

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for August, 1895, is based on reports from 2,737 stations occupied by regular and voluntary observers, classified as follows: 149 from Weather Bureau stations; 35 from U. S. Army post surgeons; 2,393 from State Weather Service and voluntary observers; 34 from Canadian stations; 96 received through the Southern Pacific Railway Company; and 30 from U. S. Life-Saving stations; international simultaneous observations are received from a few stations and used together with trustworthy newspaper extracts and special reports.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, chief of that division.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

Low pressures and high temperatures prevailed from the central Rocky Mountain Plateau to the Atlantic Coast. An excess of precipitation fell in the eastern Gulf and South Atlantic States, and over parts of Missouri, Iowa, Kansas, and Nebraska; elsewhere a deficiency was reported. The accumulated precipitation since the beginning of the year shows a deficiency of 25 to 30 per cent in the Ohio Valley and Tennessee, upper and lower Lake regions, upper Mississippi Valley, and the northern Plateau Region. The accumulated temperatures show a great deficiency in the middle and south Atlantic, east Gulf and west Gulf States and Florida, the Ohio Valley and Tennessee, and southern Rocky Mountain Slope, and smaller deficiencies in most other regions. The principal storm was the hurricane that moved toward the west-northwest in a nearly straight line from near Dominica on the 20th, to the southern coast of Texas on the 29th, where it broke up on the 30th. The stage of water was unusually low in the Ohio River and its tributaries.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure, reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The mean pressures during the current month were highest on the coasts of Washington and of the South Atlantic States. The highest was 30.10, at Fort Canby. The lowest mean pressures were in the Rocky Mountain Plateau Region. The lowest was 29.76, at Yuma.

As compared with the normal for August the mean pressure was decidedly in excess in Washington and South Carolina; the greatest excesses were: Fort Canby, Denver, and Edmonston, 0.06. Pressure was generally deficient over the rest of

the country; the greatest deficits were Marquette, 0.11, and Quebec, 0.10.

As compared with the preceding month of July the pressures reduced to sea level show a very general fall. The only rises were: Prince Albert, 0.06; El Paso and Santa Fe, 0.01; Independence, 0.03. The maximum falls were: Port Arthur, 0.10; Marquette, Green Bay, and Duluth, 0.08.

AREAS OF HIGH AND LOW PRESSURE.

[By Prof. FRANK H. BIGELOW.]

An inspection of the charts of high and low area tracks for the month of August shows that the usual feeble convective circulation of the atmosphere prevailed. This is due to the fact that in summer high temperatures extend generally over the entire Northern Hemisphere instead of being so distributed as to show the great differences that are found in winter between the arctic and the tropical zones. The great thermic fall of the winter season produces impulsive discharges from the arctic to the mid-latitude zones, whenever it exists, but in summer there is only a slight temperature gradient, and in consequence only a feeble general circulation from north to south. The observed distribution of the highs and lows may be attributed almost exclusively to the influence of the ocean areas and the northern Rocky Mountain Plateau upon the adjacent masses of air. Thus, on the north Pacific Coast an accumulation of high areas was found, and likewise on the south Atlantic Coast, another concentration of similar conditions was maintained. A number of straggling highs moved from the Plateau to the central valleys, and a few high pressure areas generating in the central valleys moved to the Atlantic coast line, but only one or two instances occurred of a high passing from the Pacific to the Atlantic Coast. This is most readily understood by supposing that the cooler water areas, and the elevated mountain masses, are favorable in summer to holding denser masses of air above them, since the eastward drift is so feeble as to be unable to counteract such a tendency.

Except for one hurricane and one Gulf storm of slight intensity, the tracks of low areas were confined to the northern

circuit over the Lakes and the St. Lawrence Valley, and present few features of special interest. The usual large number of thunderstorms occurred over the districts of observation, and the temperatures were about normal.

MOVEMENT OF CENTERS.

The following table shows the date and location of the center for the beginning and ending of each area of high or low pressure that has appeared on the U. S. weather maps during the month, together with the average daily and hourly velocities. The monthly averages are computed in two ways: first, by considering each path as a unit, and second, by giving equal weight to each day of observation.

