

# MONTHLY WEATHER REVIEW.

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BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk Weather Bureau,  
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## INTRODUCTION.

This REVIEW is based on reports for July, 1891, from 2,402 regular and voluntary observers. These reports are classified as follows: 163 reports from Weather Bureau stations; 118 reports from United States Army post surgeons; 1,545 monthly reports from state weather service and voluntary observers; 33 reports from Canadian stations; 179 reports through the Central Pacific Railway Company; 364 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Ser-

vice;" monthly reports from the local services of Alabama, Arkansas, Colorado, Illinois, Indiana, Iowa Weather and Crop Service, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, and Wisconsin, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

## CHARACTERISTICS OF THE WEATHER FOR JULY, 1891.

The month was the coolest July on record from the middle-eastern Rocky Mountain slope to the Atlantic coast, and at a majority of stations east of the 100th meridian, except in New England and east New York, the minimum temperature was the lowest ever noted for the season.

At stations on the middle and south Pacific coasts the month was the warmest July on record, and in the interior of the Pacific coast states south of Washington the maximum temperature was the highest ever reported for July.

The maximum temperature rose above 120° in the Colorado Desert, in the eastern part of San Diego county, Cal., and reached 122° at Furnace Creek, Death Valley, Cal.

### FROST.

Frost occurred at intervals in New England, New York, Pennsylvania, the upper lake region, Wisconsin, and Minnesota. The frost of the 8th in Wisconsin and upper Michigan, of the 19th and 20th in upper Michigan and the north part of lower Michigan, of the 24th in South Dakota, of the 25th in lower Michigan, of the 28th in Connecticut, and of the 30th and 31st in north lower Michigan was reported injurious to tender vegetation.

### PRECIPITATION.

The monthly precipitation was the greatest ever reported for July on the central New Jersey coast, in Arkansas, Indian Territory, south-central Kansas, north-central Montana, southeast Washington, and north-central California, and it was the least ever reported for July in New Mexico and extreme western Texas.

The monthly precipitation was generally in excess of the

July average in the Atlantic and east and west Gulf states, on the eastern slope of the Rocky Mountains, over the northern plateau, the west part of the middle plateau region, and along the Pacific coast between the 35th and 45th parallels; elsewhere it was generally deficient.

### STORMS.

Local storms were most frequently reported in the Dakotas, Nebraska, Kansas, Iowa, Michigan, New York, and Pennsylvania. Among the more severe storms were those in the west Gulf states and the lower Mississippi valley on the 5th and 6th, when great damage was done by high water at Galveston, Tex., on the 5th, and ten persons were killed and a number injured by a tornado at Baton Rouge, La., on the 6th; the storm at Superior and West Superior, Wis., on the 16th, when five persons were killed by a falling building; and the tornado in Maryland on the 18th, when five persons were seriously injured.

### FLOODS.

Considerable damage was caused along the Missouri River south of Pierre, S. Dak., by high water during the first part of the month. The river cut its banks and changed its channel at several points, causing considerable damage to farm property.

### DROUGHT.

Drought prevailed in parts of lower Michigan, South Dakota, Kansas, Texas, Arizona, and Washington. In the early part of the month the weather was very dry in eastern Wisconsin, southern Illinois, southern Indiana, and parts of Kentucky.

## ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The normal distribution of atmospheric pressure over the United States in July is influenced by the high areas of the Atlantic and Pacific oceans, and the low areas of the southern plateau region and northeast British America. Over the east Gulf states and Florida and on the north Pacific coast the

mean pressure generally rises above 30.05, and over the west part of the southern plateau region it falls below 29.85. In the British Possessions north of North Dakota and Montana the mean pressure is generally below 29.90.

For the current month the mean pressure was highest east

of the Mississippi and south of the Ohio rivers and on the coast of Washington, where it was above 30.05, and lowest over the west part of the southern plateau, where it was below 29.80. In Alberta and the east part of British Columbia the mean pressure was below 29.90.

A comparison of the pressure chart for July, 1891, with that of the preceding month shows an increase in pressure over the entire country, save on the middle Pacific coast and in east Ontario, where there was a slight decrease. The most marked increase in pressure occurred in the British Possessions north of North Dakota and east Montana, where it exceeded .15, and the increase was more than .10 from the east part of the Rocky Mountain region over the central valleys, in Nova Scotia, and Florida.

