

7.55 p. m. and from 8.10 to 8.45 p. m. The display consisted of an irregular arch of diffused white light of 20° altitude and extending from northwest to east. Patches and waves of light reached to the zenith and were of a rose color, at times deepened to a ruby tint. The display was most brilliant at 7.45 p. m. From 8.10 to 8.45 p. m. the display consisted merely of an arch, and was very beautiful, as the colors were very strong. The display was observed in Syracuse.

District of Columbia.—Washington, 3d, an aurora was observed at 7.25 p. m. in the north, extending about 20° in azimuth toward the west. When first observed a few beams could be seen but soon blended into a diffused reddish light, which entirely disappeared at 8 p. m.

Minnesota.—St. Vincent, 3d, an aurora was observed at 8 p. m., which increased in brilliancy. Streamers extended from east to west, and reached the zenith in the shape of a cone. Later it formed a band on the horizon and disappeared about 10.30 p. m.

North Dakota.—Bismarck, 3d-4th, an aurora, consisting of an arch, with a dark segment below, from which occasional streamers would flash up to zenith, began at 7.20 p. m., 3d, and ended at 8 a. m., 4th. Altitude of summit of arch 40°, azimuthal span of arch 200°.

Montana.—Havre, 2-3d, an aurora began at 10.30 p. m., 2d. A pale, whitish light forming a broken auroral arch, altitude at crown of arch 30°,

azimuth of the ends, 100° to 260°. The display ended in the early morning of the 3d. Helena, 4th, an aurora, consisting of a pale, yellow light, with shooting beams and a well-defined dark segment, was observed from 12.10 a. m. to 1.25 a. m., when it was obscured by clouds. Altitude of the display 15°, shooting beams extended to 35°, azimuthal span of arch, 120°. Miles City, 11th, aurora visible from 8.30 p. m. to midnight, when observer retired. During greater part of evening it was merely a diffused light, but from 10.30 to 11 p. m., there were three successive arches superposed from the horizon upward at equal distances apart, and the apex of the uppermost arch was 45° in altitude and 60° azimuth, or span. The apices of the lower arches were directly under the apex of the uppermost, and the azimuthal span of the lowest was only one-third that of the uppermost. Three slender columns were seen in front of the aurora and about 50° in altitude. 12th, the aurora disappeared with the oncoming of daylight.

South Dakota.—Huron, 12th, a brilliant aurora was observed at intervals from 9.30 p. m. until after midnight. The form and appearance was very changeable. Sometimes numerous beams, reaching nearly to the zenith, prevailed and again the phenomenon was wholly a clearly-defined arch of white light over a very dark segment. The extremes of the display extended from about azimuth 140° to 220°, and altitude 75° to 80°. The beams were in constant motion and seemed to vibrate from side to side.

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for January, 1894, of the directors of the various state weather services:

ALABAMA.

Temperature.—The mean was 6.5 above the normal; maximum, 82, at Geneva, 7th; minimum, 3, at Florence and Newburg, 25th; greatest monthly range, 69 at Newburg; least monthly range, 45, at Eufaula and Oxanna.

Precipitation.—The average was 0.65 below the normal; greatest monthly, 9.38, at Newton; least monthly, 0.86, at Sturdevant.

Wind.—Prevailing direction, north.—F. P. Chaffee, Local Forecast Official, Weather Bureau, Montgomery, director.

ARIZONA.

Temperature.—Maximum, 84, at Parker, 26th; minimum, —19, at Flagstaff, 7th; greatest monthly range, 74, at Parker and Whipple Barracks; least monthly range, 40, at Peoria and Reymert.

Precipitation.—Greatest monthly, 2.00, at Flagstaff; least monthly, 0.00, at several stations.

Wind.—Prevailing direction, southwest.—W. Burrows, Observer, Weather Bureau, Tucson, director.

ARKANSAS.

Temperature.—The mean was 3.3 above the normal; maximum, 77, at Bee Branch and Fort Smith, 16th; minimum, —22, at Rogers, 24th; greatest monthly range, 97, at Rogers; least monthly range, 60, at Brinkley.

