NORTH ATLANTIC STORMS FOR JUNE, 1892 (pressure in inches and millimeters; wind-force by Beaufort scale).

The paths of storms that appeared over the west part of the north Atlantic Ocean during June, 1892, are shown on Chart I. These paths have been determined from reports of observations by shipmasters received through the co-operation of the Hydrographic Office, Navy Department, and the "New York Herald Weather Service."

The north Atlantic normal pressure for June is highest in an area extending from the Azores southwestward to the 50th meridian, where it is above 30.20 (767); it is lowest from southern Greenland over Iceland, where it is below 29.80 (757). There is usually an increase of pressure over southern and eastern parts of the ocean, and a decrease from the region south of Newfoundland and Nova Scotia to Iceland and Greenland. The greatest increase occurs from the Azores and Madeira Islands to the Spanish Peninsula, where it exceeds .05 inch, and the most marked decrease is shown from Newfoundland to western Iceland and Greenland, where it is more than .05 inch.

The principal track of June storms is traced from Newfoundland east-northeast to the 20th meridian, where the track divides, one part passing over Scotland and the other southeastward over France. A less frequented track is traced from Labrador to Iceland and thence over Scandinavia. The average velocity of north Atlantic storms for June is 16 statute miles per hour, the velocity for May and June being the lowest noted for the year. In June an average of one storm per month traverses the north Atlantic Ocean from the American to the European coasts.

In June, 1892, the weather was unusually unsettled over the western part of the ocean and at least three storms, low areas IV, VIII, and IX, traversed the ocean. The morning of the 2d low area I occupied the Gulf of Saint Lawrence, with pressure 29.80 (757). By the 3d this storm had advanced to mid-ocean, with pressure below 29.40 (747) and west gales reaching force 10. On the 4th the center reached the 20th meridian, with pressure below 29.20 (742) and southwest to west gales of force 8 to 10. By the 5th the storm had apparently recurved to the westward over mid-ocean where it remained during the 6th, with an apparent loss of energy, and from thence apparently shifted position to the region north of the Grand Banks, where it remained nearly stationary until the 9th.

The night of the 9th low area III passed off the New Jersey coast with pressure below 29.80 (757), and the morning of the 10th was central south of Nova Scotia. By the 11th the storm-center had advanced to the southern edge of the Banks of Newfoundland, with pressure about 29.70 (754), and by the 12th had passed northward over east Newfoundland with an apparent increase of strength. Moving eastward to mid-ocean by the 14th, the center of disturbance disappeared north of the region of observation after the 15th.

During the 14th low area IV moved southeast over the Gulf of Saint Lawrence, with pressure below 29.60 (752), and the morning of the 15th was located between Newfoundland and Cape Breton Island; from which position it advanced east to Newfoundland by the 16th, with pressure below 29.70 (754) and west to west-northwest gales of force 8 to 9. Moving slowly eastward the center reached the 40th meridian on the 17th, remained nearly stationary over mid-ocean until the 21st, with pressure below 29.60 (752) and westerly gales of force 7 to 9 on the 20th, and apparently disappeared over the British Isles on the 23d.

The night of the 20th–21st low area VIII passed northeast from the region south of Nova Scotia over southern Newfoundland, with pressure below 29.20 (742). Remaining nearly stationary in that region with an apparent decrease of energy, the storm passed to mid-ocean by the 24th, and reached the British Isles on the 25th with pressure below 29.50 (749). The night of the 23d–24th low area IX advanced from south New England to Newfoundland, with pressure below 29.50 (749), reached mid-ocean on the 25th, with pressure below 29.40 (747) and northwest gales of force 9, and disappeared north of the British Isles after the 26th.

Morning reports of the 10th showed a cyclonic area central southwest of Key West, Fla. By the evening report of that day the storm was apparently central over the southeast part of the Gulf of Mexico, with pressure below 29.70 (754), and by the morning of the 11th it had crossed the southern part of the Florida Peninsula and was central over or near the Bahama Islands, after which its course cannot be traced from reports received. The passage of this storm was attended by heavy rain and high wind over southern Florida. At Jupiter, Fla., rain continued throughout the 10th and 11th with northeast winds reaching a velocity of 36 miles per hour. The commander of the steamship "Mascotte" reports that at noon June 10th, when 43 miles north by west from Northwest Passage Lighthouse, the wind veered around the compass and then continued heavy from the south and southwest to Key West. The lowest barometer noted was 29.67 (754), at 4 p. m., 10th, when in N. 25° 17′, W. 81° 54′.

OCEAN ICE IN JUNE.

