ice floe was encountered in N. 44°·33′, W. 60° 22′, and another in N. 44° 29′, W. 60° 37′.

OCEAN FOG IN MAY.

The limits of fog belts for May, 1892, as determined from reports of shipmasters, are shown on Chart I by dotted shading. Less than the usual amount of fog was reported. Near the Banks of Newfoundland fog was reported on 12 dates; between the 55th and 65th meridians on 11 dates; and west of the 65th meridian on 11 dates. Compared with the corresponding month of the last 4 years the dates of occurrence of fog near the Grand Banks numbered 6 less than the average; between the 55th and 65th meridians 3 less than the average; and west of the 65th meridian 6 less than the average. The fog in the regions referred to and that noted at regular stations of the Weather Bureau on the New England and middle Atlantic coasts generally attended the approach or passage of general storms.

TEMPERATURE OF THE AIR (expressed in degrees, Fahrenheit).

The distribution of mean temperature over the United States and Canada for May, 1892, is exhibited on Chart II by dotted isotherms. In the table of miscellaneous meteorological data the monthly mean temperature and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for mean temperature and departure from the normal show, respectively, the average for the several districts. The normal for any district may be found by adding the departure to the current mean when the temperature is below the normal and subtracting when above. The monthly mean temperature for regular stations of the Weather Bureau represents the mean of the maximum and minimum temperatures.

The mean temperature was highest in the Colorado Desert, California, in the Gila Valley, Arizona, and along the lower Rio Grande River in Texas, where it was above 80. In districts east of the 100th meridian and south of the 35th parallel, and over the west part of the southern plateau region the mean temperature was above 70, and the mean readings were above 60 south of a line traced from the south New Jersey coast westward to northern Missouri, thence west-southwest to east-central Arizona, thence irregularly northwestward to north-central Arizona, and thence southward over the interior of California to the coast near Los Angeles. The mean temperature was lowest in the mountains of Colorado and at Anticosti Island, Gulf of Saint Lawrence, where it was below 40; it was below 45 at Central Pacific Railroad stations in the Sierra Nevada Mountains, California, and in the British Northwest Territory; and was below 50 in eastern and northern Maine, and north of a line traced from Georgian Bay to north-central New Mexico, and thence to extreme northwestern Montana.

DEVIATIONS FROM NORMAL TEMPERATURE.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperature for May for a series of years; (2) the length of record during which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for May, 1892; (4) the departure of the current month from the normal; (5) and the extreme monthly mean for May during the period of observation and the years of occurrence:

Deviations from normal temperature—Continued.

