

Table of Maximum and Minimum Temperatures for August, 1882.

State or Territory.	Signal Service.			U. S. Army Post Surgeons or Voluntary Observers.		
	Station.	Max.	Min.	Station.	Max.	Min.
Alabama.....	Mobile.....	96	67	Opelika.....	102	55
Do.....	Montgomery.....	.....	.....	Calera.....	.....	.....
Arizona.....	Phoenix.....	114	46	Mari Copa and Texas Hill.....	117	.....
Do.....	Fort Apache.....	.....	.....	Brinkley and Mudison.....	.....	42
Arkansas.....	Fort Smith.....	101	60	Red Bluff.....	119	.....
Do.....	Little Rock.....	.....	60	Mammoth Tank.....	118	.....
California.....	Campo.....	101	45	Berryale and Dunnigan.....	.....	40
Do.....	.....	.....	.....	Fort Lyon.....	102	.....
Do.....	.....	.....	.....	Fort Garland.....	.....	34
Colorado.....	West Las Animas.....	101	.....	Southington.....	96	49
Do.....	Denver.....	.....	47	.....	.....	.....
Connecticut.....	New Haven.....	58	48	.....	.....	.....
Do.....	Fort Buford.....	107	.....	.....	.....	.....
Dakota.....	Fort Stevenson.....	.....	36	.....	.....	.....
Do.....	Del. Breakwater.....	83	63	Distributing Reservoir.....	94	.....
Delaware.....	Washington.....	91	56	Live Oak.....	99	.....
District of Columbia.....	.....	.....	.....	Fort Barrancus.....	.....	63
Florida.....	Jacksonville.....	96	69	Way Cross.....	101	.....
Do.....	.....	.....	.....	Gainesville.....	.....	43
Georgia.....	Savannah.....	96	.....	.....	.....	.....
Do.....	Augusta.....	.....	64	.....	.....	.....
Idaho.....	Fort Lapwai.....	115	34	.....	.....	.....
Illinois.....	Cairo and Springfield.....	8	.....	Charleston and Peoria.....	94	.....
Do.....	Champaign.....	.....	49	Riley.....	.....	45
Indiana.....	Indianapolis.....	90	52	Logansport.....	94	52
Indian Territory.....	Fort Sill.....	102	.....	.....	.....	.....
Do.....	Fort Supply.....	.....	49	.....	.....	.....
Iowa.....	Des Moines.....	91	.....	Guttenburg.....	96	.....
Do.....	Dubuque.....	.....	48	Nora Springs.....	.....	43
Kansas.....	Dodge City.....	98	52	Russell.....	103	.....
Do.....	.....	.....	.....	Wellington.....	.....	49
Kentucky.....	Louisville.....	90	57	Frankfort.....	93	.....
Louisiana.....	Shreveport.....	97	65	New Iberia.....	120	58
Maine.....	Portland.....	90	.....	Cornish.....	94	.....
Do.....	Eastport.....	.....	47	Orono.....	.....	43
Maryland.....	Baltimore.....	90	57	Great Falls.....	92	.....
Do.....	.....	.....	.....	Woodstock.....	.....	50
Massachusetts.....	Springfield.....	93	43	Worcester.....	99	.....
Do.....	.....	.....	.....	Heath.....	.....	40
Michigan.....	Port Huron.....	88	.....	Northport.....	90	.....
Do.....	Marquette.....	.....	42	Fort Brady.....	.....	40
Minnesota.....	St. Paul.....	95	.....	.....	.....	.....
Do.....	Moorhead.....	.....	35	Meridian.....	107	.....
Mississippi.....	Vicksburg.....	95	.....	Macou.....	.....	58
Do.....	Starkville.....	.....	66	Pierce City.....	99	.....
Missouri.....	Springfield.....	94	58	Jefferson Barracks.....	.....	48
Do.....	St. Louis.....	.....	58	Fort Ellis.....	113	27
Montana.....	Terry's Landing.....	107	.....	.....	.....	.....
Do.....	Deer Lodge and Fort Miss. Ala.....	.....	20	Fort Niobrara.....	106	42
Nebraska.....	North Platte.....	95	.....	Fort McDermitt.....	107	.....
Do.....	Omaha.....	.....	52	Boca.....	.....	37
Nevada.....	Winnemucca.....	102	42	New Market.....	96	.....
Do.....	.....	.....	.....	Grafton.....	.....	96
New Hampshire.....	Mt. Washington.....	98	26	Pequannock.....	.....	46
Do.....	.....	.....	.....	.....	.....	.....
New Jersey.....	Little Egg Harbor.....	98	.....	Heming.....	100	.....
Do.....	Barnegat.....	.....	56	Fort Union.....	.....	36
New Mexico.....	Silver City and Fort Bayard.....	93	.....	.....	.....	.....
Do.....	Santa Fe.....	.....	40	West Point.....	100	.....
New York.....	Albany and Oswego.....	92	.....	Madison Barracks and Waterburg.....	.....	43
Do.....	Rochester.....	.....	47	Wadesborough.....	99	.....
North Carolina.....	Kittyhawk.....	95	.....	Lumberton.....	.....	59
Do.....	Charlotte and Smithville.....	.....	61	Ruggles.....	94	.....
Ohio.....	Cincinnati and Columbus.....	89	.....	Westerville.....	.....	45
Do.....	.....	.....	.....	.....	.....	.....
Oregon.....	Sandusky.....	.....	45	Fort Klamath.....	.....	35
Do.....	Umatilla.....	110	44	.....	.....	.....
Pennsylvania.....	Portland.....	.....	44	Meadville.....	94	.....
Do.....	Williamsport.....	92	50	Dyberry.....	.....	38
Rhode Island.....	Narragansett Pier.....	91	48	.....	.....	.....
South Carolina.....	Charleston.....	97	68	St. Matthew.....	99	.....
Do.....	.....	.....	.....	Kinastree.....	.....	50
Tennessee.....	Memphis.....	92	.....	Withe.....	97	.....
Do.....	Nashville.....	.....	60	Erin.....	.....	53
Texas.....	Eagle Pass.....	106	.....	Waco.....	107	.....
Do.....	Fort Elliott.....	.....	48	.....	.....	.....
Utah.....	Salt Lake City.....	95	55	Promontory.....	110	49
Vermont.....	Burlington.....	93	49	Woodstock.....	96	37
Virginia.....	Cape Henry.....	93	.....	Acotink.....	96	.....
Do.....	Lynchburg.....	.....	58	Snowville.....	.....	48
Washington Ter.....	Almota.....	109	.....	.....	.....	.....
Do.....	Colfax.....	.....	34	.....	.....	.....
West Virginia.....	Morgantown.....	84	52	Helvetia.....	86	47
Wisconsin.....	Madison.....	87	.....	Neillsville.....	95	46
Do.....	La Crosse and Milwaukee.....	.....	49	.....	.....	.....
Wyoming.....	Fort Washakie.....	103	38	Fort Bridger.....	87	31