The mean pressure was above the normal, except from the lower Mississippi valley westward to southern California, and thence northward along the Pacific coast to British Columbia. The most marked departure above the normal pressure was noted in Nova Scotia and Manitoba, where it exceeded .10. In districts where the mean pressure was below the normal the departure was less than .05.

#### HIGH AND LOW AREAS.

The table at the end of this chapter exhibits some of the more prominent characteristics of the high and low areas charted for July, 1891.

#### HIGH AREAS.

Five high areas appeared during the month, the average number noted for July during the last 17 years being 5.9. All of the high areas charted for the current month were apparently offshoots of the Pacific area of high pressure, and moved from the north Pacific coast in a generally east-southeast course and disappeared over the north Atlantic Ocean. The average period of transit of the high areas was 5.8 days, and the average rate of advance was 23 miles per hour. In the case of numbers I and IV there was a transfer of highest pressure from one point to another within an extensive area of high pressure; these areas are, therefore, given sub-numbers, and are, in each instance, considered in the discussion and table as single areas. The following is a description of the high areas referred to:

I.—Was located off the north Pacific coast on the 1st, and the morning of the 2d, when the pressure was highest over Alberta, the high area extended over the middle Missouri valley. The evening report of the 2d showed high pressure over the Dakotas and Nebraska, and during the next 24 hours the area moved to Iowa, and the evening of the 3d an elongated area of high pressure extended from Minnesota to west Tennessee. The morning of the 4th the pressure was highest in Minnesota, from which region the centre of the area moved southeast and disappeared off the North Carolina coast the night of the 6th. The highest pressure noted during the passage of this high area was 30.16 at Winnipeg, Man., the morning of the 4th, and at stations in the upper Mississippi and middle Ohio valleys the morning of the 5th.

II.—Appeared on the north Pacific coast on the 5th and moved thence to Manitoba by the 7th, whence it passed southeast to Wisconsin by the 9th, and thence south of east and disappeared off the south New England coast the night of the 10th. The passage of this area was attended by unusually cool weather east of the Rocky Mountains from the 7th to 10th. On the 8th heavy frost was reported in the country surrounding Sault de Ste. Marie, Mich.; damage by frost was reported in the cranberry district about Berlin, Wis., and light frost was reported in eastern Iowa and central Illinois. Light frost was reported at Yellow Springs, Ohio, on the 9th. The greatest abnormal fall in temperature in 12 hours, 24°, occurred at Kansas City, Mo., on the 7th, and the highest pressure, 30.36, was noted at Port Huron, Mich., the morning of the 10th.

III.—Appeared off the Oregon coast on the 11th, passed to Montana by the 13th, thence southeast to the lower Ohio valley by the morning of the 16th, whence it moved south of east

and disappeared off the North Carolina coast the night of the 16th. Attending the passage of this area heavy frost was reported at Lead City and Bald Mountain, S. Dak., on the 14th, and the highest pressure noted, 30.34, occurred at North Platte, Nebr., the morning of the 14th.

IV.—Was central off the north Pacific coast on the 15th, passed to north Montana by the morning of the 16th, and thence to the middle Missouri valley by the 17th, where it remained nearly stationary during that and the following date. By the morning of the 19th the highest pressure in this area appeared north of Minnesota, whence it moved south of east and disappeared off the Nova Scotia coast the night of the 22d. In advance of this area exceptionally cool weather prevailed east of the Rocky Mountains on the 18th, and attending its passage north of the Lake region light frost occurred on the 20th in upper Michigan and the north part of lower Michigan. The highest pressure, 30.42, was noted at Rockcliffe, Ont., the morning of the 21st.

V.—Was located off the north Pacific coast on the 20th, moved to the region north of Montana by the 23d, and passing thence southeastward disappeared off the south Atlantic coast the night of the 27th. Attending the passage of this area light frost was reported in North Dakota on the 24th. During the 27th unusually cool weather prevailed in the north-east part of the country. On the 28th, when the pressure was high off the Atlantic coast from Nova Scotia to Florida, light frost was reported in Connecticut. The highest pressure noted in connection with this area, and the highest pressure reported for the month, was 30.44, at Edmonton, Alberta, the morning of the 23d.

