the past season was carried on from the funds appropriated June 30, 1906, and the balance remaining from the appropriation of March 3, 1905.

GENERAL REPAIRS.

The entire system, including the western, eastern, and southern approaches, was kept in as fair a state of repair as the limited means at my disposal would permit. Considerable snow had to be shoveled in order to open up the circuit for tourist travel on June 1. The greatest difficulty was experienced on that portion between the Upper Basin and the Thumb, where snow was shoveled until the 10th of June.

On the Cooke City road considerable work was done in the vicinity of Jackson Grade where Soda Butte Creek joins the Lamar River. For a distance of over 1,200 feet the side of the road was thoroly riprapped with large rocks in order to prevent the spring freshets from washing out the dirt road. Above Soda Butte to the park boundary all the smaller depressions were filled and the road placed in fairly good condition.

In the Dunraven Pass road the bridges which had been washt out by the spring freshets and the snowslides were replaced, and the policy was to put them out farther from the mountain side in order to allow the snow to pass under the bridges.

The large wooden bridge spanning Sulphur Creek, three miles from the canyon on the road to Yellowstone Lake, was removed and replaced by a large earth fill. An iron culvert 36 inches in diameter was put in place in order to carry off the water. This fill was raised some 16 inches higher than the old bridge and both approaches were materially cut down in order to lessen the grade.

Ten miles from Norris, on the Fountain road, where the road turns off and crosses the Gibbon to go to Riverside, a considerable change was made. On the far side of the Gibbon a very steep hill of about 12 per cent grade was cut down to 5 per cent by cutting down the top of the hill several feet and raising the bridge 18 inches, and then filling in on both sides.

Two miles from Norris, on the canyon road, two very objectionable hills were cut down and the sag between them raised several feet.

A large clearing was made thru the standing timber between the road and the base of Roaring Mountain, in order to allow the tourists to obtain a good view of the mountain.

Five miles from the springs, on the Tower Falls road, a trail was cut and clearing made to reach the falls of the East Gardiner.

At Mud Geyser the road was widened slightly to make a proper alignment with the new passenger platforms which had been recently constructed. A couple of hundred feet of retaining wall was placed on the upper side of the road and the road raised considerably. A walk of gravel was laid from the unloading platform to the Mud Volcano, thence to the Green Gable Spring, and back to the loading platform. This improvement helped considerably in the handling of tourists in a short space of time, and at the same time allowed them to see everything. All dead and down timber and stumps in the vicinity of the geyser were hauled away and either burned or put out of sight.

The ground about Apollinaris Spring was entirely cleared of all decaying vegetation and dead timber. The old spring which was very difficult of approach in wet weather, was boxed up, and conveyed into a suitable well, constructed of rough stones, with drinking cups attached for the public use. The well was surrounded with blind drains and covered over with gravel, in order to keep the surroundings dry. Footpaths of gravel leading from the landing platform to the spring and to the ground surrounding were made.

CLEARING OF FALLEN TIMBER AND REFUSE.

Many protests have been made concerning the large amount of down timber and stumps which borders the roadway over almost the entire circuit. A very vigorous effort was made to begin the carrying away of this unsightly mass. Beginning at Nez Perce Creek, passing the Fountain Hotel, and 2 miles beyond toward the Upper Basin, the ground was entirely cleared of all dead timber for a distance of a couple of hundred feet from the road. This timber was burned or hauled entirely out of sight.

For a distance of two miles and a half from the Thumb toward the Lake Hotel all timber between the road and the lake was hauled away or burned. From the Lake Hotel for two miles toward the canyon all timber and unsightly rubbish was removed for a distance of 200 feet. Along the lake road for a distance of 3 miles from the canyon there was always an unsightly mass, due to the great amount of fallen timber lying in the river. This timber collected all the slime and vegetable matter and always presented an unsightly appearance. This entire stretch, including the adjoining hillsides, was thoroly cleaned and all timber and refuse burned.

In addition to the foregoing a small crew was sent around the park circuit and cleaned all camping sites of cans, glass, bottles, etc. At each place holes were dug in order to afford camping parties places to dispose of cans and refuse. It is to be hoped that during the coming winter suitable signs may be provided in order to instruct campers where to make their disposals.

CULVERTS.

Numerous vitrified clay culverts were placed during the season, replacing old wooden ones which had fallen out due to decay. Two miles from the canyon on the lake road a bridge was replaced by tile culvert, in addition to the large iron culvert at Sulphur Creek.

NORTH ENTRANCE.

The lawns, shrubbery, and vines in the vicinity of the north entrance were kept properly irrigated and trimmed thruout the season.

GARDINER TO MAMMOTH HOT SPRINGS.

Over two miles of this road was entirely resurfaced with a fair quality of material taken from the east slope of Capitol Hill.

Some unexpected expense was incurred in keeping the road cleared at two points between the second and third mile posts, where earth

slides of considerable magnitude occurred at intervals thruout the season, threatening at times to temporarily delay all traffic.

GROUNDS AT MAMMOTH HOT SPRINGS.

Irrigation and mowing of lawns and the care of shrubbery, walks, and roads at Mammoth Hot Springs was continued thruout the season.

A 12-inch culvert was laid and about 500 feet of ditch constructed to convey water from the electric-light plant power ditch to the Mammoth Hot Springs plateau for irrigation purposes.

Some of the very unsightly stumps and down timber about the hot springs was piled and burned. An attractive well was erected at the warm soda spring near Orange Geyser, cups being provided for use by visitors.

A substantial stairway was built to the floor of the Devil's Kitchen.

BUNSEN PEAK ROAD.

This road was examined at intervals and kept free of fallen trees, and earth slides.

PETRIFIED TREES.

At a point 16¾ miles from the springs on the Tower Falls road a new road a half mile in length was built to the two petrified trees that have long been objects of interest in that vicinity. The surface soil surrounding the trees has been removed to a depth of about 4 feet, at which depth the trees seem to be embedded on all sides in rock. The diameter of the trees below the level of the surrounding earth is much more than above. This is due to the deterioration caused by the weather, and also from the fact that tourists are continually chipping off pieces of the trees. Work is now being carried on to uncover to a considerable depth these trees, which are now embedded in rock, and if possible to expose their roots. When this is done the recess is to be surrounded by a small concrete wall surmounted with an iron fence, in order to protect the trees from any further vandalism. These steps are deemed necessary because these two trees will be practically the only ones that will be accessible to tourists without going on foot or on horse.

STAIRWAYS, PLATFORMS, ETC.

An unloading platform of about 100 feet in length was built at Apollinaris Spring. At Mud Geyser two platforms were built, one for unloading the tourists and another one for loading. These platforms are each 50 feet long and will accommodate two coaches at once. At the Upper Falls a platform 50 feet in length was built at the head of the stairways leading down to the falls. This platform greatly facilitates the handling of the people, and is also of great benefit to tourists, as it is much more convenient than heretofore.

