

Fort Wayne, 4.5; Greencastle, about 2.0; Guilford and Spiceland, 1.0; La Grange, in drifts; Sunman, trace.

Iowa.—Cresco, 20.0; West Union, 18.0; Humboldt, 15.0; Cedar Rapids, 12.0; Muscatine and Independence, 10.0; Monticello, 6.0; Des Moines, 5.0; Keokuk, 4.0; Manchester, 3.0; Dubuque, 0.5.

Kansas.—Allison, in drifts; Dodge City, Yates Center, and Wyandotte, trace.

Maine.—Orono, 30.0; Gardiner, 24.0; Eastport, 12.0; Portland, 6.0.

Maryland.—Cumberland, 6.0; Emmitsburg and Woodstock, 4.0; Fallston, 2.0; Baltimore, 1.0.

Massachusetts.—Rowe, in the woods, 30.0, and in open field from one to five feet; Deerfield, 19.0; Leicester, 10.0; Amherst, 6.0 to 8.0; Mendon and Westborough, 5.0; Williamstown, 4.0; Boston, 3.0; Fall River, 2.0; Readville, 1.0.

Michigan.—Marquette, 37.0 (?); Ionia, 30.0; Swartz Creek and Moorestown, 24.0; Thornville, 20.0; Grand Haven, 18.0; Traverse City, 17.0; Hudson, 16.0; Detroit, 15.0; Mackinaw City, 8.0; Alpena, 7.0; Port Huron, 6.5; Ann Arbor, 6.0; Northport, 3.2; Escanaba, 0.5.

Minnesota.—Saint Vincent, 4.0; Duluth, 3.0; Northfield, 2.6; Saut Paul, 2.0.

Missouri.—Independence, 4; Curryville, Pierce City, and Lamar, trace.

Montana.—Poplar River, 4.0; Fort Maginnis, 2.5.

Nebraska.—Tecumseh, 8.0; Red Willow, 1.0; Fairbury and De Soto, 0.5; Marquette and Beaver Creek, trace.

New Hampshire.—Contoocook, 22.0; Mount Washington, 18.0.

New Jersey.—Paterson, 4.0; Cape May, 3.0; South Orange, 2.0; Sandy Hook, 1.5; Barnegat, 1.0; Atlantic City, trace.

New Mexico.—Santa Fé, on mountains, 24.0 and none in valleys.

New York.—Palermo, 31.0; North Volney, 25.0; Oswego, 24.0; Le Roy and Cooperstown, 20.0; Auburn, 18.0; Humphrey and Menand Station, 14.0; Rochester, 11.0; Penn Yan, 10.0; Albany, 8.0; Ithaca, 7.0; Buffalo, 6.0; Factoryville, 5.0; White Plains, 4.0.

Ohio.—Wauseon, 13.0; Garrettsville, 8.5; Hiram, 6.0; Tiffin, 5.0; Toledo, 3.5; North Lewisburg, 3.0; Sandusky, 2.0; Ruggles, 0.6; Jacksonborough and Cleveland, 1.0; College Hill, Columbus, and Cincinnati, trace.

Pennsylvania.—Dyberry and Grampian Hills, 18.0; Blooming Grove, 15.0; Wellsboro, 10.5; Dillingersville, 8.0; Chambersburg, 7.8; Quakertown, 7.1; South Bethlehem, 6.0; Fallsington, West Chester, and Troy, 3.0; Leetsdale, Pittsburg, Haverford College, and Philadelphia, 2.0; Erie, 1.0.

Rhode Island.—Block Island, trace.

Vermont.—Strafford, 30.0; Post Mills, 20.0; Woodstock, 19.4; Dorset, 16.0; Burlington, 8.0; Charlotte, 2.0.

Virginia.—Dale Enterprise, 4.0; Wytheville, Variety Mills, and Blacksburg, 2.0; Lynchburg, 0.5; Marion, trace.

West Virginia.—Helvetia, 8.0; Wellsboro, 1.0.

Wisconsin.—Manitowoc, 48.0 to 60.0; Embarras, 20.0; Wausau, 14.0; Neillsville, 12.5; La Crosse, 11.0; Madison, 8.0; Beloit, 4.0; Milwaukee, 0.5.

Wyoming.—Cheyenne, 0.5.

SLEET.

Arizona.—Prescott, 23d; Fort Bowie, 12th.