Illinois: Chicago, 10th: Frost reported to have occurred in the suburbs of the city.

Iowa: Cresco, 10th: Killing tender vegetation; Nora Springs, 10th.

Maine: Cornish, 19th.

Massachusetts: Heath, 19th.

Montana: Fort Missoula, 27th.

Nevada: Carson City, 31st: Killing vegetation.

New Hampshire: Mount Washington, 18th, 19th, 22d, 26th; Auburn, 18th; Grafton, 14th, 19th, 21st; New Market, 19th: Killing squash, and pumpkin vines.

New Jersey: Readington, 30th.

New York: Friendship, 19th, 20th.

Oregon: Albany, 26th; Fort Klamath, 17th, 26th.

Pennsylvania: Blooming Grove, 18th; Dyberry, 19th, 20th, 21st; Wellsboro, 20th, 21st.

Washington territory: Colfax, 28th.

Wisconsin: La Crosse, 10th; Madison, 10th: Frost reported from surrounding country; Neillsville, 10th.

ICE.

The formation of ice is reported to have occurred on the summit of Mount Washington on the 18th.

PRECIPITATION.

[Expressed in inches and hundredths.]

The distribution of rainfall over the United States and Canada, as determined from observations taken at more than six hundred stations, is exhibited on chart number iii. The table on the left-hand corner of this chart, shows the average monthly rainfall, determined upon the records of Signal Service stations in the several districts, and the excess or deficiency as compared with the average of many years. There has been an excess of rainfall in all districts east of the Mississippi river, except in New England and the south Atlantic states. Excesses have also occurred in the west Gulf states, the southern slope, and in the southern and middle plateau districts, the largest being 4.59 and 3.21 in the southern slope and east Gulf states, respectively. A deficiency of 2.84 occurred in New England, 2.34 in the Missouri valley, and 1.79 in the extreme northwest, these being the largest deficiencies reported. In the south Atlantic states, upper Mississippi valley, northern and middle slopes, northern plateau, north and south Pacific coast regions, deficiencies ranging from 0.10 in the south Atlantic states to 1.33 in the middle slope, have occurred. On the summits of Mount Washington and Pike's Peak, deficiencies of 5.35 and 1.78, respectively, are reported.