During the passage of a short-lived high area over the upper lake region the night of the 30th–31st, light frost was reported in parts of north lower Michigan.

#### LOW AREAS.

The normal distribution of atmospheric pressure in July favors the passage of storms in high latitudes over the eastern part of the country, and a reference to storm-track charts of the last 19 years shows that the storms of July generally follow a course over or north of the Lake region and Saint Lawrence Valley.

During the current month 8 low areas appeared within the region of observation, the average number noted for July during the last 19 years being 9.6. One low area apparently developed over the west part of the lower lake region, 4 advanced from the British Northwest Territory, 2 originated over the plateau region, one of which passed eastward south of the Ohio River, and one moved northward from the west part of the Gulf of Mexico and united over Arkansas with a low area which had advanced from the northwest.

During the 9th and 10th a feeble low area, not charted, moved from the east part of the Gulf of Mexico over north Florida.

The following is a description of the low areas whose tracks are plotted on Chart I:

I.—Advanced from the British Northwest Territory the last day of June and was central over the Dakotas as a slight barometric depression the morning of the 1st, whence it moved to southern Iowa by the evening of the 2d, and passing thence east-northeast disappeared over the Gulf of Saint Lawrence during the 7th, its rate of advance being but 15 miles per hour. The lowest pressure noted in connection with this area was 29.56, at Rockcliffe, Ont., the morning of the 4th.

An area of general rain which extended over the north part of the central valleys and the Lake region on the 1st moved eastward, reached southward over Virginia on the 3d and 4th, and disappeared east of New England after the 6th.

Severe local storms occurred in Iowa and Missouri on the 1st; in Wisconsin, the Dakotas, Illinois, Missouri, and Kansas on the 2d; in New York, Pennsylvania, and Maryland on the 3d; and heavy thunderstorms were reported at Boston, Mass., and Norfolk, Va., the morning of the 4th.

II.—Appeared in the Valley of the Columbia River on the 3d, moved thence to the region north of Montana by the 5th, thence southeastward to Arkansas by the 7th, where it united with low area III which had advanced from the west Gulf, thence eastward, passing off the North Carolina coast during the afternoon of the 8th, and thence northeastward to a position south of Nova Scotia by the evening of the 9th.

On the 5th, when the course of this low area changed to southeast, an elongated area of high pressure, high area I, extended from Manitoba to Tennessee and low area III was central on the west Gulf coast. The apparent effect of this distribution of pressure was to deflect low area II southeastward. After the union of low areas II and III high area II occupied a position to the north and northwest, causing the storm to assume an easterly course to the Atlantic coast. The lowest pressure noted in connection with this low area was 29.56, at Medicine Hat, N. W. T., the evening of the 4th.

Light rain fell over the east part of the middle plateau and on the middle-eastern slope of the Rocky Mountains on the 4th; on the northeast slope of the Rocky Mountains on the 5th; in the middle Missouri valley and on the middle-eastern slope on the 6th; heavy rain in the east Gulf states and the Missouri and Ohio valleys on the 7th; and heavy rain in the east Gulf states, the upper Ohio valley, and the middle and south Atlantic states on the 8th.

A severe wind and duststorm occurred at Walla Walla, Wash., on the 3d, the wind exceeding 40 miles per hour; on the 4th a thunder, wind, and hailstorm was reported at Salt Lake City, Utah; on the 5th a heavy thunder, wind, rain, and hailstorm occurred at Rapid City, S. Dak.; on the 6th and 7th thunderstorms, with heavy rain, visited east Iowa; on the 7th heavy rain attended thunderstorms in east Kansas and Nebraska, west Missouri, and north Texas; and on the 8th heavy rain fell in east Mississippi, a heavy gale prevailed over Chesapeake Bay, and severe local storms occurred in Maryland and Virginia.

III.—The presence of a low area over the west part of the Gulf of Mexico was indicated by reports of the 3d, and by the evening of the 4th the storm was apparently central southeast of the mouth of the Rio Grande River, whence it moved northward, passing near and west of Galveston, Tex., the evening of the 5th, and thence east of north, uniting over Arkansas during the 7th with low area II which had advanced from the northwest. At 9.30 p. m., 75th meridian time, the barometer read 29.24 at Galveston, Tex., having fallen .38 inch in 1½ hour. From this time the barometer rose and the wind shifted suddenly from southeast to southwest.