Movement of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long. W.	Length.	Duration.	Daily.	Hourly.
High areas.										
I.....	1, a. m.	38	90	4, p. m.	47	53	Miles.	Days.	Miles.	Miles.
II.....	1, a. m.	41	123	1, p. m.	45	124	2,010	3.5	574	24
III.....	2, p. m.	41	124	6, p. m.	35	103	1,470	0.5	340	14
IV.....	5, a. m.	32	81	7, p. m.	45	59	1,540	4.0	490	19
V.....	7, p. m.	46	124	11, p. m.	33	103	1,540	2.5	616	25
VI.....	7, p. m.	31	81	11, p. m.	33	80	1,190	3.5	340	14
VII.....	12, p. m.	46	123	15, a. m.	33	54	1,510	3.0	503	21
VIII.....	12, p. m.	47	124	18, p. m.	33	59	1,190	1.0	160	7
IX.....	13, a. m.	42	86	17, a. m.	31	73	1,620	4.0	405	17
X.....	15, p. m.	49	124	16, a. m.	30	123	2,490	0.5	290	11
XI.....	20, a. m.	51	51	24, p. m.	30	32	3,480	4.5	551	23
XII.....	23, a. m.	43	123	26, p. m.	37	73	3,070	4.5	632	25
XIII.....	25, a. m.	47	135	29, a. m.	35	93	1,730	4.0	430	18
XIV.....	29, p. m.	49	111	31, p. m.	32	93	1,150	2.0	575	24
Sums.....							20,490	42.0	6,323
Mean of 14 paths.....									452	18.8
Mean of 42.0 days.....									488	20.3
Low areas.										
I.....	1, a. m.	48	71	2, a. m.	49	63	150	1.0	150	6
II.....	1, a. m.	45	104	4, a. m.	45	77	1,620	3.0	540	23
III.....	3, a. m.	49	114	11, a. m.	44	61	3,240	8.0	411	17
IVa.....	6, p. m.	54	112	16, a. m.	47	84	3,030	10.0	302	13
IVb.....	7, p. m.	43	101	9, p. m.	38	100	750	2.0	375	16
V.....	11, p. m.	51	114	14, p. m.	48	78	2,130	3.0	710	30
VI.....	14, p. m.	52	113	22, a. m.	47	56	3,930	7.5	523	22
VII.....	14, a. m.	39	91	17, a. m.	34	88	490	3.0	148	6
VIII.....	16, p. m.	50	110	17, p. m.	44	103	540	1.0	540	23
IX.....	19, a. m.	51	124	25, p. m.	45	60	3,110	6.5	479	20
X.....	22, p. m.	42	97	23, a. m.	38	98	230	0.5	460	19
XI.....	23, a. m.	30	66	29, p. m.	26	97	3,230	6.5	342	14
XIIa.....	23, p. m.	52	114	28, p. m.	47	61	3,160	5.0	632	26
XIIb.....	26, a. m.	45	98	27, a. m.	39	113	790	1.0	790	33
XIII.....	27, p. m.	38	99	28, p. m.	42	86	750	1.0	750	31
XIV.....	27, p. m.	52	104	28, p. m.	42	86	1,060	1.0	1,060	44
XV.....	30, p. m.	50	95	31, p. m.	47	69	1,760	3.0	880	37
Sums.....							23,920	62.0	9,077
Mean of 17 paths.....									534	22.3
Mean of 62.0 days.....									466	19.4

HIGH AREAS.

I.—The month opened with a high covering the central valleys, highest in Illinois. It moved slowly eastward to the North Carolina coast during the 2d, then slowly skirted the coast line, and disappeared in the Gulf of St. Lawrence on the afternoon of the 4th. As it passed northward it was followed by an area of rain and thunderstorms, beginning in the Southern States, and generally covering the Atlantic States on the 3d and 4th.

II.—On the first day of the month a high covered the North Pacific States, which gradually worked southeastward over the Plateau, and died out in Colorado on the 3d. As it approached the Mountain Slope a sporadic system of showers and thunderstorms advanced before it, generally covering the Southwestern States and the lower Mississippi Valley during the 3d, and extending over the Gulf States to the coast on the 4th.