DEVIATIONS FROM AVERAGE PRECIPITATION.

Under this heading, departures exhibited by the regular Signal Service stations, are shown in the table of comparative monthly rainfalls, as published in the lower left-hand corner of chart iii. The following items of interest, in connection with this subject, are reported by voluntary observers:

Illinois: Riley, monthly rainfall, 2.00 or 1.47 below the August average of the past twenty-one years. The total rainfall for the summer of 1882, is 1.62 less than the summer average of the same period.

Indiana: Logansport, monthly rainfall, 3.59, is slightly below the August average of the past twenty years. During that period, the largest August rainfall, 9.14, occurred in 1876; the smallest, 0.68, occurred in 1881.

Iowa: Clinton, monthly rainfall, 2.61 or about the August average.

Kansas: Yates Centre, monthly rainfall 1.71 or 0.88 below the August average of the past two years. Lawrence, monthly rainfall, 0.09 or 3.72 below the August average of the past fifteen years, and is 0.81 below the smallest August rainfall (0.90 in 1873) of the same period. The largest August rainfall, 8.32, occurred in 1868. The total precipitation for the eight months ending August 31st, is 19.55 or 5.68 below the average of the corresponding months, of the past fourteen years. Wellington, monthly rainfall, 1.10 or 1.38 below the average of the past four years.

Connecticut: New Haven, 19th: Light frosts occurred in the valleys in Litchfield county.

Dakota: Fort Stevenson, 31st: Frost reported from neighboring localities; Tobacco Garden, 31st.

Idaho: Eagle Rock, 29th, 30th; Boise City, 27th, 28th, and 29th; Fort Lapwai, 28th.

Maine: Gardiner, monthly rainfall, 0.34 or 3.50 below the average of the past forty-six years.

Maryland: Fallston, monthly rainfall, 5.00 or 0.06 below the average of the past eleven years. During that period, the largest August rainfall, 11.55, occurred in 1872; the smallest, 1.10, occurred in 1881. Cumberland, monthly rainfall has been unusually heavy and is almost one-fourth of the annual precipitation.

Missouri: Saint Louis, the Missouri Weather Service reports monthly rainfall 2.50 or about 1.50 below the average of the past forty-three years. During that period, the smallest August rainfall, 0.04, occurred in 1873.

New Jersey: Moorestown, monthly rainfall, 9.44, is the largest August rainfall that has occurred during the past nineteen years.

New York: North Volney, monthly rainfall, 2.95, or 0.58 above the August average of the past ten years. During that period the largest August rainfall, 4.75, occurred in 1878; the smallest, 0.75, occurred in 1876. The total rainfall for the summer of 1882 is 7.28, or 2.29 below the summer average of the past nine years. During that period the largest summer rainfall, 14.30, occurred in 1874; the smallest, 6.10, occurred in 1876. Palermo, monthly rainfall, 2.82, or 0.58 below the average of the past twenty-nine years. During that period the largest August rainfall, 6.60, occurred in 1874; the smallest, 0.70, occurred in 1868. Waterburg, monthly rainfall, 3.05, or 0.32 above the average of the past ten years.

Virginia: Wytheville, the total precipitation for the eight months ending August 31st, 1882, is more than twice the amount of the corresponding months of 1881; and greater than for the same months of any year during a period of seventeen years. It is also greater than the annual rainfalls of the following years: 1868, 1869 to 1872, 1874, 1876, 1879 to 1881.

West Virginia: Helvetia, monthly rainfall, 12.60, is the largest that has occurred during the past six years. The total precipitation for the eight months ending August 31st, 1882, is 65.03, or 25.94 more than the average of the same months during the past six years, and is 6.03 more than the largest annual precipitation (59.00 in 1878) of the same period.

The following table shows the least and greatest numbers of rainy and cloudy days, and the percentages of mean relative humidity, as reported from the various districts during the month:

Table of rainy and cloudy days and relative humidity for August, 1882.

Table with 4 columns: Districts, Rainy days, Cloudy days, Relative humidity. * Includes sub-section for Percentages.

* Relative humidity corrected for altitude.

The following table, furnished by Mr. J. M. Boardman of Macon, Georgia, shows the monthly and annual rainfall at that place from January, 1871 to August, 1882, inclusive.

Table of monthly rainfall data from 1871 to 1882, including annual sums and means.

* For eight months only.

Table of Excessive, Greatest and Least Monthly Rainfalls.

Table of Excessive, Greatest and Least Monthly Rainfalls, listing stations, dates, amounts, and durations.

Table of Excessive, Greatest and Least Monthly Rainfalls—Continued.