Light rain fell on the west Gulf coast the night of the 3d; heavy rain fell in that region on the 4th; on the 5th the area of heavy rain extended over the lower Mississippi valley; and on the 6th and 7th very heavy rainfalls were reported in the Mississippi Valley south of Tennessee.

A storm of wind and rain began at Galveston, Tex., the night of the 4th and continued during the 5th, and low-lying sections of the city were inundated by a storm-wave. On the 5th and 6th destructive local storms occurred in the west Gulf states and the lower Mississippi valley. At Baton Rouge, La., the state penitentiary was wrecked and ten convicts killed and a number injured. Many other houses were destroyed or damaged at that place.

IV.—Appeared central over the west part of the lower lake region the morning of the 7th, moved to southeast New York by the evening of that date, and passing thence northeastward along the New England coast disappeared east of Cape Breton Island the night of the 8th, the lowest pressure, 29.54, being noted at Eastport, Me., the morning, and at Sydney, C. B. I., the evening of the 8th.

Rain fell on the 7th from the Lake region and Ohio Valley over the middle Atlantic states and New England, and during the early part of the 8th heavy rain fell in New England.

Severe local storms were reported in South Carolina, Maryland, and Pennsylvania on the 7th.

V.—Was apparently an offshoot of the southern plateau area of low pressure, and the evening of the 10th was central over the east part of the middle plateau region, whence it moved slowly northeastward to the upper valley of the Red River of the North by the 12th, and passing thence eastward over the upper lakes and the Saint Lawrence Valley disappeared north of the Gulf of Saint Lawrence during the 16th, the lowest pressure noted being 29.56, at Pueblo, Colo., the evening of the 11th, and at Moorhead, Minn., the evening of the 12th. From the 7th to 10th, inclusive, the pressure was low north of Montana, and light rains fell over the northern Rocky Mountain regions.

Rain fell in the middle Missouri valley the afternoon of the 10th; from the middle and northeast slopes of the Rocky Mountains to the upper lake region on the 11th; in the Missouri Valley on the 12th; in the upper Mississippi valley and Lake region on the 13th; from the Lake region and Ohio Valley eastward over the middle Atlantic and New England states on the 14th and 15th; and on the 16th the weather was clearing in the middle Atlantic and New England states.

Severe local storms occurred in the Dakotas and Michigan on the 12th; in Michigan, Wisconsin, the upper Mississippi and lower Missouri valleys on the 13th; in New York, Pennsylvania, Maryland, Michigan, and the Ohio Valley on the 14th; and in Maryland, New Jersey, New York, and Maine on the 15th.

VI.—Advanced from the British Northwest Territory and was central over Manitoba the evening of the 15th, whence it moved southeastward to the lower lake region by the 18th, and passing thence along the Saint Lawrence Valley disappeared over the Gulf of Saint Lawrence during the 20th, the lowest pressure noted during its passage being 29.68, at Kingston, Ont., the evening of the 18th.

Rain fell in Manitoba, the Missouri Valley, and Minnesota on the 16th; in the Missouri, middle Mississippi, and Ohio valleys, and the Lake region on the 17th; from the Lake region and the Ohio Valley to the Atlantic coast from Florida to Maine on the 18th; and along the Atlantic coast from Florida northward on the 19th.

On the 16th destructive storms occurred in north Wisconsin and Minnesota, Michigan, Iowa, and Nebraska; on the 17th in the Dakotas and Michigan; and on the 18th in Ohio and the middle Atlantic states. A heavy gale prevailed along the New Jersey coast, and a well-defined tornado visited southern Maryland on the 18th.

VII.—Advanced from the British Northwest Territory and was central over west Minnesota the evening of the 21st, whence it moved to the north coast of Lake Superior by the morning of the 23d, and passing thence eastward disappeared over the Gulf of Saint Lawrence during the 25th, the lowest pressure, 29.62, being noted at Minnedosa, Man., the morning of the 22d.