Precipitation.—The average was 1.08 below the normal; greatest monthly, 8.58, at Hamburg; least monthly, 1.48, at Conway.

Wind.—Prevailing direction, south.—F. H. Clarke, Local Forecast Official, Weather Bureau, Little Rock, director; G. G. Harkness, Observer, Weather Bureau, assistant.

CALIFORNIA.

Temperature.—The mean was 0.8 below the normal; maximum, 83, at Indio, 28th; minimum, —22, at Boca, 6th; greatest monthly range, 61, at Tehachapi; least monthly range, 18, at Point Lobos.

Precipitation.—The average was 0.51 above the normal; greatest monthly, 27.56, at Upper Mattole; least monthly, trace, at Keeler.

Wind.—Prevailing direction, west.—J. A. Barwick, Observer, Weather Bureau, Sacramento, director.

COLORADO.

Temperature.—The mean was 2.0 above the normal; maximum, 80, at Downing, 15th and 17th; minimum, —35, at Gunnison, 19th; greatest monthly range, 95, at Downing; least monthly range, 47, at Watkins.

Precipitation.—The average was 0.25 below the normal; greatest monthly, 4.83, at Climax; least monthly, 0.00, at Canyon City, Las Animas, and Watkins.

Wind.—Prevailing direction, west.—J. J. Gilligan, Observer, Weather Bureau, Denver, director.

FLORIDA.

Temperature.—The mean was 1.5 above the normal; maximum, 85, at Plant City, 8th; minimum, 27, at Pensacola, 26th; greatest monthly range, 53, at Plant City; least monthly range, 19, at Key West.

Precipitation.—The average was 0.09 below the normal; greatest monthly, 4.35, at Titusville; least monthly, 0.46, at Manatee.

Wind.—Prevailing direction, northeast.—E. R. Demain, Observer, Weather Bureau, Jacksonville, director.

GEORGIA.

Temperature.—Maximum, 79, at Darien, 6th, 13th, and 17th, at Fleming,

5th, at Poulan, 7th, at Columbus, 16th; minimum, 16, at Adairsville and Lafayette, 25th; greatest monthly range, 60, at Darien and Lawrenceville; least monthly range, 40, at Lafayette and Toccoa.

Precipitation.—Greatest monthly, 6.76, at Dahlonega; least monthly, 0.75, at Brag.

Wind.—Prevailing direction, east.—Park Morrill, Local Forecast Official, Weather Bureau, Atlanta, director.

IDAHO.

Temperature.—Maximum, 62, at Nampa, 15th; minimum, —26, at Lake, 23d.

Precipitation.—Greatest monthly, 8.50, at Fort Sherman; least monthly, 0.30, at Oakley.

Wind.—Prevailing direction, southwest.—J. H. Smith, Observer, Weather Bureau, Idaho Falls, director.

ILLINOIS.

Temperature.—The mean was 7.0 above the normal; maximum, 73, at Griggsville, 17th; minimum, —26, at Dixon, 25th.

Precipitation.—The average was 0.11 below the normal; greatest monthly, 3.09, at Carlinville; least monthly, 1.05, at Bushnell.

Wind.—Prevailing direction, south.—John Craig, Observer, Weather Bureau, Springfield, director.

INDIANA.

Temperature.—The mean was 7.7 above the normal; maximum, 68, at Marengo, 17th; minimum, —17, at Lafayette; greatest monthly range, 73, at Lafayette and Marengo; least monthly range, 59, at Angola.

Precipitation.—The average was 0.63 below the normal; greatest monthly, 4.10, at Huntingburg; least monthly, 1.29, at Hammond.

Wind.—Prevailing direction, southwest.—Prof. H. A. Huston, Lafayette, director; C. F. R. Wappenhans, Local Forecast Official, Weather Bureau, assistant.

IOWA WEATHER AND CROP SERVICE.

Temperature.—The mean was 3.0 above the normal; maximum, 85, at Centerville, 21st; minimum, —37, at Ames, 25th; greatest monthly range, 112, at Centerville; least monthly range, 68, at Algona.