STATION.	SPECIAL HEAVY.			Largest Monthly. Amount, Inches.	SMALLEST MONTHLY.	
	Date.	Amt.	Duration		STATION.	Amt.
Thornville.....				6.43	Woodland.....	0.00
Mississippi.					Poway.....	0.01
Scranton.....	20	3.01		10.00	San Diego.....	0.03
Starkville.....	9	2.00	1hr.40m.	9.53	Mammoth Tank.....	0.20
Do.....	17	1.17	1hr.45m.		Colorado.	
Do.....	25	2.51	4 hrs.		Fort Lyon.....	0.40
Fayette.....				9.35	Connecticut.	
Missouri.					New Haven.....	0.26
Protom.....	2	1.00	18 m.	6.42	Southington.....	0.40
New Jersey.					Dakota.	
Atlantic City.....	16	4.79		14.87	Smithville.....	0.00
Do.....	27	5.16			Fort Meade.....	0.01
Little Egg Harbor.....	27 and 28	6.20		12.85	Fort Pembina.....	0.13
Cape May.....	1	3.09		10.28	Fort Buford.....	0.16
Do.....	27	3.10			Fort Sully.....	0.20
Atco.....				9.56	Bismarck.....	0.30
Moorestown.....	27 and 28	6.29		9.44	Fort Totten.....	0.31
Vineland.....	27 and 28	4.30		9.29	Fort Bennett.....	0.32
Barnegat.....	18	2.25		8.21	Fort Lincoln.....	0.42
Do.....	27	3.73			Georgia.	
Readington.....	7	3.30	2hrs.30m.		Bainbridge.....	0.31
Phillipsburgh.....	7	1.50	1 hr.		Idaho.	
New Mexico.				6.00	Lewiston.....	0.06
North Carolina.					Angle Rock.....	0.07
Lumberton.....	14	2.52		10.09	Fort Lapwai.....	0.15
Smithville.....	11	1.38	90 m.	8.33	Iowa.	
Do.....	30	2.94	9hrs.46m.		Dana.....	0.41
Wilmington.....				8.08	Kansas.	
Lenoir.....				7.70	Holton.....	0.00
Goldsboro.....				7.66	Salina.....	0.03
Kittyhawk.....				7.48	Russell.....	0.05
Hatteras.....	15	3.37		6.85	Clay Centre.....	0.06
Fort Macon.....	15	2.87		6.78	Lawrence.....	0.09
Portsmouth.....				6.40	Fort Riley.....	0.37
Ohio.					Maine.	
Sandusky.....	4	2.37		8.02	Gardiner.....	0.34
North Lewisburg.....				7.55	Massachusetts.	
Tremble.....				7.33	Amherst.....	0.25
College Hill.....				7.00	Minnesota.	
Bethel.....				6.38	Saint Vincent.....	0.42
Cincinnati.....	27	1.85	35 min.		Mississippi.	
Pennsylvania.					Okolona.....	0.31
Blooming Grove.....	31	3.80		8.10	Missouri.	
Williamsport.....	26 and 27	3.75		6.70	Greenfield.....	0.10
Philadelphia.....	27	3.49		6.40	Shelbina.....	0.50
Franklin.....				6.25	Montana.	
South Carolina.					Terry's Landing.....	0.00
Charleston.....	27	3.50		9.32	Fort Keogh.....	0.00
Cheraw.....	14	3.90		8.86	Helena.....	0.15
Jacksonborough.....				8.55	Fort Benton.....	0.27
Columbia.....				7.76	Fort Missoula.....	0.31
Hardeeville.....				7.51	Poplar River.....	0.36
Florence.....				6.98	Nebraska.	
Tennessee.					Fort Niobrara.....	0.30
Erin.....				7.40	Genoa.....	0.50
Chattanooga.....	27	1.44	1hr.10m.	6.63	Nevada.	
Knoxville.....				6.06	Battle Mountain.....	0.00
Texas.					Beowawe.....	0.00
Concho.....	23 and 24	6.86		14.04	Boca.....	0.00
Sour Lake.....	2	3.00		13.86	Carlin.....	0.00
Do.....	5	4.00			Carson City.....	0.00
Corsicana.....	9	3.00		11.70	Elko.....	0.00
Do.....	24	3.02			Fort McDermitt.....	0.00
Do.....	26	4.75			Golconda.....	0.00
Galveston.....	5 and 6	5.36		9.85	Hot Springs.....	0.00
Indianola.....	9	1.33	30 m.	9.02	Humboldt.....	0.00
Do.....	18	1.33	25 m.		Otega.....	0.00
Fort Stockton.....	23	2.45		7.10	Palsade.....	0.00
Fort McKavett.....	27	2.55		8.14	Reno.....	0.00
Eagle Pass.....				6.04	Wadsworth.....	0.00
Dallas.....	1	3.57			Winnemucca.....	0.00
Palestine.....	25	2.92			Halleck.....	0.14
Uvalde.....	29	1.65	1hr.15m.		Toano.....	0.25
Virginia.					T-coma.....	0.30
Wytheville.....				7.65	Wells.....	0.48
Variety Mills.....				6.12	New Hampshire.	
Lynchburg.....	23	1.06	40 m.		New Market.....	0.29
West Virginia.					Arnabn.....	0.36
Helvetia.....	7 and 8	4.38		12.80	Lake Village.....	0.46
Morgantown.....	27 and 27	3.38	27hr.35m.	7.72	Wolfborough.....	0.47
Wisconsin.					Oregon	
Madison.....	14 and 15	3.50		6.83	Umatilla.....	0.00
Embarrass.....				6.15	Eola.....	0.03
					Albany.....	0.04
					South Carolina.	
					Allendale.....	0.46
					Tennessee.	
					Withe.....	0.09
					Utah.	
					Colton.....	0.00
					Corinne.....	0.10
					Promontory.....	0.11
					Washington territory.	
					Pomeroy.....	0.02
					Colfax.....	0.03
					Dayton.....	0.14
					Spokane Falls.....	0.14
					Wyoming.	
					Cheyenne.....	0.23
					Fort Washakie.....	0.25