State and station.	(1) Normal for the month of May.	(2) Length of record.	(3) Mean for May, 1892.	(4) Departure from normal.	(5) Extreme monthly mean for May.			
					Highest.	Year.	Lowest.	Year.
Arizona.	°	Years	°	°	°		°	
Fort Apache	62.4	20	56.8	— 5.6	67.6	1881	55.6	1884
Fort Mohave	80.2	21	77.7	— 2.5	86.8	1875	75.6	1888
Whipple Barracks	60.7	21	54.3	— 6.4	68.6	1876	54.3	1892
Arkansas.								
Lead Hill	67.6	10	.....	.....	74.4	1886	62.9	1882
California.								
Fort Bidwell	55.0	20	52.8	— 2.2	61.8	1881	49.2	1879
Riverside	65.5	10	64.9	— 0.6	69.0	1885	60.3	1891
Colorado.								
Las Animas	60.1	10	54.1	— 6.0	65.6	1886	54.1	1892
Florida.								
Merritts Island	75.4	10	78.3	+ 2.9	79.2	1884	70.3	1886
Georgia.								
Forsyth	72.7	18	73.4	+ 0.7	75.8	1880	69.2	1877
Idaho.								
Boise Barracks	58.7	18	55.6	— 3.1	63.5	1874	53.0	1880
Fort Sherman	54.9	9	53.4	— 1.5	57.9	1891	51.5	1882
Illinois.								
Centralia	64.8	11	.....	.....	70.5	1881	59.0	1882, 1891
Indiana.								
La Fayette	61.0	12	58.8	— 2.2	69.4	1881	55.0	1882
Indian Territory.								
Fort Supply	65.5	13	63.8	— 1.7	72.1	1886	58.8	1882
Iowa.								
Cresco	56.4	20	52.4	— 4.0	64.1	1881	49.9	1888
Kansas.								
Eureka Ranch	64.6	9	55.0	— 9.6	69.5	1887	55.0	1892
Independence	66.3	20	65.0	— 1.3	72.0	1880	60.8	1872
Salina	66.0	9	58.4	— 7.0	71.3	1887	58.4	1892
Louisiana.								
Grand Coteau	74.2	9	73.8	— 0.4	75.7	1884	70.4	1891
Maine.								
Orono	51.7	22	51.7	0.0	55.9	1887	41.8	1884
Maryland.								
Cumberland	60.0	29	62.3	+ 2.3	67.0	1880	57.6	1882
Michigan.								
Kalamazoo	57.5	15	57.2	— 0.3	66.0	1881	41.3	1882
Missouri.								
Sedalia	64.5	9	62.2	— 2.3	69.5	1887	60.1	1882
Montana.								
Fort Custer	55.1	11	.....	.....	58.3	1886	52.2	1888
Nebraska.								
Fort Robinson	57.3	8	48.9	— 8.4	66.4	1886	48.9	1892
Genoa (near)	59.9	16	52.2	— 7.7	67.6	1880	52.2	1892
Nevada.								
Browns	65.4	20	66.2	+ 0.8	71.3	1889	60.5	1873
Carson City	57.2	14	54.6	— 2.6	60.4	1875	53.9	1891
New Hampshire.								
Hanover	54.4	57	52.7	— 1.7	62.0	1880	50.2	1882
New Mexico.								
Deming	74.0	10	76.1	+ 2.1	79.2	1886	69.8	1884
Fort Wingate	60.1	21	54.2	— 5.9	64.9	1875	54.2	1892
New York.								
Cooperstown	54.5	38	52.4	— 2.1	60.7	1880, 1887	49.7	1882
Plattsburgh Barracks	54.9	21	51.8	— 3.1	60.9	1887	50.3	1882
North Carolina.								
Lenoir	62.6	19	64.6	+ 2.0	67.8	1887	48.0	1881
Oklahoma.								
Fort Reno	67.3	9	.....	.....	73.9	1886	64.0	1885
Fort Sill	69.8	20	68.8	— 1.0	75.6	1886	64.7	1885
Oregon.								
Bandon	54.3	8	51.8	— 2.5	55.8	1891	51.8	1892
Eola	54.2	22	59.6	+ 5.4	59.6	1892	45.2	1880
Pennsylvania.								
Dyberry	54.3	25	51.6	— 2.7	64.1	1880	48.4	1882
Grampian Hills	56.5	27	56.5	0.0	65.1	1887	50.0	1882
Wellsborough	55.8	13	50.6	— 5.2	68.4	1879	50.4	1891
South Carolina.								
Statesburgh	70.1	11	70.2	+ 0.1	73.8	1881	65.9	1885
South Dakota.								
Fort Sully	58.7	21	50.6	— 8.1	68.4	1871	50.6	1892
Texas.								
Austin	74.6	17	75.0	+ 0.4	80.0	1886	72.3	1879
Silver Falls	69.9	6	70.0	+ 0.1	76.6	1886	65.8	1888
Utah.								
Terrace	61.6	20	62.8	+ 1.2	71.9	1888	50.6	1882
Vermont.								
Stratford	55.6	19	48.2	— 7.4	63.0	1887	48.2	1892
Virginia.								
Dale Enterprise	64.3	12	65.0	+ 0.7	72.0	1887	62.7	1891
Washington.								
Fort Townsend	54.0	20	52.4	— 1.6	57.0	1889	50.2	1880
West Virginia.								
Parkersburgh	67.4	11	62.1	— 5.3	78.4	1881	58.9	1891
Wisconsin.								
Embarrass	57.6	21	53.0	— 4.6	67.5	1880	51.2	1888
Madison	56.5	23	52.4	— 4.1	63.8	1887	51.5	1883
Wyoming.								
Fort Washakie	52.3	9	47.6	— 4.7	59.2	1886	47.6	1892

DEPARTURES FROM NORMAL TEMPERATURE.