New outhouses were built at Apollinaris Spring, Gibbon River, De Lacy Creek, Mud Geyser, and Dunraven Pass.

Some of the old pole and log stairways and landings along the canyon were replaced by neat, substantial structures, having numerous resting places provided with seats. At the Upper Falls two stairways were built leading directly from the unloading platform down to

the falls. At the foot of the stairways large platforms were built with suitable benches to permit the sightseers to view the falls. At the Lower Falls a stairway some 360 feet in vertical height and some 700 feet long, provided with numerous landings, was built. All these landings were provided with seats in order to permit parties to rest. At Grand View a walk some 150 feet in length was made, and at the extreme end a small platform with seats was provided. At Inspiration Point, which was almost inaccessible on a rainy day or bad weather, on account of the nature of the soil, a long flight of stairs, provided with landings and seats, was constructed, and at the extreme end a suitable platform together with necessary benches. At the head of the stairs a small unloading platform was also constructed. At Artist Point a platform with seats was built on top of the rock, together with a stairway leading to the unloading platform.

In constructing the stairways leading to these points of interest the aim has been to make them accessible for the old as well as the young. All stairways are constructed of heavy plank and 4 feet wide, with very easy rises, in order to allow people to ascend and descend who can not go unassisted. The greater part of these places heretofore were inaccessible to those people who could not climb over rocks and did not feel secure unless they knew they were standing on a well-built foundation. It is to be hoped that before the season is over all the stairways along the canyon can be so stained as to blend in with the surrounding rocks, in order that they may not detract any from the beauty of the canyon.

SPRINKLING.

This work was delayed owing to the lateness of the appropriation for the park work, but about the 10th of July all the wagons were at work, covering about 100 miles of roadway. About thirty new tanks were made and installed at various points on the main circuit, the greater portion of them filling the sprinklers by gravity. A number of pumping tanks were converted into gravity tanks. On the run from Gardiner to Golden Gate, a distance of 9 miles, there are at present no pumping tanks, and this relieves the necessity of carrying pump and suction hose on the sprinkler. It also does away with the necessity of carrying an extra laborer. Two hydraulic rams were installed for supplying water to gravity tanks. One of these tanks is situated on top of the Norris Hill and the other in the vicinity of Virginia Cascades. The installation of these rams was a great benefit to the sprinkling system, because it did away with the doubling of the road and permitted the hauling of the water down hill in place of up.

Both rams proved successful in every way. From the experience gained in the park it is certain that all or nearly all sprinklers must be provided with gravity tanks in order to give the best satisfactien.

SAWMILL.

The sawmill commenced cutting lumber about August 1 and sawed a considerable amount of lumber for stairways, platforms, culverts, bridge repairs, and buildings. The mill at present is cutting lumber for the erection of small section houses to be built on the divide between the Upper Basin and the Thumb. These houses are to be used by the crews in the early spring in shoveling snow and later by the repair crews.

Meteorological record, Yellowstone Park, Wyoming, 1905–6.

OCTOBER, 1905.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° *F.*	° *F.*	° *F.*	*In.*		*Per ct.*		° *F.*	° *F.*	° *F.*	*In.*		*Per ct.*
1.....	52	28	40	.....	Partly cloudy.	50	18....	19	7	13	0.20	Partly cloudy.	48
2.....	61	43	52	.....	.....do	58	19....	30	6	18	.....	Clear	100
3.....	67	48	58	.....	Clear	94	20....	42	11	26	T.	Partly cloudy.	61
4.....	69	40	54	.....	.....do	100	21....	43	21	32	.....	Clear	83
5.....	69	40	54	.....	.....do	91	22....	49	14	32	.....	.....do	100
6.....	65	50	58	T.	Partly cloudy.	43	23....	51	24	38	.....	.....do	100
7.....	68	35	52	0.15	Clear	82	24....	50	25	38	.....	.....do	100
8.....	39	22	30	.24	Cloudy	19	25....	45	35	40	.12	Cloudy	3
9.....	37	21	29	T.	Partly cloudy.	21	26....	38	21	30	.05	Partly cloudy.	71
10.....	45	18	32	.....	Clear	100	27....	37	16	26	.....	Clear	100
11.....	57	24	40	.....	.....do	100	28....	42	15	28	.....	Partly cloudy.	69
12.....	53	32	42	.03	Cloudy	28	29....	26	10	18	T.	.....do	57
13.....	35	24	30	.02	.....do	5	30....	34	4	19	.....	Clear	100
14.....	39	15	27	.....	Partly cloudy.	60	31....	45	8	26	.....	.....do	100
15.....	31	26	28	.34	Cloudy	1							
16.....	36	19	28	T.	Partly cloudy.	30	Mean.	45.3	23.0	34.2	.....	.....	.....
17.....	31	12	22	.27	Cloudy	2							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.16; highest, 30.61 on 10th; lowest, 29.46 on 7th.

Temperature.—Highest, 69° on 5th; lowest, 4° on 30th; greatest daily range, 37° on 31st; least daily range, 5° on 15th. Mean for this month in 1887, 41°; 1888, 43°; 1889, 45°; 1890, 38°; 1891, 41°; 1892, 42°; 1893, —°; 1894, 44°; 1895, 43°; 1896, 42°; 1897, 41°; 1898, 36°; 1899, 38°; 1900, 42°; 1901, 46°; 1902, 44°; 1903, 45°; [a]1904, 44°; 1905, 34°. Mean of this month for 18 years, 42°; absolute maximum for this month for 19 years, 82°; absolute minimum for this month for 18 years, —20°; average daily deficiency of this month as compared with mean of 18 years, 7.4°; accumulated deficiency since January 1, 360°; average daily deficiency since January 1, 1.2°.

Precipitation.—Total this month, 1.42 inches; snowfall, 13.7 inches; greatest precipitation in 24 hours, 0.45 inch on 17th and 18th; snow on the ground at end of month, trace. Total precipitation this month in 1889, 1.32; 1890, 1.68; 1891, 1.44; 1892, 0.79; 1893, 1.34; 1894, 0.89; 1895, 0.44; 1896, 0.06; 1897, 1.72; 1898, 2.25; 1899, 2.02; 1900, 1.22; 1901, 0.92; 1902, 0.20; 1903, 0.50; [a]1904, 0.67; 1905, 1.42; average of this month for 17 years, 1.11 inches; excess of this month as compared with average of 17 years, 0.31 inch; accumulated deficiency since January 1, 1.96 inches.

Wind.—Prevailing direction, SW.; total movement, 5,707 miles; average hourly velocity, 8 miles; maximum velocity (for five minutes), 39 miles per hour, from SW., on 7th.

Weather.—Number of clear days, 14; partly cloudy, 11; cloudy, 6; on which 0.01 inch or more of precipitation occurred, 9.

Miscellaneous phenomena (dates of).—Frost, killing, 1st.