III.—This track of high pressure is hardly to be distinguished

from No. II, since it began on the north Pacific Coast during the 2d, crossed the mountains by the same track, and dissipated in Colorado on the 6th. This double formation is common to highs and lows, in the latter case being called secondaries, though more properly they are second formations under similar conditions, and yet really independent of each other. The lows thus produced are to be attributed to the action of two adjacent highs, but the highs are the products of the general atmospheric circulation.

IV.—This is an Atlantic Coast high, first concentrating over South Carolina on the 5th and moving along the coast to the Gulf of St. Lawrence by the evening of the 7th. It seems to have supplied the aqueous vapor, from its western side, for an extensive precipitation in the Ohio Valley and the lower Lake Region, which occurred on the 6th and 7th, with many thunderstorms, the weather also being quite warm.

V.—This area, like II and III, was originally produced on the north Pacific Coast during the 7th, and found its way over the Columbia River Valley to Colorado by the 11th. Its descent from the Plateau was signalized by an area of precipitation that preceded it over the Slope, and especially in the Missouri Valley. It is to be noted that these rainfalls are sometimes independent of any marked barometric depression, and must be produced by the direct cooling caused by the flowing of cool air into regions of higher temperature holding partially saturated vapor in the atmosphere. It would be very hard to show that the lowering of temperature in these cases is exclusively due to cooling through expansion.

VI.—This area can hardly be said to have had a definite track. It hung over the Carolina coast line for four days, 7th to 11th, the highest readings of the barometer working northward till the afternoon of the 9th, and then settling southward during the 10th and 11th. The weather was generally fair while this dominated, but on the 10th, p. m., an extensive series of thunderstorms occurred in the Mississippi Valley.

VII.—This was quite a vigorous area that began in the North Pacific States during the 12th, and crossing the Mountains on the 13th, advanced to Iowa by the morning of the 15th, where the central point could no longer be traced.

VIII.—This was a sporadic formation in the Gulf of St. Lawrence during the 12th and 13th and had no features to record.

IX.—This high seems to have formed over the middle Lake Region on the 13th, whence it moved to Lake Ontario, and then was suddenly diverted southward to the Virginia coast and proceeded to Florida where it disappeared on the 17th. The progress of this area to the south was the probable occasion of the very continuous period of rainfall during the 13th to the 17th that took place in the South Atlantic and the east Gulf States, being most heavy at some points on the afternoon of the 17th.

X.—In this case is found another instance of a high area forming on the north Pacific Coast (15th), and after lingering over the northern Plateau (16th and 17th), descending to the central valleys, across the Dakotas, Iowa and Illinois, to Kentucky, where it died out on the 20th. This area showed also a tendency to cause precipitation in its front as it crossed the Missouri and the Mississippi valleys.

XI.—This area followed the preceding number so closely in portions of its path (20th) as to form practically a single area with two centers of highest pressure. It began north of North Dakota on the 20th, passed over the Lake Region to the New Jersey coast (21st, 22d), and thence turned southward to Florida, where it disappeared on the night of the 24th. Like IX, this area caused some precipitation in the Gulf States as it moved southward over the Atlantic States.

XII.—This number is the only one of the entire month

that crossed the United States from the Pacific to the Atlantic Coast. It formed in Oregon on the 22d, crossed the middle Plateau on the 23d, the middle Slope on the 24th, reached the South Carolina coast on the 25th, and advancing northward, dissipated on the 26th opposite Delaware.

XIII.—This formed in the State of Washington on the 25th, passed over Montana and South Dakota (27th, 28th), and faded away in Nebraska during the 29th.

XIV.—This area formed to the north of Montana during the 29th, and advanced to Iowa by the 31st, being more closely related to the circulation of the northern circuit that is now renewing itself.

LOW AREAS.

I.—This first low properly belongs to the month of July, as it is found in the Gulf of St. Lawrence on the 1st and 2d only.