Precipitation.—The average was 0.26 below the normal; greatest monthly, 2.24, at Keokuk; least monthly, 0.31, at Humboldt.

Wind.—Prevailing direction, northwest.—J. R. Sage, Des Moines, director; G. M. Chappel, Local Forecast Official, Weather Bureau, assistant.

KANSAS.

Temperature.—The mean was 2.1 above the normal; maximum, 77, at Englewood, 16th; minimum, —26, at Achilles and Colby, 24th; greatest monthly range, 100, at Achilles; least monthly range, 80, at Cawker City.

Precipitation.—The average was 0.14 below the normal; greatest monthly, 3.45, at Sedan; least monthly, trace, at several stations.

Wind.—Prevailing direction, south.—T. B. Jennings, Observer, Weather Bureau, Topeka, director.

KENTUCKY.

Temperature.—The mean was 4.9 above the normal; maximum, 78, at Franklin, 24th; minimum, —12, at Pellville, 25th; greatest monthly range, 83, at Franklin; least monthly range, 58, at Catlettsburg.

Precipitation.—The average was 1.27 below the normal; greatest monthly, 4.30, at Caddo; least monthly, 1.56, at Carrollton.

Wind.—Prevailing direction, southwest.—Frank Burke, Local Forecast Official, Weather Bureau, Louisville, director.

LOUISIANA.

Temperature.—The mean was 3.5 above the normal; maximum, 83, at Maurepas, 6th, and at Abbeville, 16th; minimum, 12, at Natchitoches, 26th; greatest monthly range, 67, at Liberty Hill; least monthly range, 34, at Port Eads.

Precipitation.—The average was 0.08 above the normal; greatest monthly, 9.08, at Farmerville; least monthly, 0.90, at Houma.

Wind.—Prevailing direction, south.—*R. E. Kerkam, Local Forecast Official, Weather Bureau, New Orleans, director.*

MARYLAND.

Temperature.—The mean was 2.1 above the normal; maximum, 67, at Cumberland (b), 22d; minimum, 3, at Sunnyside, 26th; greatest monthly range, 53, at Sunnyside; least monthly range, 31, at Cambridge.

Precipitation.—The average was 1.61 below the normal; greatest monthly, 3.70, at Oakland; least monthly, 1.19, at New Market.

Wind.—Prevailing direction, northwest.—*Dr. William B. Clark, Johns Hopkins University, Baltimore, director; Prof. Milton Whitney, Maryland Agricultural College, secretary and treasurer; C. P. Cronk, Observer, Weather Bureau, in charge.*

MICHIGAN.

Temperature.—The mean was 3.8 above the normal; maximum, 63, at Adrian, 18th; minimum, —23, at Crystal Falls, 25th; greatest monthly range, 75, at Crystal Falls; least monthly range, 44, at Berrien Springs (a).

Precipitation.—The average was 0.30 below the normal; greatest monthly, 5.30, at Beuzonia; least monthly, 0.50, at Crystal Falls.

Wind.—Prevailing direction, southwest.—*E. A. Evans, Local Forecast Official, Weather Bureau, Detroit, director.*

MINNESOTA.

Temperature.—The mean was 2.7 above the normal; maximum, 54, at Minnesota City, 17th, and at Pokegama Falls, 13th; minimum, —47, at Pokegama Falls, 25th; greatest monthly range, 101, at Pokegama Falls; least monthly range, 64, at Bird Island and Wilmar.

Precipitation.—The average was 0.11 below the normal; greatest monthly, 1.70, at Rolling Green; least monthly, 0.26, at Ada and Alexandria.

Wind.—Prevailing direction, northwest.—*E. A. Beals, Observer, Weather Bureau, Minneapolis, director.*

MISSISSIPPI.

Temperature.—The mean was 5.0 above the normal; maximum, 82, at Hattiesburg, 6th, at Leakesville, 16th, and at Vaiden, 17th; minimum, zero, at Hernando, 25th; greatest monthly range, 71, at Vaiden; least monthly range, 48, at Biloxi.

Precipitation.—The average was 0.25 below the normal; greatest monthly, 7.48, at French Camp and Woodville; least monthly, 1.59, at Biloxi.