The mean temperature was generally below the normal. It was above the normal along the immediate Pacific coast, over the greater part of Texas, in northeastern Florida, Virginia, northern North Carolina, the east part of the upper lake region, and in New Brunswick. The most marked departure below the normal temperature was noted from the Rocky Mountains to the upper Mississippi and lower Missouri valleys, where it was more than 5. In the districts named where the temperature was above the normal the excess was generally less than 1, except at San Antonio, Tex., where it was 3.2.

YEARS OF HIGHEST MEAN TEMPERATURE FOR MAY.

At Eola, Oregon, the mean temperature for the current month, 59.6, was 0.5 higher than previously recorded for that place for May. The highest mean temperature for May occurred in Washington in 1889; in Oregon in 1888; over the southern plateau region and on the southeast slope of the Rocky Mountains in 1886; in the Sacramento Valley and on the south Pacific coast in 1885; in the upper and lower Mississippi and middle Ohio valleys in 1881; and in the middle Atlantic and New England states, the Lake region, a great part of Kentucky and Tennessee, and in Arkansas and the lower Missouri valley in 1880.

YEARS OF LOWEST MEAN TEMPERATURE FOR MAY.

The current month was the coolest May on record from the middle and lower Missouri and Red River of the North valleys over the northern plateau region and the eastern parts of the middle and southern plateau regions. The lowest mean temperature for May occurred generally in the middle Atlantic and New England states, over the eastern part of the Lake region, and in Tennessee and the Ohio and middle Mississippi valleys in 1882; in Oregon and Nevada in 1880; and in northern California in 1879.

MAXIMUM TEMPERATURE.

At Buffalo, N. Y., the maximum temperature, 88, noted on the 31st, was the highest ever recorded at that station in May.

The highest temperature reported at a regular station of the Weather Bureau for May, 1892, was 110 at Yuma, Ariz., on the 20th, and the maximum was 100 and above in the Gila, San Joaquin, and Sacramento valleys. Reports of voluntary observers show maximum temperature 119 in the Colorado Desert, California, 115 at Fort Mohave, Ariz., and 109 at Fort Ringgold, Tex. The maximum was above 90 in Virginia, north-central North Carolina, Georgia, eastern Alabama, over the Florida Peninsula, in the west Gulf states, except along the coast, over the southern plateau region, in the central valleys of California, and in the valley of the Columbia River. On the east and southeast New England coasts and at Tatoosh Island, Wash., and Eureka, Cal., the maximum temperature was below 70.

MINIMUM TEMPERATURE.

At Shreveport, La., Palestine, Tex., and Walla Walla, Wash., the minimum temperature for the current month was the lowest, and at Portland, Me., and Galveston, Tex., it was as low as previously reported for May.

The lowest temperature reported at a regular station of the Weather Bureau in May, 1892, was 20 at Lander, Wyo., on the 5th. Minimum temperature below 30 was noted in northern New England, northeastern New York, and north of a line traced from northeastern Minnesota to north-central New Mexico, thence to northern Utah, thence to east-central California, and thence to extreme northwestern Montana. The highest minimum temperature was noted over extreme southern Florida and in extreme southern Texas, where it was above 60.

LIMITS OF FREEZING WEATHER.

The southern limit of freezing weather is shown on Chart II by a line traced from the west Maine coast over northeastern New York. This line is continued from northern Lower Michigan and Upper Michigan west-southwest to central New Mexico, thence to northern Utah, thence to east-central California, and thence over eastern Oregon and eastern Washington.

RANGES OF TEMPERATURE.

The greatest daily ranges of temperature are shown in the table of miscellaneous meteorological data. The greatest monthly ranges of temperature were noted over Montana, the west parts of the Dakotas, over the west parts of the middle and southern plateau regions, and in adjoining parts of Oregon and northern California, where they exceeded 60. From the Missouri Valley the monthly ranges decreased irregularly eastward to less than 30 on the southeast New England coast, and southeastward to less than 20 over extreme southern Florida and extreme southern Louisiana. From the western plateau region the monthly ranges decreased to less than 30 at points on the Pacific coast north of the 40th parallel.

PERIODS OF HIGH TEMPERATURE.