NOVEMBER, 1905.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° *F.*	° *F.*	° *F.*	*In.*		*Per ct.*		° *F.*	° *F.*	° *F.*	*In.*		*Per ct.*
1.....	44	15	30	.....	Partly cloudy.	71	17	47	28	38	.....	Cloudy	20
2.....	49	28	38	.....	.....do	93	18	43	29	36	T.	Partly cloudy.	73
3.....	47	32	40	.....	.....do	68	19	42	28	35	.....	Cloudy	7
4.....	34	26	30	0.01	.....do	37	20	35	24	30	0.65	.....do	.....
5.....	40	16	28	.....	Clear	100	21	27	13	20	.....	Partly cloudy.	60
6.....	48	21	34	.....	.....do	85	22	36	10	23	.....	Clear	100
7.....	48	21	34	.....	.....do	88	23	32	21	26	.....	Cloudy	26
8.....	44	18	31	.....	Partly cloudy.	68	24	32	22	27	T.	.....do	.....
9.....	50	19	34	.....	Clear	100	25	33	27	30	.20	.....do	.....
10.....	52	21	36	.....	.....do	100	26	35	24	30	.12	.....do	22
11.....	51	20	36	.....	.....do	100	27	25	4	14	.15	.....do	11
12.....	54	20	37	.....	.....do	100	28	4	— 8	— 2	.08	.....do	9
13.....	57	19	38	.....	.....do	100	29	20	— 7	6	T.	.....do	22
14.....	54	26	40	.....	.....do	100	30	26	15	20	.....	Partly cloudy.	31
15.....	52	28	40	.....	.....do	100							
16.....	52	25	38	.....	.....do	100	Mean.	40.4	19.5	30.0	.....	.....	.....

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.13; highest, 30.58 on 12th; lowest, 29.44 on 27th.

[a] Records prior to 1904 by the post surgeon, United States Army.

Temperature.—Highest, 57° on 13th; lowest, −8° on 28th; greatest daily range, 38° on 13th; least daily range, 6° on 25th. Mean for this month in 1887, 34°; 1888, 27°; 1889, 27°; 1890, 31°; 1891, 27°; 1892, 30°; 1893, —; 1894, 36°; 1895, 20°; 1896, 19°; 1897, 30°; 1898, 25°; 1899, 36°; 1900, 29°; 1901, 35°; 1902, 29°; a1903, 32°; 1904, 36°; 1905, 30°. Mean of this month for 18 years, 30°; absolute maximum for this month for 19 years, 68°; absolute minimum for this month for 19 years, −27°; average daily excess of this month as compared with mean of 18 years, 0.10; accumulated deficiency since January 1, 357°. Average daily deficiency since January 1, 1.1°.

Precipitation.—Total this month, 1.21 inches; snowfall, 15.7 inches; greatest precipitation in 24 hours, 0.65 inch on 20th; snow on ground at end of month, 7.8 inches. Total precipitation this month in 1889, 2.19; 1890, 0.49; 1891, 2.00; 1892, 1.90; 1893, 2.51; 1894, 0.15; 1895, 1.30; 1896, 3.92; 1897, 2.98; 1898, 1.55; 1899, 0.03; 1900, 1.17; 1901, 1.25; 1902, 2.35; a1903, 1.40; 1904, 0.18; 1905, 1.21; average of this month for 17 years; 1.56 inches; deficiency of this month as compared with average of 17 years, 0.35 inches; accumulated deficiency since January 1, 2.31 inches.

Wind.—Prevailing direction, SW.; total movement, 5,235 miles; average hourly velocity, 7 miles; maximum velocity (for five minutes), 26 miles per hour, from SW. on 25th.

Weather.—Number of clear days, 12; partly cloudy, 8; cloudy, 10; on which 0.01 inch or more of precipitation occurred, 6.

DECEMBER, 1905.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	21	4	12	0.02	Partly cloudy.	52	18	24	25	30	.....	Partly cloudy.	59
2	24	.....	12	T.	Cloudy	10	19	32	22	27	0.01	.....do	42
3	35	22	28	T.	Partly cloudy.	33	20	24	8	16	.01	.....do	40
4	36	15	26	....	Clear	100	21	20	.....	10	.01	Clear	95
5	34	8	21	.....	.....do	89	22	14	— 8	3	.....	.....do	77
6	35	12	24	.....	.....do	89	23	13	1	7	.....	Cloudy	15
7	32	21	26	T.	Cloudy	1	24	20	6	13	.....	Partly cloudy.	33
8	31	7	19	.02	Clear.	82	25	24	16	20	T.	.....do	42
9	25	5	15	.....	.....do	90	26	33	13	23	.06	.....do	51
10	27	9	18	.....	Partly cloudy.	22	27	27	12	20	.01	.....do	31
11	34	13	24	.....	.....do	33	28	16	4	10	.....	Clear	80
12	31	8	20	.....	Clear	100	29	21	6	14	.....	Partly cloudy.	52
13	35	8	22	.....	Cloudy	10	30	16	7	12	.03	Cloudy	.....
14	32	8	20	.....	Clear	100	31	21	7	14	.02	.....do	22
15	35	16	26	.....	Cloudy	18							
16	38	16	27	.....	Clear	86	Mean.	27.5	10.2	18.8	.....	.....	.....
17	34	25	30	.....	Partly cloudy.	32							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.30; highest, 30.90 on 9th; lowest, 29.78 on 19th.

Temperature.—Highest, 38° on 16th; lowest, −8° on 22d; greatest daily range, 27° on 13th; least daily range, 8° on 25th; mean for this month in 1887, 21°; 1888, 22°; 1889, 25°; 1890, 28; 1891, 18°; 1892, 16°; 1893, 24°; 1894, 20°; 1895, 19°; 1896, 28°; 1897, 19°; 1898, 17°; 1899, 19°; 1900, 24°; 1901, 22°; 1902, 23°; a1903, 23°; 1904, 23°; 1905, 19°. Mean of this month for 19 years, 22°; absolute maximum for this month for 19 years, 47°; absolute minimum for this month for 19 years, −25°; average daily deficiency of this month as compared with mean of 19 years, 2.8°; accumulated deficiency since January 1, 444°; average daily deficiency since January 1, 1.2°.

Precipitation.—Total this month, 0.19 inch; snowfall, 3.3 inches; greatest precipitation in 24 hours, 0.06 inch on 26th; snow on the ground at end of month, 4.1 inches. Total precipitation this month in 1887, 2.41; 1889, 8.89; 1890, 0.89; 1891, 2.77; 1892, 2.17; 1893, 1.91; 1894, 1.34; 1895, 1.29; 1896, 0.46; 1897, 0.80; 1898, 0.67; 1899, 1.89; 1900, 1.17; 1901, 2.53; 1902, 0.85; a1903, 0.40; 1904, 1.19; 1905, 0.19; average of this month for 18 years, 1.77 inches; deficiency of this month as compared with average of 18 years, 1.58 inches; accumulated deficiency since January 1, 3.89 inches.