HAIL.

Madison, Wisconsin, 15th: At 12:30 a. m., a heavy shower

of hail occurred; many windows of north and west exposure were broken; the corn and tobacco crops were stripped by the hail, and many gardens were destroyed. The storm was very severe at the town of Cottage Grove. The crops principally damaged by hail were near the towns of Burke, Blooming Grove and Cottage Grove.

Sterling, Kansas: The storm of the 15th was accompanied by heavy hail, which did considerable damage.

Dexter, Maine, 15th: Hail-stones of irregular shapes fell during storm, some of which measured one inch in length.

Rochester, 10th: A severe hail-storm occurred between 12:30 and 1:00 p. m., in the adjoining counties. The storm originated in the eastern borders of Wyoming county, taking an easterly and northeasterly course through the towns of York, Caledonia, Avon, Rush and Mendon. The hail-belt was about four miles wide. When the storm first began the hail-stones were as large as hickory nuts, but they decreased in size, and became less compact as the storm moved eastward. There was great destruction of crops; farmers suffering considerable loss by the breaking down of growing corn and oats; great damage was also done to the fruit crop.

Hail storms of less violence were reported as follows:

- Des Moines, Iowa, 15th.
- Mount Washington, New Hampshire, 17th.
- Pensacola, Florida, 9th.
- Buffalo, 10th.
- Milwaukee, 9th.
- Helena, Montana, 8th.
- Fort Bayard, New Mexico, 11th.
- Santa Fe, 12th.
- Pioche, Nevada, 20th.
- Pomeroy, Washington territory, 26th.
- Fort Lewis, Colorado, 30th.
- Russell, Kansas, 8th.
- Protom, Missouri, 2d.
- Wytheville, Virginia, 8th.

SNOW.

Sandusky, 10th: A snow squall occurred at 8:10 a. m., lasting four minutes; the flakes were small and melted rapidly. Temperature at that time, 48° 5. At Johnson Island, two miles north of station, the fall was much heavier.

Grand Haven, 9th: A light flurry of snow is reported to have occurred during the morning, about a mile from station.

Pike's Peak, Colorado, 2d, 3d, 8th, 15th, 22d, 28th, 29th, 30th, 31st.

Salt Lake City, 31st.

Fort Garland, Colorado, 31st: The foot hills and mountains were covered with snow during the morning.

Denver, Colorado, 30th: A heavy snow storm prevailed at Leadville during the night of the 29th and morning of the 30th.

Chicago, 11th: The propellor "Menominee" reported having encountered in mid-lake, on the night of the 8th, a thick cold cloud which burst on her decks, covering them with snow and slush to a depth of six inches. For five minutes the atmosphere was like that of winter, but as the steamer was moving rapidly she soon came into warmer temperature.

SLEET.

Pike's Peak, Colorado, 13th, 14th, 20th, 28th.

RAIN FROM CLOUDLESS SKY.

Burlington, Vermont, 7th, from 11.00 p. m. to midnight.

COTTON REGION REPORTS.

The following tables give the average rainfall, mean of maximum and mean of minimum temperatures, for the months from April to August inclusive, in each of the cotton districts as shown on chart vi. issued with the April REVIEW.