The following table shows the southern and eastern limits of the region within which icebergs or field ice were reported for June during the last 10 years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
	° ′	° ′		° ′	° ′
June, 1883	40 28	51 45	June, 1883	48 14	42 43
June, 1884	40 42	47 49	June, 1884	44 00	45 23
June, 1885	39 38	48 12	June, 1885	45 14	41 12
June, 1886	40 30	53 00	June, 1886	49 15	40 00
June, 1887	40 40	48 34	June, 1887	43 22	39 19
June, 1888	43 38	43 24	June, 1888	43 38	43 24
June, 1889	42 54	49 54	June, 1889	46 57	40 29
June, 1890	40 01	52 00	June, 1890*	46 08	37 07
June, 1891	40 15	50 24	June, 1891	44 15	43 47
June, 1892	41 44	50 40	June, 1892	45 50	40 46
Mean	41 07	.....	Mean	.....	41 25

* On the 10th a small block of ice was reported in N. 46° 28′, W. 28° 34′.

The above table shows that for June, 1892, ice was reported about one-half degree north and about three-fourths degree east of the average southern and eastern limits of ice for the corresponding month of the last 9 years. The southernmost ice reported was an iceberg noted on the 6th, and the easternmost ice was an iceberg observed on the 12th, in the positions given in the table. Immense fields of ice and numerous icebergs are commonly encountered over and near the Banks of Newfoundland in June.

During the current month ice was most frequently noted off the southeast Newfoundland coast; it was also reported on a large number of dates on the south and southeast edges of the Banks of Newfoundland. On the 11th the Straits of Belle Isle were reported impassable on account of field ice. On the 25th large quantities of field ice and icebergs were reported in the Straits of Belle Isle. On the 27th the Straits of Belle Isle were full of icebergs and heavy ice, and on the 29th and 30th a large number of icebergs were encountered about Belle Isle.

The limits of the region within which icebergs or field ice were reported for June, 1892, are shown on Chart I by ruled shading.

OCEAN FOG IN JUNE.

June is one of the months of greatest fog frequency near the Banks of Newfoundland. In June, 1892, there was an unusual prevalence of fog over and west of the Grand Banks.

The limits of fog belts west of the 40th meridian, as reported by shipmasters, are shown on Chart I by dotted shading. Near the Banks of Newfoundland fog was reported on 20 dates; between the 55th and 65th meridians on 15 dates; and west of the 65th meridian on 19 dates. Compared with the

corresponding month of the last 4 years the dates of occurrence of fog near the Grand Banks numbered 5 more than the average; between the 55th and 65th meridians 2 more than the average; and west of the 65th meridian 5 more than the average. The fog noted by shipmasters and that reported by observers of the Weather Bureau on the New England and middle Atlantic coasts generally attended the advance 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 June, 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, and the Gila Valley, Arizona, where it was above 90, and the mean readings were above 85 along the lower Rio Grande River, in southwestern New Mexico, over a great part of south-central and western Arizona, and in southeast California. In the interior of southeastern Texas, and at points in southern portions of the Gulf States, the mean temperature was above 80. The mean temperature was lowest in the mountains of central Colorado, and at Anticosti Island, Gulf of Saint Lawrence, where it was below 50, and the mean readings were below 60 in eastern Maine, the Canadian Maritime Provinces, over the north part of the upper lake region, and in areas in the middle and northern Rocky Mountain and plateau regions. Along the immediate Pacific coast north of San Francisco, Cal., the mean temperature was below 55.

DEVIATIONS FROM NORMAL TEMPERATURE.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperature for June 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 June, 1892; (4) the departure of the current month from the normal; (5) and the extreme monthly mean for June during the period of observation and the years of occurrence:

State and station.	(1) Normal for the month of June.	(2) Length of record.	(3) Mean for June, 1892.	(4) Departure from normal.	(5) Extreme monthly mean for June.			
					Highest.	Year.	Lowest.	Year.
Arizona.	°	Years	°	°	°		°	
Fort Apache	71.8	20	66.5	− 5.3	78.0	1876	63.6	1884
Fort Mohave	88.9	21	86.4	− 2.5	95.3	1876	83.4	1890
Whipple Barracks	69.7	21	66.6	− 3.1	78.9	1876	62.8	1884
Arkansas.								
Lead Hill	77.1	10	.....	.....	80.2	1885	74.9	1889
California.								
Fort Bidwell	63.5	20	59.1	− 4.4	70.6	1871	55.4	1891
Riverside	71.3	10	.....	.....	78.1	1883	67.1	1890
Colorado.								
Las Animas	69.8	9	69.0	− 0.8	72.5	1887	68.1	1884
Florida.								
Merritts Island	79.0	10	73.8	− 5.2	83.4	1890	73.8	1892
Georgia.								
Forsyth	76.8	18	78.5	+ 1.7	81.9	1880, 1881	74.2	1884
Idaho.								
Boise Barracks	66.6	18	65.2	− 1.4	74.3	1871	60.0	1891
Fort Sherman	61.3	9	60.4	− 0.9	64.4	1882	56.2	1887
Illinois.								
Centralia	72.7	10	76.0	+ 3.3	77.0	1891	69.0	1889
Indiana.								
La Fayette	70.3	10	72.4	+ 2.1	75.7	1890	66.2	1889
Indian Territory.								
Fort Supply	75.4	12	75.6	+ 0.2	79.2	1881	72.6	1891
Iowa.								
Cresco	66.1	19	63.5	− 2.6	72.0	1873	62.8	1877

Deviations from normal temperature—Continued.