Wind.—Prevailing direction, S.; total movement, 5,283 miles; average hourly velocity, 7 miles; maximum velocity (for five minutes) 28 miles per hour, from SW. on 25th.

Weather.—Number of clear days, 11; partly cloudy, 13; cloudy, 7; on which 0.01 inch, or more, of precipitation occurred, 9.

Miscellaneous phenomena (dates of).—Halos: solar, 21st, 22d; lunar, 6th, 9th.

a Records prior to 1903 by the post surgeon, United States Army.

JANUARY, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	10	1	8	.....	Clear	85	18	38	18	28	0.06	Cloudy	.....
2	20	1	10	0.02	Partly cloudy.	76	19	38	15	26	.40	....do	.....
3	23	3	13	.05	Cloudy	.....	20	20	— 1	10	.....	Clear	81
4	31	17	24	.....	Partly cloudy.	70	21	13	— 5	4	T.	Partly cloudy.	40
5	29	19	24	T.	Cloudy	10	22	20	13	16	T.	Cloudy	.....
6	31	23	27	.02	....do	3	23	32	20	26	.04	....do	13
7	30	3	16	.03	Clear	80	24	35	27	31	.....	....do	20
8	31	— 1	15	.....	....do	83	25	41	21	31	.....	Clear	100
9	31	18	24	T.	Cloudy	3	26	40	18	29	.....	....do	100
10	28	11	20	T.	Partly cloudy.	49	27	38	13	26	.....	....do	100
11	32	25	28	.08	Cloudy	.....	28	40	14	27	.....	....do	100
12	33	28	30	.10	....do	.....	29	33	19	26	.....	Cloudy	.....
13	61	13	22	.14	Partly cloudy.	44	30	44	29	36	.....	Partly cloudy.	68
14	24	7	16	T.	Cloudy	7	31	44	21	32	.....	....do	50
15	25	4	14	.02	....do	17							
16	35	17	26	.52	....do	.....	Mean.	30.8	13.8	22.3	.....	.....	.....
17	29	17	23	T.	Partly cloudy.	40							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean. 30.17; highest, 30.76 on 8th; lowest, 29.12 on 19th.

Temperature.—Highest, 44° on 30th; lowest, —5° on 21st; greatest daily range, 32° on 8th; least daily range, 5° on 12th. Mean for this month in 1887, 19°; 1888, 11°; 1889, 15°; 1890, 10°; 1891, 20°; 1892, 16°; 1893, 17°; 1894, 17°; 1895, 19°; 1896, 26°; 1897, 16°; 1898, 15°; 1899, 20°; 1900, 22°; 1901, 21°; 1902, 17°; 1903, 23°; a1904, 19°; 1905, 20°; 1906, 22°. Mean of this month for 20 years, 18°; absolute maximum for this month for 20 years, 49°; absolute minimum for this month for 20 years, —41°; average daily excess of this month as compared with mean of 20 years, 4.1°; accumulated excess since January 1, 127°; average daily excess since January 1, 4.1°.

Precipitation.—Total this month, 1.48 inches; snowfall, 18.8 inches. Greatest precipitation in 24 hours, 0.52 inch on 16th. Snow on the ground at end of month, 10 inches. Total precipitation this month in 1887, 7.70; 1888, 3.93; 1889, 1.05; 1890, 6.70; 1891, 0.48; 1892, 1.40; 1893, 1.82; 1894, 1.82; 1895, 4.76; 1896, 2.21; 1897, 1.12; 1898, 0.31; 1899, 4.21; 1900, 0.90; 1901, 2.26; 1902, 0.96; 1903, 0.60; a1904, 0.93; 1905, 0.25; 1906, 1.48; average of this month for 20 years, 2.24 inches; deficiency of this month as compared with average of 20 years, 0.76 inch; accumulated deficiency since January 1, 0.76 inch.

Wind.—Prevailing direction, S.; total movement, 6,839 miles; average hourly velocity, 9 miles; maximum velocity (for five minutes), 38 miles per hour, from NW. on 16th.

Weather.—Number of clear days, 8; partly cloudy, 8; cloudy, 15; on which 0.01 inch or more of precipitation occurred, 12.

FEBRUARY, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	41	16	28	.....	Partly cloudy.	78	16	35	12	24	0.01	Partly cloudy.	61
2	46	15	30	.....	Clear	100	17	33	26	30	.01	Cloudy	13
3	37	4	20	T.	Partly cloudy.	59	18	39	28	34	T.	....do	19
4	26	— 6	10	.....	Clear	100	19	34	22	28	.14	Partly cloudy.	78
5	27	— 2	12	.....	....do	100	20	34	22	28	.05	Cloudy	10
6	32	1	16	.....	....do	100	21	35	21	28	.20	....do	4
7	35	3	19	.....	....do	100	22	31	18	24	.02	Partly cloudy.	50
8	31	5	18	.....	....do	86	23	30	16	23	T.	....do	78
9	34	2	18	.....	Partly cloudy.	80	24	31	16	24	.03	....do	46
10	33	13	23	T.	....do	41	25	33	16	24	.09	....do	38
11	33	21	27	.....	....do	42	26	31	16	24	T.	Cloudy	4
12	37	12	24	T.	....do	54	27	40	30	35	.12	....do	6
13	21	8	14	0.01	....do	44	28	34	19	26	.80	....do	1
14	35	18	26	T.	Cloudy	29							
15	36	16	26	.36	....do	.....	Mean.	33.7	13.9	23.8	.....	.....	.....

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.14; highest, 30.64 on 2d; lowest, 29.41 on 28th.

a Records prior to 1904 by the post surgeon, United States Army.

Temperature.—Highest, 46° on 2d; lowest −6° on 4th; greatest daily range, 33° on 3d; least daily range, 7° on 17th. Mean for this month in 1887, 14°; 1888, 27°; 1889, 20°; 1890, 18°; 1891, 14°; 1892, 24°; 1893, 16°; 1894, 12°; 1895, 19°; 1896, 25°; 1897, 20°; 1898, 25°; 1899, 11°; 1900, —; 1901, 18°; 1902, 27°; 1903, 13°; [a]1904, 24°; 1905, 17°; 1906, 24°. Mean of this month for 19 years, 19°; absolute maximum for this month for 19 years, 50°; absolute minimum for this month for 19 years, −36°; average daily excess of this month as compared with mean of 19 years, 4.4°; accumulated excess since January 1, 250°; average daily excess since January 1, 4.2°.