II.—This depression began in the western portion of South Dakota on the 1st, moved north to the Red River Valley in the evening, to Lake Superior on the 2d, and thence to Upper Canada, where it disappeared on the 4th. On the morning of the 2d a secondary was developed over northern Texas and Oklahoma, the trough stretching to northern Minnesota, attended by some precipitation in the Southwestern States.

III.—This low area appeared near Edmonton, in Alberta, on the morning of the 3d, passed southeastward over North Dakota on the 4th, the Lakes on the 5th, 6th, and descended the St. Lawrence Valley during the 7th and 8th, disappearing near the coast of Nova Scotia on the 11th. Its progress over the central valleys and Lake Region was characterized by a large area of local precipitation and thunderstorms, rain occurring in the Missouri Valley on the 4th, in the Lake Region on the 5th, in the Ohio Valley, the Middle and South Atlantic States on the 6th, in the Middle States and New England on the 7th; while it lingered over the Gulf of St. Lawrence during the 8th to the 11th; it seems to have caused very little precipitation.

IV.—This storm area originated in exactly the same place, near the one hundred and twelfth meridian in Alberta, as III on the 6th, and pursued the same track to the Gulf, where it disappeared on the 15th. However, a branch, IV*b*, separated on the afternoon of the 7th, which found its way to South Dakota and hung there during the 8th and 9th. The precipitation in this case was not so pronounced, though some local storms, quite distant from the center, accompanied it in the Ohio Valley.

V.—This area was first observed on the one hundred and fifteenth meridian near Calgary on the 11th in the afternoon, whence it passed to the Saskatchewan Valley on the 12th, to South Dakota on the 13th, from which it moved in the usual northern path over the Lakes to Upper Canada, where it disappeared on the afternoon of the 14th. A very little rain fell in the Missouri Valley, but its place was apparently taken up by a high, which tended to destroy it, in crossing the Lake Region.

VI.—This storm also originated in Alberta on the 14th and pursued its course in the regular northern circuit to the Gulf of St. Lawrence, which it reached on the 18th. During the period from the afternoon of the 18th to the forenoon of the 22d it hung over the Gulf, the center occupying various positions between Nova Scotia, Anticosti, and Newfoundland. No rain fell till the 17th, when it was central over Upper Michigan; but during the afternoon of this day copious rains occurred in the lower Lake Region, the Middle States, the South Atlantic and Gulf States; the clearing-up rains fell in New England on the 18th.

VII.—This was a threatening storm center on the Gulf Coast from the 14th a. m. to the 17th a. m., when it finally dissipated in Alabama. Local rains occurred daily in the Gulf States during this entire period, being, however, produced by the high that was central on the Carolina coast.

VIII.—This was a very feeble storm impulse in Montana and South Dakota, rather than a definite formation during the 16th and 17th, the track being really quite indefinitely indicated.

IX.—This was the only low area that passed from the Pacific Coast to the Atlantic during the entire month. It formed in British Columbia on the 19th, passed eastward in the northern circuit in a regular march, and reached Nova Scotia on the 25th, where it broke up. Light rain began in the Missouri Valley on the 21st, spread over the Lakes and the Ohio Valley on the 22d and 23d, the Middle States on the 24th, and New England on the 25th, the southern districts receiving none from this low area.

X.—This was a very small depression or secondary in Nebraska and Kansas during the 22d and 23d, which had no special features of interest, except some rain and thunderstorms in the lower Missouri Valley on the 23d.