Wind.—Prevailing direction, south.—*R. J. Hyatt, Local Forecast Official, Weather Bureau, Vicksburg, director.*

MISSOURI.

Temperature.—The mean was 3.9 above the normal; maximum, 77, at Mount Vernon and Neosho, 16th; minimum, —35, at Grovedale, 25th; greatest monthly range, 110, at Grovedale; least monthly range, 66, at Gorin.

Precipitation.—The average was 0.22 above the normal; greatest monthly, 5.36, at Neosho; least monthly, 0.20, at Vanclave and Cowgill.

Wind.—Prevailing direction, south.—*J. R. Rippey, Secretary, State Board of Agriculture, Columbia, director; E. H. Nimmo, Observer, Weather Bureau, assistant.*

MONTANA.

Temperature.—The mean was 5.0 above the normal; maximum, 63, at Mingsville, 14th; minimum, —38, at Mingsville, 24th; greatest monthly range, 101, at Mingsville; least monthly range, 61, at Red Rock.

Precipitation.—The average was 0.60 above the normal; greatest monthly, 2.36, at Martinsdale; least monthly, 0.30, at Glasgow.

Wind.—Prevailing direction, southwest.—*J. M. Sherier, Observer, Weather Bureau, Helena, director.*

NEBRASKA.

Temperature.—The mean was 1.0 above the normal; maximum, 82, at Indianola, 15th; minimum, —38, at Valentine, 24th; greatest monthly range, 108, at Indianola; least monthly range, 71, at York.

Precipitation.—The average was 0.12 below the normal; greatest monthly, 1.80, at Lexington; least monthly, 0.07, at Crete.

Wind.—Prevailing direction, northwest.—*George E. Hunt, Local Forecast Official, Weather Bureau, Omaha, director.*

NEVADA.

Temperature.—The mean was 2.2 above the normal; maximum, 70, at Belleville, 29th; minimum, —30, at Halleck, 9th; greatest monthly range, 83, at Ely; least monthly range, 46, at Virginia City.

Precipitation.—The average was 0.07 below the normal; greatest monthly, 5.53, at Lewers Ranch; least monthly, 0.09, at Saint Clair.

Wind.—Prevailing direction, southwest.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, Observer, Weather Bureau, assistant.*

NEW ENGLAND.

Temperature.—The mean was 2.8 above the normal; maximum, 58, at

Vineyard Haven, 25th, and at Lake Cochituate, 4th; minimum, —40, at Fort Kent, 11th; greatest monthly range, 88, at Houlton; least monthly range, 40, at New Haven.

Precipitation.—The average was 0.86 below the normal; greatest monthly, 5.77, at Hyannis; least monthly, 1.20, at North Conway.

Wind.—Prevailing direction, northwest.—*J. Warren Smith, Weather Bureau, Boston, director.*

NEW JERSEY.

Temperature.—The mean was 4.7 above the normal; maximum, 61, at Elizabeth, 24th; minimum, —4, at River Vale, 28th; greatest monthly range, 56, at River Vale and Somerville; least monthly range, 34, at Ocean City, Cape May C. H., and Cape May.

Precipitation.—The average was 1.54 below the normal; greatest monthly, 3.80, at Tenafly; least monthly, 1.18, at Blairstown.

Wind.—Prevailing direction, northwest.—*E. W. McGann, Observer, Weather Bureau, New Brunswick, director.*

NEW MEXICO.

Temperature.—The mean was about normal; maximum, 72, at Fort Wingate, 17th; minimum, —19, at Monero, 7th; greatest monthly range, 80, at Fort Wingate; least monthly range, 41, at Coolidge.

Precipitation.—Greatest monthly, 1.60, at Chama; least monthly, 0.00, at several stations.—*H. B. Hersey, Observer, Weather Bureau, Santa Fe, director.*

NEW YORK.

Temperature.—The mean was 4.5 above the normal; maximum, 60, at Factoryville, 4th; minimum, —13, at Saranac Lake, 12th and 13th; greatest monthly range, 63, at Friendship; least monthly range, 35, at Fort Niagara.