Precipitation.—Total this month, 1.84 inches; snowfall, 21.4 inches; greatest precipitation in 24 hours, 0.80 inch on 28th; snow on the ground at end of month, 23.7 inches; total precipitation this month in 1887, 4.65; 1888, 2.02; 1889, 1.93; 1890, 6.65; 1891, 2.79; 1892, 2.10; 1893, 0.79; 1894, 1.12; 1895, 0.34; 1896, 2.07; 1897, 0.80; 1898, 1.21; 1899, 3.40; 1900, 1.65; 1901, 0.72; 1902, 0.61; 1903, 0.25; [a]1904, 1.50; 1905, 0.60; 1906, 1.84; average of this month for 20 years, 1.85 inches; deficiency of this month as compared with average of 20 years, 0.01 inch; accumulated deficiency since January 1, 0.77 inch.

Wind.—Prevailing direction, S.; total movement, 5,195 miles; average hourly velocity, 8 miles; maximum velocity (for five minutes), 33 miles per hour, from NW., on 3d.

Weather.—Number of days clear, 6; partly cloudy, 13; cloudy, 9; on which 0.01 inch, or more, of precipitation occurred, 12.

MARCH, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	21	4	12	0.04	Partly cloudy.	63	18	11	− 8	2	0.01	Cloudy	50
2	28	− 8	10	.....	Clear	100	19	27	− 8	10	.....	Partly cloudy.	70
3	28	1	14	.....	Partly cloudy.	60	20	32	5	18	.....	....do	70
4	38	22	30	.06	....do	44	21	36	19	28	.....	Cloudy	44
5	39	17	28	.....	Clear	100	22	41	29	35	T.	....do	26
6	43	19	31	.....	....do	83	23	45	26	36	.01	....do	35
7	49	17	33	.....	Partly cloudy.	78	24	44	32	38	.05	....do	26
8	43	21	32	.....	....do	74	25	50	28	39	.....	....do	41
9	30	14	22	.12	Cloudy	14	26	48	25	36	.....	Partly cloudy.	68
10	14	2	8	.13	....do	28	27	46	22	34	.02	....do	62
11	2	−11	− 4	.11	....do	32	28	42	25	34	.02	Cloudy	29
12	− 2	−11	− 6	.53	....do	22	29	50	25	38	.....	Clear	78
13	1	−15	− 7	.01	Partly cloudy.	74	30	59	21	40	.....	....do	80
14	− 4	−14	− 9	.23	Cloudy	23	31	54	31	42	.01	Partly cloudy.	73
15	4	−19	− 8	.....	Clear	87							
16	12	−24	− 6	.....	....do	100	Mean.	30.5	8.7	19.6	.....		.....
17	14	−18	− 2	.....	....do	100							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.14; highest, 30.66 on 7th; lowest, 29.53 on 31st.

Temperature.—Highest, 59° on 30th; lowest, −24° on 16th; greatest daily range, 38° on 30th; least daily range, 9° on 12th. Mean for this month in 1887, 36°; 1888, 23°; 1889, 36°; 1890, 26°; 1891, 22°; 1892, 28°; 1893, 24°; 1894, 27°; 1896, 25°; 1897, 20°; 1898, 21°; 1899, 23°; 1900, 34°; 1901, 27°; 1902, 25°; 1903, 29°; [a]1904, 25°; 1905, 32°; 1906, 20°. Mean of this month for 19 years, 26°; absolute maximum for this month for 20 years, 60°; absolute minimum for this month for 20 years, −24°; average daily excess of this month as compared with mean of 19 years, 6.9°; accumulated excess since January 1, 36°; average daily excess since January 1, 0.4°.

Precipitation.—Total this month, 1.35 inches; snowfall, 18.2 inches; greatest precipitation in 24 hours, 0.53 inch on 12th; snow on the ground at end of month, 9.9 inches. Total precipitation this month in 1888, 3.12; 1889, 0.53; 1890, 4.92; 1891, 2.41; 1892, 3.05; 1893, 0.96; 1894, 2.30; 1895, 2.79; 1896, 2.62; 1897, 1.06; 1898, 1.40; 1899, 3.00; 1900, 3.13; 1901, 1.46; 1902, 2.46; 1903, 0.85; [a]1904, 2.98; 1905, 1.41; 1906, 1.35; average of this month for 19 years, 2 20 inches; deficiency of this month as compared with average of 19 years, 0.85 inch; accumulated deficiency since January 1, 1.62 inches.

Wind.—Prevailing direction, SW.; total movement, 4,559 miles; average hourly velocity, 6 miles; maximum velocity (for five minutes), 36 miles per hour, from NW., on 12th.

Weather.—Number of days clear, 8; partly cloudy, 11; cloudy, 12; on which 0.01 inch or more of precipitation occurred, 14.

Miscellaneous phenomena (dates of).—Halos: solar, 8th, 18th, 20th; lunar, 7th.

[a] Records prior to 1904 by the post surgeon, United States Army.

APRIL, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	43	24	34	0.12	Cloudy	20	17	51	33.	42	0.16	Cloudy	16
2	27	14	20	.....	....do	20	18	50	29	40	.....	Clear	93
3	28	4	16	.....	Clear	100	19	58	26	42	.....	Partly cloudy.	85
4	48	6	27	T.	Partly cloudy.	78	20	66	33	50	.....	Clear	100
5	53	23	38	.....	Clear	100	21	68	34	51	.....	....do	100
6	58	26	42	.....	....do	100	22	67	36	52	T.	Partly cloudy.	78
7	58	25	42	.....	Partly cloudy.	82	23	61	39	50	.04	Cloudy	37
8	48	27	38	.....	....do	84	24	52	33	42	.06	Partly cloudy.	50
9	44	31	38	.17	Cloudy	20	25	47	32	40	.05	Cloudy	31
10	50	29	40	.....	Partly cloudy.	64	26	48	28	38	.....	Partly cloudy.	54
11	34	24	29	.63	Cloudy	39	27	51	25	38	T.	....do	65
12	36	21	28	T.	Partly cloudy.	66	28	56	26	41	.....	Clear	86
13	45	12	28	.....	....do	70	29	44	32	38	T.	Partly cloudy.	42
14	53	26	40	.....	Clear	86	30	48	23	36	.01	Clear	81
15	59	27	43	.....	....do	100							
16	60	30	45	.....	Partly cloudy.	74	Mean.	50.4	25.9	38.2	.....	.....	.....

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.04; highest, 30.50 on 3d; lowest, 29.45 on 23d.

Temperature.—Highest, 68° on 21st; lowest, 4° on 3d; greatest daily range, 42° on 4th; least daily range, 10° on 11th. Mean for this month in 1887, 39°; 1888, 43°; 1889, 43°; 1890, 39°; 1891, 41°; 1892, 32°; 1893, 31°; 1894, 38°; 1896, 34°; 1897, 38°; 1898, 40°; 1899, 36°; 1900, 42°; 1901, 36°; 1902, 37°; 1903, 37°; [a]1904, 39°; 1905, 37°; 1906, 38°. Mean of this month for 19 years, 38°; absolute maximum for this month for 19 years, 77°; absolute minimum for this month for 19 years, zero; average daily excess of this month, as compared with mean of 19 years, 0.3°; accumulated excess since January 1, 45°; average daily excess since January 1, 0.4°.