State and station.	(1) Normal for the month of June.	(2) Length of record.	(3) Mean for June, 1892.	(4) Departure from normal.	(5) Extreme monthly mean for June.			
					Highest.	Year.	Lowest.	Year.
Kansas.	°	Years	°	°	°		°	
Eureka Ranch	75.9	9	70.8	− 5.1	80.0	1890	70.8	1892
Independence	74.7	20	77.0	+ 2.3	79.0	1872	70.8	1889
Salina	75.4	9	74.4	− 1.0	79.3	1890	71.2	1891
Louisiana.								
Grand Coteau	79.8	9	78.0	− 1.8	82.0	1891	78.0	1892
Maine.								
Orono	62.0	22	63.3	+ 1.3	64.8	1884, 1889	57.5	1881
Maryland.								
Cumberland	68.6	21	73.3	+ 4.7	74.0	1874	65.3	1878
Michigan.								
Kalamazoo	67.2	15	69.9	+ 2.7	70.0	1887	63.7	1889
Missouri.								
Sedalia	74.2	10	75.2	+ 1.0	80.5	1890	71.6	1891
Montana.								
Fort Custer	63.8	11	.....	.....	66.5	1884	60.8	1891
Nebraska.								
Fort Robinson	67.4	7	62.6	− 4.8	71.7	1887	62.5	1891
Genoa (near)	69.4	16	68.9	− 0.5	72.8	1890	66.4	1878
Nevada.								
Browns	75.7	21	74.0	− 1.7	83.7	1873	69.0	1882
Carson City	64.8	14	61.3	− 3.5	69.9	1876	60.6	1891
New Hampshire.								
Hanover	64.0	21	67.9	+ 3.9	68.8	1876	61.5	1881
New Mexico.								
Deming	81.2	10	88.2	+ 7.0	88.2	1892	77.5	1884
Fort Wingate	69.8	21	65.7	− 4.1	75.2	1881	63.6	1891
New York.								
Cooperstown	64.0	21	66.4	+ 2.4	70.0	1876	59.0	1881
Plattsburgh Barracks	64.8	21	64.7	− 0.1	68.8	1872	60.8	1881
North Carolina.								
Lenoir	70.4	20	72.5	+ 2.1	75.0	1874	63.6	1887
Oklahoma.								
Fort Reno	75.0	9	.....	.....	76.9	1890	72.5	1889
Fort Sill	77.9	20	75.3	− 2.6	83.2	1881	73.8	1889
Oregon.								
Bandon	56.6	8	54.8	− 1.8	59.8	1891	54.1	1887
Eola	59.6	22	61.2	+ 1.6	65.0	1889	54.5	1873
Pennsylvania.								
Dyberry	64.1	19	66.3	+ 2.2	66.8	1884	60.4	1881
Grampian Hills	66.5	21	71.7	+ 5.2	71.7	1892	61.3	1878
Wellsborough	65.7	13	64.8	− 0.9	74.6	1883	61.1	1881
South Carolina.								
Statesburgh	76.4	11	75.4	− 1.0	80.5	1881	72.4	1884
South Dakota.								
Fort Sully	69.1	21	65.8	− 3.3	76.1	1871	63.6	1877
Texas.								
Austin	83.4	19	80.3	− 3.1	85.9	1881	79.1	1877
Silver Falls	75.6	5	78.6	+ 3.0	78.6	1892	71.8	1889
Utah.								
Terrace	73.1	20	72.2	− 0.9	79.3	1878	60.8	1885
Vermont.								
Strafford	65.8	19	64.5	− 1.3	71.1	1884	58.4	1881
Virginia.								
Dale Enterprise	72.3	12	74.9	+ 2.6	78.5	1890	68.2	1882
Washington.								
Fort Townsend	58.7	19	57.2	− 1.5	61.7	1888	56.0	1891
West Virginia.								
Parkersburgh	75.2	11	73.2	− 2.0	82.9	1885	68.0	1886
Wisconsin.								
Embarrass	68.1	21	64.8	− 3.3	73.2	1873	63.2	1889
Madison	67.8	15	65.3	− 2.5	72.4	1873	63.5	1889
Wyoming.								
Fort Washakie	62.9	8	58.5	− 4.4	68.9	1887	58.5	1892

DEPARTURES FROM NORMAL TEMPERATURE.

The mean temperature was above the normal from the lower Missouri and middle Mississippi valleys over the Lake region and the Atlantic coast states north of the 35th parallel; it was also above the normal from New Mexico over central and southern Texas, and at interior stations in Washington. The mean temperature was below the normal from the western Lake region and Manitoba to the middle and south Pacific coasts and Arizona; it was also below the normal along the south Atlantic and middle and east Gulf coasts, over Florida, and from the west Gulf coast to the middle-eastern slope of the Rocky Mountains. The greatest departure above the normal temperature was noted in an area extending from eastern Ohio