On the 18th and 19th the highest temperature of the month occurred on the immediate Pacific coast. This warm wave overspread western Oregon, western Washington, and the west part of the southern plateau on the 20th, with temperature above 90 at interior stations, and readings above 100 in the lower Colorado and Gila valleys. On the 21st the temperature rose above 90 at points in the upper Columbia valley, and the maximum was above 100 in the Sacramento and San Joaquin valleys. On the 22d the highest temperature of the month was noted in the upper Missouri valley and over a great part of the middle and northern plateau regions, and the 23d was the warmest day of the month in Utah, Colorado, and a great part of Nebraska. On the 29th a warm wave appeared over the middle Missouri valley and the southeastern slope of the Rocky Mountains, with maximum temperature 100 at Abilene, Tex. On the 30th the highest temperature of the month was noted over the north part of the Lake region and in the west Gulf states, and on the 31st the maximum temperature of the month was recorded from the lower lake region over the Ohio Valley, eastern Tennessee, and northern Alabama.

PERIODS OF LOW TEMPERATURE.

The lowest temperature of the month was noted on the 1st in New England and along the North Carolina coast, the minimum being 2 to 3 below freezing in eastern and northern New England. The coolest weather of the month occurred from northern California and northern Nevada over Oregon, Washington, and western Montana from the 1st to 3d. On the 4th this cold wave reached the Dakotas, with temperature 8 to 11 below freezing in North Dakota. The 7th was the coldest day of the month in Upper Michigan. On the 8th this cold wave extended over the lower lake region, Pennsylvania, and New Jersey, and on the 9th the lowest temperature of the month occurred in Virginia and North Carolina.

The 10th was the coolest day of the month on the southeast slope of the Rocky Mountains, and the lowest temperature of the month was noted on the middle Pacific coast on the 11th. On the 20th a cool wave overspread districts from the middle Missouri and Red River of the North valleys to the western Lake region, with temperature 4 to 7 below freezing in the Red River Valley. On the 21st this cool wave occupied the lower Missouri, middle Mississippi, and lower Ohio valleys, reached the middle and west Gulf states on the 22d, and the south Atlantic states and Florida on the 24th, attended in the districts named by the lowest temperature of the month.

TEMPERATURE JANUARY TO MAY.

For the period January to May, 1892, inclusive, the tempera-

ture was below the average, except in New England, the upper lake region, the extreme northwest, on the southeast slope of the Rocky Mountains, over the northern plateau region, and on the north Pacific coast. In the upper lake region, on the northeast and southeast slopes of the Rocky Mountains, and along the middle and south Pacific coasts the departures were small. In the middle and south Atlantic and east Gulf states, at Key West, Fla., in the Ohio Valley and Tennessee, the lower lake region, the upper Mississippi and Missouri valleys, on the middle-eastern slope of the Rocky Mountains, and over the southern and middle plateau regions the mean was 1 to 2 below the normal, and in New England, the extreme northwest, over the northern plateau region, and along the north Pacific coast the mean was 1 to 2 above the normal temperature for the period named.

FROST.

Frost injurious to vegetation was reported as follows: On the 10th light frost occurred at Dodge City, Kans., causing some damage on low lands. Frost at Valley Head, Ala., on the 12th, 23d, and 25th nipped tender vegetation on the mountains. The cool weather of the 22d injured cotton about Palestine, Tex. Light frost at Liberty Hill, La., on the 22d and 23d injured tender vegetation. Fruit was reported slightly injured by the light frost of the 23d at Pontotoc, Miss. Frost was reported about Hendersonville, N. C., on the 24th.

The cool wave of the 22d to 24th carried the frost line to the central parts of the Gulf and south Atlantic states. No frost was reported in Texas. Frost occurred in the Sacramento valley, California, on the 11th, and in interior parts of Oregon and Washington from the 1st to 4th.

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for May, 1892, as determined from the reports of about 2,000 stations, is exhibited on Chart III. In the table of miscellaneous meteorological data the total precipitation and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and subtracting when above.

The normal precipitation for May is greatest in areas in eastern Texas and western Missouri, where it exceeds 6.00. It exceeds 4.00 over the greater part of the region extending from the middle and lower Missouri valleys to the middle and west coasts of the Gulf of Mexico, generally in Tennessee and North Carolina, and along the South Carolina and east Florida coasts. The normal amount is also in excess of 4.00 at points on the north Pacific coast, and in adjoining parts of southwestern Montana and northwestern Wyoming. In districts east of the Rocky Mountains other than those named the normal precipitation generally ranges from 2.00 to 4.00. Over the greater part of the plateau region and on the Pacific coast south of the 40th parallel the precipitation for May is usually less than 1.00, and over the west parts of the middle and southern plateau regions and in southern California it is less than 0.50.