Precipitation.—The average was 0.03 below the normal; greatest monthly, 5.65, at Ogdensburg; least monthly, 1.35, at Deposit.

Wind.—Prevailing direction, west.—*Prof. E. A. Fuytes, Dean of the College of Civil Engineering, Cornell University, Ithaca, director; R. M. Harding, Observer, Weather Bureau, assistant.*

NORTH CAROLINA.

Temperature.—The mean was 2.9 above the normal; maximum, 75, at Sloan, 7th, and at Wilmington, 6th; minimum, 11, at Blowing Rock and Columbus, 26th; greatest monthly range, 54, at Columbus; least monthly range, 29, at Hatteras.

Precipitation.—The average was 0.61 below the normal; greatest monthly, 10.34, at Lewiston; least monthly, 1.45, at Cullowhee.

Wind.—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Observer, Weather Bureau, assistant.*

NORTH DAKOTA.

Temperature.—The mean was 1.2 above the normal; maximum, 60, at New Salem, 14th; minimum, 47, at Willow City, 7th; greatest monthly range, 95, at New Salem; least monthly range, 70, at Power and Napoleon.

Precipitation.—The average was 0.25 below the normal; greatest monthly, 1.30, at Milton; least monthly, 0.06, at Gallatin.

Wind.—Prevailing direction, northwest.—*B. H. Bronson, Observer, Weather Bureau, Bismarck, director.*

OHIO WEATHER AND CROP SERVICE.

Temperature.—The mean was 6.9 above the normal; maximum, 66, at Annapolis, 5th, and at Cherry Fork, 18th; minimum, —16, at Spring Valley, 25th; greatest monthly range, 71, at Hillsboro; least monthly range, 46, at Millport.

Precipitation.—The average was 1.01 below the normal; greatest monthly, 3.60, at Greenfield; least monthly, 0.69, at Pomeroy.

Wind.—Prevailing direction, southwest.—*L. N. Bonham, Columbus, director; C. M. Strong, Observer, Weather Bureau, assistant.*

OKLAHOMA.

Temperature.—The mean was 2.0 above the normal; maximum, 80, at Buffalo, 3d, and at Purcell, 16th; minimum, —15, at Clifton, 25th; greatest monthly range, 93, at Clifton; least monthly range, 70, at Gwenndale.

Precipitation.—Greatest monthly, 3.91, at Burnett; least monthly, trace, at Buffalo.

Wind.—Prevailing direction, south.—*J. I. Widmeyer, Observer, Weather Bureau, Oklahoma City, director.*

PENNSYLVANIA.

Temperature.—The mean was 4.1 above the normal; maximum, 65, at Somerset, 23d; minimum, —9, at Shingle House, 26th; greatest monthly range, 63, at Smethport; least monthly range, 39, at Harrisburg.

Precipitation.—The average was 1.18 below the normal; greatest monthly, 4.71, at Kane; least monthly, 0.83, at Selins Grove.

Wind.—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia: W. P. Tatham, director; T. F. Townsend, Local Forecast Official, Weather Bureau, assistant.*

SOUTH CAROLINA.

Temperature.—The mean was 2.7 above the normal; maximum, 80, at Trial, 6th and 16th; minimum, 19, at Brewer Mine, 18th.

Precipitation.—The average was 1.32 below the normal; greatest monthly, 5.94, at Hollands Store; least monthly, 1.19, at Port Royal.

Wind.—Prevailing direction, northeast.—*J. W. Bauer, Observer, Weather Bureau, Columbia, director.*

SOUTH DAKOTA.

Temperature.—The mean was 0.5 below the normal; maximum, 61, at Spearfish, 15th; minimum, —39, at Forestburg and Frankfort, 24th; greatest monthly range, 89, at Rosebud; least monthly range, 70, at Oelrichs.

Precipitation.—The average was 0.20 above the normal; greatest monthly, 1.92, at Webster; least monthly, 0.11, at Brookings.

Wind.—Prevailing direction, northwest.—*S. W. Glenn, Local Forecast Official, Weather Bureau, Huron, director.*

TENNESSEE WEATHER AND CROP SERVICE.