Rain fell in the middle and north parts of the central valleys on the 21st; the rain extended over the Lake region on the 22d; from the Lake region and middle Mississippi valley to the middle Atlantic coast on the 23d; rain fell from the east part of the Lake region and upper Ohio valley over the middle Atlantic and New England states on the 24th; and in the middle Atlantic and New England states on the 25th.

Destructive hailstorms occurred in the Dakotas, Iowa, Nebraska, and Minnesota on the 21st; severe thunder and hailstorms in Kansas and north Iowa the night of the 21st–22d; wind and hailstorms in Kansas, South Dakota, and Minnesota, and heavy storms in western Pennsylvania on the 22d; thunderstorms in the middle Mississippi valley and the lower lake region the night of the 22–23d; in the middle Ohio valley and the lower lake region on the 23d; in Ohio, West Virginia, Maryland, Pennsylvania, and New York on the 24th; and in the Atlantic coast states from North Carolina to New England on the 25th.

VIII.—Advanced from the British Northwest Territory, and the evening of the 28th was central north of Lake Superior, whence it moved southeastward and passed off the New Jer-

sey coast during the 30th. From this position the storm-center assumed a northeast course, and on the 31st was central east of Cape Breton Island. The abnormal southeast course of this low area during the 29th and 30th was apparently due to the presence on those dates of an area of high pressure over the Gulf of Saint Lawrence. On the 30th the storm apparently divided, one part moving north of east over the Saint Lawrence Valley, where it dissipated, and the other passing southeast to northern New Jersey. The lowest pressure noted in connection with this low area was 29.48, at Sydney, C. B. I., the evening of the 31st.

On the 28th rain fell in the central valleys and the Lake region, and very heavy rainfalls occurred in the Gulf and south Atlantic states. On the 29th rain was general in the

central valleys and eastward to the Atlantic coast, very heavy rain falling in the Gulf States and Tennessee. On the 30th rain fell east of the Mississippi River, and during the 31st the rain area passed east of the middle Atlantic and New England states.

On the 26th and 27th, when this low area was forming or approaching over the British Northwest Territory, severe local storms occurred in South Dakota and Nebraska; on the 28th destructive storms were reported in Minnesota, the Dakotas, and Iowa, and southward in the central valleys to north Texas; on the 29th from the middle Mississippi valley over the Lake region, the Ohio Valley and Tennessee, and the middle Atlantic states; and on the 30th in the middle Atlantic states and the lower lake region.

Tabulated statement showing principal characteristics of areas of high and low pressure.

Barometer.	First observed.			Last observed.		Duration.	Velocity per hour.	Maximum pressure change and maximum abnormal temperature change in twelve hours and maximum wind velocity.											
	Date.	Lat. N.	Long. W.	Lat. N.	Long. W.			Station.	Rise.	Date.	Station.	Fall.	Date.	Station.	Direction.	Miles per hour.	Date.		
<b>High areas.</b>		°	°	°	°	Days.	Miles.		Inch.										
I.....	1	48	126	34	76	5.0	23	Calgary, N. W. T.....	.32	1	Sacramento, Cal.....	15	2	Dodge City, Kans.....	se.	44	4		
II.....	5	47	126	49	70	5.0	23	do.....	.54	6	Kansas City, Mo.....	24	7	Chicago, Ill.....	ne.	36	5		
III.....	11	45	126	35	74	5.0	26	Fort Assiniboine, Mont.....	.42	12	Walla Walla, Wash.....	26	10	Pierre, S. Dak.....	nw.	39	13		
IV.....	15	46	125	44	62	7.0	19	Rockliffe, Ont.....	.26	20	Sacramento, Cal.....	17	16	Dodge City, Kans.....	sw.	36	17		
V.....	20	47	126	32	73	7.0	20	Winnipeg, Man.....	.50	23	Qu'Appelle, N. W. T.....	20	22	Pueblo, Colo.....	n.	28	25		
Mean.....						5.8	23		.41			20					35		
<b>Low areas.</b>									Fall.			Rise.							
I.....	1	47	100	49	64	6.0	15	Port Huron, Mich.....	.24	3	Fort Buford, N. Dak.....	12	1	Chicago, Ill.....	ne.	50	3		
II.....	3	46	119	43	65	6.0	27	Calgary, N. W. T.....	.36	3	Knoxville, Tenn.....	12	2	Rapid City, S. Dak.....	nw.	57	5		
III.....	4	25	96	34	93	2.5	12	Galveston, Tex.....	.22	2	Abilene, Tex.....	14	6	Galveston, Tex.....	se.	60	5		
IV.....	7	42	83	47	60	1.5	35	Palestine, Tex.....	.22	2	Abilene, Tex.....	14	6	Bloek Island, R. I.....	n.	36	8		
V.....	10	49	108	50	65	5.5	18	Sydney, C. B. I.....	.40	3	Norfolk, Va.....	8	7	Bismarck, N. Dak.....	ne.	48	12		
VI.....	15	52	100	49	65	4.5	19	Salt Lake City, Utah.....	.30	10	Eastport, Me.....	20	16	Milwaukee, Wis.....	sw.	48	13		
VII.....	21	52	101	50	65	3.5	21	Minnedosa, Man.....	.38	15	Green Bay, Wis.....	15	16	Norfolk, Va.....	sw.	42	15		
VIII.....	28	51	93	46	55	2.5	35	Battleford, N. W. T.....	.42	21	Qu'Appelle, N. W. T.....	16	22	Yankton, S. Dak.....	n.	50	21		
Mean.....						3.8	23	Sydney, C. B. I.....	.46	31	Rapid City, S. Dak.....	16	28	Yankton, S. Dak.....	sw.	50	28		