Precipitation.—Total this month, 1.24 inches; snowfall, 10.5 inches; greatest precipitation in 24 hours, 0.63 inch on 11th; snow on the ground at end of month, trace. Total precipitation this month in 1887, 1.40; 1889, 0.92; 1890, 1.39; 1891, 0.18; 1892, 0.92; 1893, 0.97; 1894, 1.87; 1895, 0.61; 1896, 1.29; 1897, 1.21; 1898, 0.95; 1899, 2.30; 1900, 1.93; 1901, 1.08; 1902, 2.14; 1903, 0.80; [a]1904, 0.96; 1905, 1.52; 1906, 1.24; average of this month for 19 years, 1.25 inches; deficiency of this month, as compared with average of 19 years, 0.01 inch; accumulated deficiency since January 1, 1.63 inches.

Wind.—Prevailing direction, NW.; total movement, 6,176 miles; average hourly velocity, 9 miles; maximum velocity (for 5 minutes), 36 miles per hour, from NW., on 1st.

Weather.—Number of days clear, 10; partly cloudy, 13; cloudy, 7; on which 0.01 inch or more of precipitation occurred, 8.

Miscellaneous phenomena (*dates of*).—Halos: solar, 10th, 22d.

MAY, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	59	21	40	.....	Clear	88	18	64	37	50	.....	Partly cloudy.	72
2	60	36	48	.....	Partly cloudy.	39	19	70	40	55	T.	....do	61
3	63	41	52	.....	....do	41	20	68	38	53	0.11	....do	44
4	44	26	35	0.14	Cloudy	33	21	58	32	45	.10	Clear	85
5	42	18	30	.....	Clear	99	22	56	33	44	.06	Partly cloudy.	42
6	56	22	39	.....	Partly cloudy.	61	23	60	36	48	.09	....do	50
7	59	29	44	.....	....do	56	24	50	39	44	.02	....do	45
8	66	27	46	.....	Clear	100	25	54	37	46	.11	Cloudy	35
9	72	36	54	.....	....do	100	26	52	36	44	.08	....do	27
10	72	37	54	.....	....do	90	27	50	31	40	.01	....do	36
11	70	41	56	.....	Partly cloudy.	80	28	43	35	39	.72	....do	5
12	69	42	56	.03	....do	44	29	47	33	40	.05	Partly cloudy.	61
13	50	39	44	.05	Cloudy	9	30	45	33	39	.24	Cloudy	18
14	58	38	48	.11	Partly cloudy.	63	31	51	33	42	.01	Partly cloudy.	36
15	45	32	38	.07	....do	45							
16	40	26	33	.01	....do	58	Mean.	56.3	33.2	44.8	.....	.....	.....
17	51	26	38	T.	....do	58							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 29.85; highest, 30.32 on 8th; lowest, 29.53 on 15th.

[a] Records prior to 1904 by the post surgeon, United States Army.

Temperature.—Highest, 72° on 10th; lowest, 18°, on 5th; greatest daily range, 39° on 8th; least daily range, 8° on 28th. Mean for this month in 1887, 49°; 1888, 46°; 1889, 47°; 1890, 50°; 1891, 50°; 1892, 42°; 1893, 43°; 1894, 50°; 1895, 46°; 1896, 41°; 1897, 54°; 1898, 45°; 1899, 42°; 1900, 50°; 1901, 52°; 1902, 48°; 1903, 45°; a1904, 45°; 1905, 42°; 1906, 45°. Mean of this month for 20 years, 47°; absolute maximum for this month for 20 years, 89°; absolute minimum for this month for 20 years, 15°; average daily deficiency of this month, as compared with mean of 20 years, 1.8°; accumulated deficiency since January 1, 11°; average daily deficiency since January 1, 0.1°.

Precipitation.—Total this month, 2.01 inches; snowfall, 1.6 inches; greatest precipitation in 24 hours, 0.72 inch on 28th. Total precipitation this month in 1889, 1.40; 1890, 2.00; 1891, 2.12; 1892, 2.06; 1893, 1.01; 1894, 2.26; 1895, 1.68; 1896, 3.85; 1897, 1.55; 1898, 1.95; 1899, 2.52; 1900, 2.42; 1901, 2.72; 1902, 1.59; 1903, 0.65; a1904, 1.31; 1905, 2.46; 1906, 2.01; average of this month for 18 years, 1.98 inches; excess of this month as compared with average of 18 years, 0.03 inch; accumulated deficiency since January 1, 1.60 inches.

Wind.—Prevailing direction, SW.; total movement, 6,163 miles; average hourly velocity, 8 miles; maximum velocity (for five minutes), 36 miles per hour, from SW., on 20th.

Weather.—Number of days clear, 6; partly cloudy, 18; cloudy, 7; on which 0.01 inch or more of precipitation occurred, 18.

Miscellaneous phenomena (dates of).—Halos, solar, 6th; hail, 30th; fog, 4th, 26th, 28th; thunderstorms, 12th, 20th, 22d, 23d, 28th; frost, light, 7th, 21st, 27th, 29th, 30th; heavy, 8th; killing, 1st, 5th, 6th.

JUNE, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Perct.		° F.	° F.	° F.	In.		Perct.
1.....	59	33	46	.....	Partly cloudy.	58	17	54	34	44	0.01	Partly cloudy.	45
2.....	65	33	49	.....	Clear	95	18	58	35	46	T.	.....do	52
3.....	67	35	51	.05	Partly cloudy.	79	19	52	34	43	T.	.....do	65
4.....	60	45	52	T.	.....do	49	20	64	27	46	.....	Clear	100
5.....	57	38	48	.50	.....do	35	21	70	40	55	T.	Partly cloudy.	64
6.....	48	34	41	.01	.....do	31	22	50	34	42	.05	Cloudy	33
7.....	47	31	39	T.	.....do	50	23	52	33	42	.02	Partly cloudy.	62
8.....	58	30	44	.....	Clear	90	24	57	32	44	.08	.....do	37
9.....	71	37	54	.....	Partly cloudy.	72	25	66	39	52	.02	.....do	81
10.....	72	47	60	.....	.....do	69	26	74	36	55	T.	.....do	67
11.....	77	45	61	.....	.....do	76	27	68	41	54	.03	.....do	54
12.....	80	50	65	.....	Clear	100	28	50	40	45	.05	Cloudy	14
13.....	66	44	55	T.	Partly cloudy.	78	29	56	38	47	T.	Partly cloudy.	40
14.....	66	38	52	.....	Clear	99	30	70	43	56	.....	.....do	76
15.....	73	39	56	T.	Partly cloudy.	79							
16.....	56	39	48	.09	Cloudy	34	Mean.	62.1	37.5	49.8	.....	.....	.....

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 29.90; highest, 30.25 on 20th; lowest, 29.44 on 5th.