XI.—This is the only hurricane of the month of August, and our information regarding it is very limited, inasmuch as its course lay to the southward, and it did not recurve but broke up on the Texas coast. The first report was from Havana, 22d, "Storm West Dominica, Gangoite." Its future course indicates, however, that it must have been between the 65th and 70th meridians, and in latitude $+16^{\circ}$, at this time, rather to the southeast of Dominica. Indications of the approaching storm were seen at the Florida and the Cuba stations during the 23d and 24th, as it moved slowly westward. On the 25th it was south of middle Cuba, on the 26th between the west end of Cuba and Yucatan, and it crossed the tip of Yucatan during the 26th. The following message was sent at 10.30 a. m., 26th, to all stations from Tampa to Brownsville: "Reports indicate the presence of a dangerous storm southwest of Cuba, moving towards the Gulf. Notify all shipping interests to be on the alert." On the 27th the center was west of Yucatan, and this message was sent to Port Eads: "Direct observer to hold vessels going out of river till further notice." The observations reported from Merida, Yucatan, were of great service in following this cyclone, and upon them the warnings were largely founded. Several preliminary warnings were sent during the 28th, and finally on the morning of the 29th, an emergency warning to the west Gulf stations: "Hoist hurricane signal. Center of storm apparently near Corpus Christi moving north of west. Indications are that the storm will not recurve." The barometer reading at Merida at 7 a. m., 27th, was 29.75 and falling; at 7 a. m. of the 28th, 29.83, and rising; on the morning of the 29th, the reading at Corpus Christi was 29.86, with 20 miles of wind; in the evening, 29.82, with 38 miles of wind from the north. The storm struck the coast at Brownsville during the 29th, doing some damage in the town, and broke up on the 30th with heavy rain at Galveston, 3.58, and Corpus Christi, 0.66 inch.

XII.—This low appeared in Alberta on the 23d, and advanced to Winnipeg by the morning of the 25th, where it turned south to South Dakota, and threw out a secondary, XII*b*, to Utah, which disappeared on the 26th. XII*a* now moved to the north of Lake Superior and proceeded rapidly in the northern circuit to the Gulf of St. Lawrence, where it dissipated on the 28th. Local showers and thunderstorms accompanied the southeast section of the depression, precipitation falling chiefly in the Ohio Valley and the middle States during the 26th and 27th.

XIII.—This was a feeble depression formed in Colorado on the 27th, which moved northeastward and joined XIV near the lower end of Lake Michigan on the 28th, p. m.

XIV.—This was another feeble low thrown out by the high covering the Dakotas; it first appeared in the Saskatchewan Valley on the 27th, and advanced to lower Lake Michigan, where it dissipated in connection with XIII.

XV.—This low formed on the afternoon of the 29th in the Red River Valley, moved to western Minnesota and thence advanced over Lake Superior on the 30th, to the Gulf of St. Lawrence by the afternoon of the 31st. Thunderstorms and local rains occurred in the Ohio Valley, the Middle States, and New England during the passage of the storm.

LOCAL STORMS.

[By Mr. A. J. HENRY.]

The first decade of August was unmarked by local storms of unusual extent or severity.

The record for this period is confined to local showers attended by the phenomena usual in this season, thunder, lightning, strong, but not destructive winds, and sometimes hail. Deaths from lightning stroke are reported in comparatively few instances. No other loss of life is recorded except by drowning in the waters contiguous to Coney Island, where on Sunday, the 4th, during a violent thunder storm the accompanying wind imperiled excursion boats, and overturned lighter craft. Fruit trees and fruit were destroyed in this storm, and hotels were injured by lightning, but no great loss of property resulted.

No loss of human life by floods or by hurricane is reported during the month. Storms similar in character to the one mentioned above occurred on the 6th at widely separated places, the most severe being in the vicinity of Buffalo, N. Y., and in central and northern Ohio.

On the 8th, Grand Junction and Del Norte, Colo., and Tucson, Ariz., were visited by cloud-bursts. Railroads and highways were washed out, and a few residences were injured.

Similar storms occurred on the 9th at Louisiana, Mo., Junction City and Eldorado, Kans., and Minneapolis, Minn.

A letter of September 9, from Mr. W. H. Fountain, superintendent of the waterworks at Eldorado, Kans., describes the destruction of the standpipe at that place by the storm of August 9, as follows:

All the evening the weather was quite threatening and at nightfall the clouds looked quite ominous and black. About 10 p. m. the storm broke on the city. It came almost directly from the north. For twenty minutes or more the wind blew a gale and much rain fell; then there was a lull in the storm for a few minutes, when the wind came again in a terrific gust, striking the houses in the vicinity of the standpipe almost like a wall, and it is the supposition that at this time the standpipe fell. Some of the people in the vicinity of the standpipe remember a roar at this time, which they then thought was thunder, but when they learned of the accident felt confident it was the crash of the standpipe. * * * It was noticeable that the clouds hung very low. * * * The storm was gusty and had much the appearance of being cyclonic. We have had but few, if any, storms that came stronger or more gusty than this one.