\*4th, wind reached 56 miles per hour from the sw. at Mount Killington, Vt. †15th, wind reached 78 miles per hour from the sw. at Green Mountain, Me.

**NORTH ATLANTIC STORMS FOR JULY, 1891** (pressure in inches and millimetres; wind-force by Beaufort scale).

The paths of depressions that appeared over the west part of the north Atlantic Ocean during July, 1891, are shown on Chart I. These paths have been determined from international observations by captains of ocean steamships and sailing vessels received through the co-operation of the Hydrographic Office, Navy Department, and the "New York Herald Weather Service."

Generally fine weather prevailed over the north Atlantic Ocean during the month, and no storms of marked severity occurred along the trans-Atlantic steamship routes. In July of preceding years storms of marked strength have seldom been encountered in the middle latitudes of the north Atlantic Ocean, the most destructive storms of the month generally occurring in the tropical or sub-tropical regions.

July, 1891, opened with low pressure from coast to coast. A storm which was central south of Nova Scotia June 30th was located over the Grand Banks, with central pressure about 29.60 (752), whence it moved northeast over the Grand Banks, and passing eastward between latitude north 50° and 55° disappeared north of the British Isles after the 6th. This storm was the most important noted for the month, and on the 5th and 6th, when central west of the British Isles, it was attended with pressure falling to about 29.50 (749) and fresh gales. On the 6th and 7th a storm, low area I, was central over the Gulf of Saint Lawrence, and by the morning of the 8th had united with low area IV, which advanced along the New England coast to the Gulf of Saint Lawrence during the 8th. Advancing northeastward over Newfoundland this storm

disappeared north of the region of observation by the 9th. On the morning of the 9th a storm which was a continuation of low areas II and III, was central off the middle Atlantic coast, whence it moved northeast and apparently dissipated south of Nova Scotia. From the 10th to the 12th a barometric depression of slight depth which had apparently advanced from the east Gulf moved northeastward off the south Atlantic coast, with fresh to strong gales. During the second decade of the month low pressure prevailed over mid-ocean, and the pressure was low over the British Isles from the 16th to the 20th. The morning of the 16th a storm which was a continuation of low area V was central near Anticosti Island, Gulf of Saint Lawrence, whence it passed north-northeast and disappeared north of the region of observation after the 17th. On the 26th a storm, low area VII, was central over the west part of the Gulf of Saint Lawrence, whence it apparently moved southward over Nova Scotia by the morning of the 27th, in which region it apparently disappeared. The evening of the 30th a storm, low area VIII, was central off the New Jersey coast, whence it moved northeast and the morning of the 31st was central east of Cape Breton Island.

**FOG IN JULY.**

The limits of fog-belts west of the 40th meridian, as reported by shipmasters, are shown on Chart I by dotted shading. In the vicinity of the Banks of Newfoundland fog was reported on 21 dates; between the 55th and 65th meridians on 12 dates; and west of the 65th meridian on 10 dates. Com-