Temperature.—Highest, 80° on 12th; lowest, 27° on 20th; greatest daily range, 38° on 26th; least daily range, 10°; on 28th. Mean for this month in 1887, 57°; 1888, 55°; 1889, 57°; 1890, 54°; 1891, 51°; 1892, 52°; 1893, 55°; 1894, 58°; 1895, 51°; 1896, 56°; 1897, 54°; 1898, 55°; 1899, 53°; 1900, 52°; 1901, 50°; 1902, 54°; 1903, 57°; a1904, 52°; 1905, 50°; 1906, 50°. Mean of this month for 20 years, 54°; absolute maximum for this month for 20 years, 92°; absolute minimum for this month for 20 years, 20°; average daily deficiency of this month, as compared with mean of 20 years, 3.8°; accumulated deficiency since January 1, 125°; average daily deficiency since January 1, 0.7°.

Precipitation.—Total this month, 0.91 inch; snowfall, 0.3 inch; greatest precipitation in 24 hours, 0.51 inch on 5th and 6th. Total precipitation this month in 1889, 0.66; 1890, 0.94; 1891, 3.05; 1892, 1.46; 1893, 0.38; 1894, 3.10; 1895, 2.71; 1896, 0.73; 1897, 2.34; 1898, 2.67; 1899, 1.90; 1900, 1.17; 1901, 1.43; 1902, 1.87; 1903, 0.90; a1904, 1.03; 1905, 3.05; 1906, 0.91; average of this month for 18 years, 1.68 inches; deficiency of this month, as compared with average of 18 years, 0.77 inch; accumulated deficiency since January 1, 2.37 inches.

Wind.—Prevailing direction, SW.; total movement, 6,148 miles; average hourly velocity, 8 miles; maximum velocity (for five minutes), 44 miles per hour, from SW., on 27th.

Weather.—Number of days, clear, 5; partly cloudy, 22; cloudy, 3; on which 0.01 inch, or more, of precipitation occurred, 11.

Miscellaneous phenomena (dates of).—Halos: solar, 9th; thunderstorms, 15th, 25th; frost, light, 1st, 2d, 3d, 7th, 8th, 23d, 24th; heavy, 20th.

a Records prior to 1904 by the post surgeon, United States Army.

JULY, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	69	43	56	.....	Partly cloudy.	77	18	74	43	58	.....	Clear	99
2	70	39	54	.....	Clear	100	19	77	45	61	.....	do	100
3	76	38	57	.....	do	100	20	81	44	62	.....	do	100
4	78	39	58	.....	do	100	21	85	48	66	T.	Partly cloudy.	58
5	80	45	62	.....	do	87	22	84	49	66	T.	do	79
6	77	44	60	.....	do	83	23	84	51	68	.....	Clear	83
7	79	43	61	0.01	Partly cloudy.	77	24	83	55	69	0.04	do	84
8	82	47	64	.....	do	79	25	82	44	63	.....	do	100
9	76	45	60	.....	do	69	26	82	49	66	.07	do	89
10	76	46	61	.01	do	62	27	75	43	59	.....	do	100
11	75	47	61	.....	Clear	90	28	80	40	60	.....	do	96
12	78	45	62	.04	Partly cloudy.	58	29	82	50	66	.....	do	81
13	70	45	58	.06	Cloudy	25	30	78	46	62	.03	Partly cloudy.	76
14	63	43	53	T.	Partly cloudy.	61	31	71	43	57	.10	do	49
15	75	37	56	.....	Clear	80							
16	78	39	58	T.	Partly cloudy.	75	Mean.	77.3	44.6	61.0	.....		.....
17	75	48	62	.28	do	49							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.03; highest, 30.32 on 2d; lowest, 29.70 on 14th.

Temperature.—Highest, 85° on 21st; lowest, 37° on 15th; greatest daily range, 40° on 28th; least daily range, 20° on 14th. Mean for this month in 1887, 64°; 1888, 64°; 1889, 63°; 1890, 66°; 1891, 60°; 1892, 62°; 1893, —; 1894, 66°; 1895, 60°; 1896, 62°; 1897, 60°; 1898, 62°; 1899, 61°; 1900, 61°; 1901; 67°; 1902, 58°; 1903, 60°; [a] 1904, 58°; 1905, 60°; 1906, 61°. Mean of this month for 19 years, 62°; absolute maximum for this month for 19 years, 96°; absolute minimum for this month for 19 years, 30°; average daily deficiency of this month as compared with mean of 19 years, 0.8°; accumulated deficiency since January 1, 150°; average daily deficiency since January 1, 0.7°.

Precipitation.—Total this month, 0.64 inch; greatest precipitation in 24 hours, 0.28 inch on 17th. Total precipitation this month in 1889, 0.56; 1890, 0.99; 1891, 3.15; 1892, 0.98; 1893, 0.99; 1894, 0.99; 1895, 0.57; 1896, 2.09; 1897, 1.11; 1898, 1.15; 1899, 1.42; 1900, 0.80; 1901, 0.92; 1902, 2.29; 1903, 0.55; [a] 1904, 1.11; 1905, 1.38; 1906, 0.64; average of this month for 18 years, 1.20 inches. Deficiency of this month as compared with average of 18 years, 0.56 inch; accumulated deficiency since January 1, 2.93 inches.

Wind.—Prevailing direction, NW.; total movement, 4,761 miles; average hourly velocity, 6 miles; maximum velocity (for five minutes), 32 miles per hour, from NW., on 31st.

Weather.—Number of days clear, 17; partly cloudy, 13; cloudy, 1; on which 0.01 inch, or more, of precipitation occurred, 9.

Miscellaneous phenomena (dates of).—Hail, 31st; thunderstorms, 7th, 8th, 9th, 10th, 13th, 14th, 16th, 17th, 21st, 22d, 24th, 26th, 29th, 30th, 31st.

AUGUST, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Per ct.		° F.	° F.	° F.	In.		Per ct.
1	74	45	60	0.02	Clear	99	18	75	53	64	0.09	Cloudy	32
2	79	43	61	.02	do	80	19	72	51	62	.11	Partly cloudy.	50
3	65	44	54	.02	Cloudy	32	20	75	52	64	.16	do	68
4	73	46	60	.....	Partly cloudy.	55	21	69	48	58	.27	Cloudy	25
5	72	45	58	.09	do	44	22	59	43	51	.06	do	14
6	63	45	54	.06	do	37	23	67	40	54	.34	Partly cloudy.	34
7	76	41	58	.....	Clear	88	24	58	35	46	.03	do	59
8	80	44	62	.....	do	90	25	52	35	44	.05	Cloudy	21
9	81	47	64	T.	Partly cloudy.	79	26	71	32	52	.....	Clear	89
10	85	45	65	.....	Clear	78	27	74	38	56	.....	do	81
11	85	50	68	.....	Partly cloudy.	64	28	74	47	60	.....	Partly cloudy.	70
12	80	50	65	.01	do	85	29	73	41	57	.....	Clear	100
13	75	52	64	T.	Clear	82	30	80	38	59	.....	do	100
14	76	44	60	.....	do	100	31	74	46	60	.14	Partly cloudy.	51
15	82	46	64	.....	do	100							
16	87	48	68	.....	do	100	Mean.	73.8	44.8	59.3	.....		.....
17	83	54	68	.....	Partly cloudy.	66							

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 29.94; highest, 30.41 on 26th; lowest, 29.67 on 16th.