In May, 1892, the greatest monthly precipitation reported was 18.48 at McAlester, Ind. T. The monthly precipitation exceeded 10.00 in extreme southwestern New York, northwestern Ohio, northeastern Indiana, north-central Illinois, extreme southwestern Michigan, southwestern Wisconsin, southern and eastern Iowa, north-central and southwestern Missouri, central and western Arkansas, eastern Oklahoma and Indian territories, northeastern Texas, eastern Kansas, and southeastern Nebraska. Over the greater part of the southern plateau region and the west part of the middle plateau region, in north-central Oregon, northwestern Montana, northwestern North Dakota, in parts of the Saskatchewan Valley, northern and eastern Ontario, in an area about Vicksburg, Miss., at points along the middle and west coasts of the Gulf of Mexico, and at Key West, Fla., the monthly precipitation was less than 1.00, and over the greater part of the southern plateau region it was less than 0.50.

DEPARTURES FROM NORMAL PRECIPITATION.

The monthly precipitation was in excess of the average amount for May from northern Texas to Minnesota and the western and southern Lake regions, in central and southern New England, and in the middle Atlantic states north of Virginia. It was also in excess on the Pacific coast and over the Rocky Mountain and plateau regions, except in an area extending from Washington to northern Utah, over northern Montana, and from eastern Colorado over New Mexico. The greatest excess in monthly precipitation occurred in western Arkansas, where it exceeded 6.00 at Fort Smith, and the excess was more than 4.00 from eastern Iowa over southern Wisconsin, and from northern Indiana over Lake Erie. The most marked deficiency in monthly precipitation was noted at Vicksburg, Miss., where it exceeded 4.00. The deficiency was 4.00 at Galveston, Tex., and was more than 2.00 over the southern parts of the east and west Gulf states, and in southern North Carolina and eastern Maine.

Considered by districts, the average percentage of the normal in districts where the monthly precipitation was in excess was about as follows: South Pacific coast, 400; middle Pacific coast, 263; lower Lake region, 204; upper Mississippi valley, 177; Missouri Valley, 159; upper Lake region, 149; middle-eastern slope and middle plateau region, 139; middle Atlantic states, 132; Ohio Valley and Tennessee, 123; New England, 122; north Pacific coast, 121; southeastern slope, 119; northeastern slope, 116; northern plateau, 112. In districts where the precipitation was deficient the percentage of the normal was about as follows: East Gulf states, 32; Key West, Fla., 24; south Atlantic states, 72. In the west Gulf states, over the southern plateau region, and in the extreme northwest the monthly precipitation averaged about normal.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for May for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for May, 1892; (4) the departure of the current month from the average; (5) and the extremes for May during the period of observation and the years of occurrence:

State and station.	(1) Average for the month of May.	(2) Length of record.	(3) Total for May, 1892.	(4) Departure from average.	(5) Extremes for May.			
					Greatest.		Least.	
					Am't.	Year.	Am't.	Year.
Arizona.	*Inches.*	*Years*	*Inches.*	*Inches.*	*Inches.*		*Inches*	
Fort Apache	0.47	16	0.36	— 0.11	1.31	1884	0.00	•
Fort Mohave	0.15	21	0.38	+ 0.23	1.20	1873	0.00	•
Whipple Barracks	0.58	21	0.85	+ 0.27	1.82	1877	0.00	•
Arkansas.								
Lead Hill	5.93	10	8.50	+ 2.57	10.56	1882	1.97	1891
California.								
Fort Bidwell	1.35	21	1.57	+ 0.22	4.66	1877	0.40	1884
Riverside	0.34	11	1.30	+ 0.96	1.99	1884	0.00	1886
Colorado.								
Las Animas	2.06	10	1.13	— 0.93	5.06	1882	0.25	1886
Florida.								
Merritts Island	4.04	14	3.13	— 0.91	11.58	1890	0.88	1886