Temperature.—The mean was 5.9 above the normal; maximum, 72, at Memphis, 17th; minimum, —6, at Clarksville, 25th; greatest monthly range, 75, at Clarksville; least monthly range, 43, at Rogersville.

Precipitation.—The average was 0.70 below the normal; greatest monthly, 7.20, at Waynesboro; least monthly, 1.83, at Strawberry Plains.

Wind.—Prevailing direction, south.—*J. B. Marbury, Local Forecast Official, Weather Bureau, Nashville, director.*

TEXAS.

Temperature.—The mean was 3.4 above the normal; maximum, 95, at Twohig, 20th; minimum, —15, at Corsicana (a), 24th; greatest monthly range, 96, at Wichita Falls; least monthly range, 48, at Galveston.

Precipitation.—The average was 0.65 below the normal; greatest monthly, 5.20, at Hallettsville; least monthly, 0.00, at Fort Hancock.

Wind.—Prevailing direction, south.—*D. D. Bryan, Galveston, director; I. M. Cline, Local Forecast Official, Weather Bureau, assistant.*

UTAH.

Temperature.—Maximum, 63, at Saint George, 29th; minimum, —24, at Fort Duchesne, 6th; greatest monthly range, 77, at Heber; least monthly range, 41, at Castle Gate.

Precipitation.—Greatest monthly, 6.60, at Silver Lake; least monthly, trace, at Singletree.

Wind.—Prevailing direction, northwest.—*G. N. Salisbury, Observer, Weather Bureau, Salt Lake City, director.*

VIRGINIA.

Temperature.—Maximum, 73, at Avon, 5th; minimum, 8, at Big Stone

Gap, 24th and 25th; greatest monthly range, 62, at Avon; least monthly range, 33, at Cape Charles.

Precipitation.—Greatest monthly, 3.86, at Birdsnest; least monthly, 0.94, at Stephens City.

Wind.—Prevailing direction, southwest.—*Dr. E. A. Craighill, Lynchburg, director; J. N. Ryker, Observer, Weather Bureau, assistant.*

WASHINGTON.

Temperature.—The mean was about normal; maximum, 67, at Lapush, 30th; minimum, —14, at Rosalia, 8th; greatest monthly range, 60, at Rosalia; least monthly range, 21, at Fort Canby.

Precipitation.—The average was 1.34 above the normal; greatest monthly, 18.50, at Neah Bay; least monthly, 1.08, at Lakeside.

Wind.—Prevailing direction, south.—*H. F. Alciatore, Observer, Weather Bureau, Seattle, director.*

WEST VIRGINIA.

Temperature.—Maximum, 70, at Davis, 1st; minimum, —4, at Sandyville, 25th; greatest monthly range, 67, at Spencer; least monthly range, 49, at Martinsburg.

Precipitation.—Greatest monthly, 4.23, at Beverly; least monthly, 0.83, at Raleigh.

Wind.—Prevailing direction, west.—*W. W. Dent, Observer, Weather Bureau, Parkersburg, director.*

WISCONSIN.

Temperature.—The mean was 3.5 above the normal; maximum, 59, at Prairie du Chien, 24th; minimum, —42, at Osceola and Barron, 24th.

Precipitation.—Greatest monthly, 2.70, at Crandon; least monthly, 0.78, at Pepin.

Wind.—Prevailing direction, northwest.—*W. L. Moore, Local Forecast Official, Weather Bureau, Milwaukee, director.*

WYOMING.

Temperature.—Maximum, 68, at Wheatland, 15th; minimum, —36, at Sheridan, 24th; greatest monthly range, 90, at Wheatland; least monthly range, 54, at Camp Pilot Butte.

Precipitation.—Greatest monthly, 1.82, at Fort Yellowstone; least monthly, 0.03, at Laramie.

Wind.—Prevailing direction, northwest.—*E. M. Ravenscraft, Observer, Weather Bureau, Cheyenne, director.*

INLAND NAVIGATION.

STAGE OF WATER IN RIVERS.