[a] Records prior to 1904 by the post surgeon, United States Army.

Temperature.—Highest, 87° on 16th; lowest, 32° on 26th; greatest daily range, 42° on 30th; least daily range, 16° on 22d. Mean for this month in 1887, 61°; 1888, 61°; 1889, 64°; 1890, 61°; 1891, 62°; 1892, 61°; 1893, —; 1894, 68°; 1895, 62°; 1896, 60°; 1897, 62°; 1898, 63°; 1899, 57°; 1900, 61°; 1901, 63°; 1902, 59°; 1903, 61°; a1904, 60°; 1905, 62°; 1906, 59°. Mean of this month for 19 years, 61°; absolute maximum for this month for 20 years, 93°; absolute minimum for this month for 19 years, 30°; average daily deficiency of this month as compared with mean of 19 years, 2.1°; accumulated deficiency since January 1, 215°; average daily deficiency since January 1, 0.9°.

Precipitation.—Total this month, 1.47 inches; greatest precipitation in 24 hours, 0.35 inch on 20th and 21st. Total precipitation this month in 1889, 0.64; 1890, 1.77; 1891, 1.22; 1892, 0.64; 1893, 1.06; 1894, 1.75; 1895, 0.72; 1896, 0.37; 1897, 0.57; 1898, 2.05; 1899, 2.23; 1900, 0.29; 1901, 1.65; 1902, 0.61; 1903, 0.45; a1904, 1.11; 1905, 0.32; 1906, 1.47; average of this month for 18 years, 1.05 inches; excess of this month as compared with average of 18 years, 0.42 inch.

Wind.—Prevailing direction, SW.; total movement, 4,768 miles; average hourly velocity, 6 miles; maximum velocity (for five minutes), 33 miles per hour, from NW., on 18th.

Weather.—Number of days clear, 13; partly cloudy, 13; cloudy, 5; on which 0.01 inch, or more, of precipitation occurred, 15.

Miscellaneous phenomena (dates of).—Hail, 23d; thunderstorms, 2d, 3d, 5th, 9th, 11th, 17th, 18th, 19th, 20th, 23d, 24th, 31st; frost, light, 26th, 30th.

SEPTEMBER, 1906.

Date.	Temperature.			Precipitation.	Character of day.	Sunshine.	Date.	Temperature.			Precipitation.	Character of day.	Sunshine.
	Maximum.	Minimum.	Mean.					Maximum.	Minimum.	Mean.			
	° F.	° F.	° F.	In.		Perct.		° F.	° F.	° F.	In.		Perct.
1	70	45	58	.....	Partly cloudy.	67	17	63	28	46	.....	Clear	97
2	72	35	54	.....	Clear	99	18	71	35	53	.....	do	100
3	73	44	58	.....	do	100	19	74	34	54	.....	do	100
4	76	46	61	0.05	Partly cloudy.	73	20	75	36	56	.....	Partly cloudy.	70
5	77	44	60	.....	Clear	97	21	75	40	58	.....	do	77
6	77	46	62	.....	do	97	22	74	38	56	.....	Clear	83
7	74	50	62	.....	Partly cloudy.	61	23	75	39	57	.....	Partly cloudy.	70
8	75	46	60	.....	Clear	99	24	61	45	53	.....	Clear	77
9	72	46	59	.....	Partly cloudy.	67	25	64	36	50	.....	do	100
10	56	37	46	.05	Cloudy	31	26	72	27	50	.....	do	100
11	58	31	44	.07	Partly cloudy.	52	27	68	41	54	.....	do	100
12	54	32	43	.....	Cloudy	8	28	69	34	52	.....	do	100
13	54	41	48	.18	do	25	29	75	37	56	.....	do	100
14	44	34	39	.26	do	.....	30	74	42	58	.....	Partly cloudy.	61
15	50	33	42	.01	do	23							
16	57	28	42	.....	Clear	100	Mean.	67.6	38.3	53.0	.....	.....	.....

Atmospheric pressure.—[Reduced to sea level; inches and hundredths.] Mean, 30.01; highest, 30.36 on 18th; lowest, 29.56 on 14th.

Temperature.—Highest, 77° on 6th; lowest, 27° on 26th; greatest daily range, 45° on 26th; least daily range 10° on 14th; mean for this month in 1887, 56°; 1888, 59°; 1889, 50°; 1890, 53°; 1891, 52°; 1892, 55°; 1893, —; 1894, 54°; 1895, 50°; 1896, 49°; 1897, 55°; 1898, 52°; 1899, 55°; 1900, 50°; 1901, 48°; 1902, 51°; 1903, 49°; a1904, 52°; 1905, 54°; 1906, 53°; mean of this month for 19 years, 52°; absolute maximum for this month for 20 years, 88°; absolute minimum for this month for 19 years, zero; average daily excess of this month as compared with mean of 19 years, 0.5°; accumulated deficiency since January 1, 200°; average daily deficiency since January 1, 0.7°.

Precipitation.—Total this month 0.62 inch; snowfall, 0.4 inch; greatest precipitation in 24 hours, 0.32 inch on 13th and 14th. Total precipitation this month in 1889, 0.59; 1890, 0.19; 1891, 1.74; 1892, 1.60; 1893, 1.44; 1894, 0.71; 1895, 0.43; 1896, 1.10; 1897, 0.31; 1898, 0.90; 1899, 0.90; 1900, 0.87; 1901, 2.85; 1902, 0.90; 1903, 0.60; a1904, 0.73; 1905, 1.17; 1906, 0.62; average of this month for 18 years, 0.98 inch; deficiency of this month as compared with average of 18 years, 0.36 inch; accumulated deficiency since January 1, 2.87 inches.

Wind.—Prevailing direction, S.; total movement, 5,249 miles; average hourly velocity, 7 miles; maximum velocity (for five minutes), 32 miles per hour, from SW., on 7th.

Weather.—Number of days clear, 16; partly cloudy, 9; cloudy, 5; on which 0.01 inch, or more, of precipitation occurred, 6.

Miscellaneous phenomena (dates of).—Thunderstorm, 4th; frost, light, 2d and 12th; heavy, 11th; killing, 16th,

Very respectfully,

JNO. PITCHER,
Major, Sixth Cavalry, Acting Superintendent.

The SECRETARY OF THE INTERIOR.

a Records prior to 1904 by the post surgeon, United States Army.

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