During the night of the 10th and on the succeeding day the first destructive storm of the month appeared. At Cleveland, Ohio, a power house was totally wrecked, estimated loss, \$20,000; at Ashtabula, Ohio, injuries to the dock occurred, estimated loss, \$10,000; and in the counties of Platte and Colfax, Nebr., 50 miles of telegraph line were blown down, and the furious rain caused large destruction of growing crops and injury to railroad embankments.

On the 11th a severe storm at Baltimore destroyed buildings including an unfinished church, and telegraph and telephone lines to the value of about \$150,000. At the same time a storm raged over four counties of eastern Pennsylvania, where the losses in two boroughs are estimated at \$50,000, caused in part by lightning and hail, but chiefly by wind. On that day thunderstorms also visited Penn Yan, Dansville, and Ticonderoga, N. Y.; Flemington, N. J.; Warren, Ohio; and Rennselaer, Ind. All were of considerable violence, and losses in the last-named town, caused by wind, reached about \$30,000.

On the 13th standing and harvested grain in four Minnesota counties were disastrously affected by wind, rain, and hail.

On the 16th "the severest wind storm since fifteen years ago" raged at Mankato, Miss.

Buffalo, New York, was visited on the 17th by a severe storm, in which lightning and hail did considerable damage.

On the 19th, Harvey County, Kans., suffered a loss of one-half its growing crops by hail.

On the 23d, in central Michigan, and a half dozen counties in eastern Iowa, unusually heavy showers occurred. In some places the precipitation exceeded that of any during many previous years. Copious rain fell on the same date in Arizona, south and west of Phoenix, in which a mile of railroad track was carried away. In all of these districts prolonged droughts had prevailed, and the benefit to crops was larger than the loss of property.

Boothbay Harbor, Me., was swept by a strong wind, attended by rain and thunder and lightning on the 25th. Vessels in the harbor suffered considerable damage, and by the upsetting of a yacht, 3 persons were drowned.

On the 28th, Syracuse, N. Y., and Zanesville and Cleveland, Ohio, were visited by a wind and rain storm of great violence, but no serious loss of property resulted.

On the 29th, wind destroyed a church at Waycross, Ga., and storms of wind and rain of unusual severity were reported at Galveston, Tex., Clarksville, Tenn., and several points in the interior of Tennessee.

On the 31st an inch of rain fell in twenty-five minutes in New York, and the storm's violence extended to the suburbs. Buildings were injured by the wind, and lightning struck in several places. No loss of life or large destruction of property was reported.

TEMPERATURE OF THE AIR.

[In degrees Fahrenheit.]

The mean temperature is given for each station in Table II, for voluntary observers. In Table I, for the regular stations of the Weather Bureau, both the mean temperatures and the departures from the normal are given for the current month.

The *monthly mean temperature* published in Table I, for the regular stations of the Weather Bureau, is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

The *distribution* of the monthly mean temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain Plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

The *regular diurnal period* in temperature is shown by the hourly means given in Table IV for all stations having self-registers.

The extreme mean temperatures were: Yuma, 90.9; Key West and Galveston, 83.0.

As compared with the normal for August the mean temperature for the current month was, with very few exceptions, decidedly in excess on the Atlantic Coast and westward to the one hundredth meridian. It was deficient in the lower St. Lawrence Valley and the Rocky Mountain Region. The greatest excesses were: Washington, D. C., 3.7; Milwaukee and Parkersburg, 3.5. The greatest deficits were: Los Angeles, 3.7; Medicine Hat, 3.5; and Qu'Appelle, 2.9.

Considered by districts the mean temperatures for the current month show departures from the normal as given in Table 1. The greatest positive departure was: Middle Atlantic, 2.7. The greatest negative departures were: Ohio Valley and Tennessee, 2.6; upper Mississippi, 2.4; southern Pacific Slope, 2.3.