The following table shows the danger point at each river station; the highest and lowest stages for the month of January, 1894, with the dates of occurrence, and the monthly range:

Heights of rivers above low-water mark, January, 1894.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
<i>Red River.</i>	Feet.	Feet.		Feet.		Feet.
Shreveport, La.	29.2	6.4	31	—0.6	13	7.0
<i>Arkansas River.</i>						
Fort Smith, Ark.	22.0	11.6	22	0.0	10	11.6
Little Rock, Ark.	23.0	12.7	24	3.5	10-13	9.2
<i>Missouri River.</i>						
Pierre, S. Dak.	13.0					
Sioux City, Iowa	18.7	7.0	19	4.9	17	2.1
Kansas City, Mo.	21.0					
<i>Mississippi River.</i>						
St. Paul, Minn.	14.0					
La Crosse, Wis.	10.0					
Dubuque, Iowa	16.0					
Davenport, Iowa	15.0					
Keokuk, Iowa	14.0	2.3	24	0.4	8	1.9
Hannibal, Mo.	17.0	3.2	14	—1.4	26	4.0
St. Louis, Mo.	30.0	4.0	25	0.6	30	3.4
Cairo, Ill.	40.0	18.1	26, 27	9.2	4	8.9
Memphis, Tenn.	33.0	12.3	29	5.7	7	6.6
Vicksburg, Miss.	41.0	17.4	31	6.2	11, 12	11.2
New Orleans, La.	13.0	5.9	24	3.4	14, 15	2.5
<i>Ohio River.</i>						
Parkersburg, W. Va.	38.0	12.9	9	8.0	15	4.9
Cincinnati, Ohio	45.0	21.0	6	15.4	18	5.6
Louisville, Ky.	24.0	9.1	6	7.3	19	1.3
<i>Cumberland River.</i>						
Nashville, Tenn.	40.0	13.2	25	2.8	3	10.4
<i>Tennessee River.</i>						
Chattanooga, Tenn.	33.0	9.3	9	2.9	1	6.4
Knoxville, Tenn.	29.0	6.0	8	1.6	1	4.4
<i>Monongahela River.</i>						
Pittsburg, Pa.	22.0	9.3	7	3.3	15	6.0
<i>Savannah River.</i>						
Augusta, Ga.	32.6	17.5	12	7.2	6, 7	10.3
<i>Willamette River.</i>						
Portland, Oregon	15.0	19.5	18	4.8	2, 6	14.7

Heights of rivers—Continued.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
<i>Susquehanna River.</i>	Feet.	Feet.		Feet.		Feet.
Harrisburg, Pa.	17.0	5.2	8, 9	2.4	24-27	2.8
<i>Alabama River.</i>						
Montgomery, Ala.	48.0	13.9	13	2.7	6	16.2
<i>James River.</i>						
Lynchburg, Va.	18.0	1.7	7	0.8	26	0.9
<i>Sacramento River.</i>						
Red Bluff, Cal.	22.0	25.0	15	1.8	13	23.2
Sacramento, Cal.	25.0					
<i>Des Moines River.</i>						
Des Moines, Iowa	19.0					

* Frozen. † For 19 days. ‡ For 24 days. § For 30 days.

FLOODS.

The above table shows that during the month of January the only rivers that have experienced especial high water were the Willamette, which was above the danger point on the 18th, and the Sacramento, which rose rapidly on the 12th and was above the danger point on the 15th.

CLOSING OF NAVIGATION.

The weekly "bulletin of snow lying on the ground" gives reports of ice in rivers and harbors, and shows that on Monday, January 1, ice was sufficiently thick to impede navigation above Davenport, Iowa, and Kansas City, Mo.; no important obstruction existed in the Hudson River. On the 8th there were 3 inches at Albany, N. Y.; 2 inches at Davenport, Iowa; 18 inches at St. Paul, Minn.; 11 inches at Omaha, Nebr., and 28 inches at Williston, N. Dak. On the 15th there were 6 inches at Albany, N. Y.; 17 inches at St. Paul, Minn.; 5 inches at Davenport, Iowa; 26 inches at Williston, N. Dak.,