Arkansas.—Little Rock, 23d, covering all exposed objects with a coating of ice; the telegraph lines in all directions were broken. Fort Smith, 23d.

Connecticut.—Bethel, 9th, 16th; Hartford and North Colebrook, 16th.

Dakota.—Fort Sully, 5th.

District of Columbia.—Washington City, 1st, 2d, 5th.

Georgia.—Athens, 15th, 24th.

Illinois.—Cairo, 9th.

Indiana.—Sunman, 13th; Logansport, 8th; Greencastle, 9th, 26th; Indianapolis, 9th, 24th.

Kansas.—Yates Centre, 25th.

Kentucky.—Louisville, 15th, 24th.

Maine.—Cornish, 16th; Eastport, 5th; Bangor, 10th.

Maryland.—Emmitsburg, 4th, 9th; Baltimore, 6th.

Michigan.—Escanaba, 3d; Detroit, 9th.

Missouri.—Saint Louis, 9th.

New Hampshire.—Mount Washington, 10th.

New Jersey.—Atlantic City, 14th, 15th.

New York.—Rochester and Oswego, 9th; Buffalo, 1st; Albany, 10th; New York City, 16th.

North Carolina.—Statesville, 12th, 15th, 24th; Charlotte, 14th.

Ohio.—Toledo, 9th; Cleveland, 4th, 5th.

Tennessee.—Milan and Memphis, 23d; Nashville and Chattanooga, 24th.

Texas.—Palestine, 21st; El Paso, 25th.

Virginia.—Fort Myer, 1st; Cape Henry and Fort Monroe, 14th.

Wisconsin.—Embarras, 27th.

HAIL.

Hail is reported to have fallen in the various states and territories as follows:

Alabama.—Mount Vernon Barracks, 12th, 21st; Mobile, 21st.

Arizona.—Fort Grant, 22d.

Connecticut.—Bethel, 9th, 16th, 17th.

Florida.—Mayport, 5th.

Georgia.—Savannah, 5th.

Idaho.—Cœur d'Alene, 16th, 27th.

Illinois.—Cairo, 8th.

Indiana.—Wabash and Fort Wayne, 9th; La Fayette, 8th; Spiceland, 24th.

Louisiana.—Point Pleasant, 17th.

Maine.—Waterville, 10th.

Maryland.—Woodstock, 10th.

Massachusetts.—Williamstown, 9th; Taunton, 8th.

New Jersey.—Moorestown, 16th.

New York.—New York City, Menand Station (near Albany), and Mountainville, 10th; Humphrey, 9th; Fort Columbus, 8th.

North Carolina.—Weldon, 13th, 14th; Statesville, 9th.

Ohio.—Jacksonborough, 9th.

Oregon.—Portland, 6th; Roseburg, 7th.

Pennsylvania.—Fallsington, 16th; Grampian Hills, 9th.

South Carolina.—Stateburg, 4th.

Tennessee.—Austin, 15th.

Texas.—Austin, 24th; Fort Davis, 25th.

Vermont.—Woodstock, 9th.

Virginia.—Fort Myer, 10th; Bird's Nest, 10th, 14th, 27th; Wytheville, 24th.

Washington Territory.—Tacoma, 26th.

SNOW SLIDE.

Salt Lake City, Utah: during the night of the 13-14th, the village of Alta, about forty miles southeast of Salt Lake City, was nearly buried beneath an immense snow slide. It had been snowing for nearly a week and the snow had accumulated to great depths. The snow slide occurred about 8 p. m., burying about three-fourths of the place. In the buildings under the snow were twenty-eight persons, some of whom were killed. The damage is estimated at more than \$40,000.

WINDS.

The most frequent directions of the wind during February, 1885, are shown on chart ii. by arrows flying with the wind. In the lake region and central Mississippi and Ohio valleys they were westerly and southwesterly; in the Missouri valley, Gulf states, and on the middle Atlantic coast, they were northerly and northwesterly; in the north Pacific coast region, they were southerly; in the south Atlantic states, California, and in the Rocky mountain districts, they were variable.

HIGH WINDS.

(In miles per hour.)

Wind velocities of fifty or more miles per hour were recorded during the month as follows:

Mount Washington, New Hampshire, 64, sw., 1st; 100, nw., 2d; 99, sw., 3d; 88, nw., 4th; 60, w. 5th; 78, nw., 7th; 58, nw., 8th; 88, se., 9th; 92, se., 10th; 101, w., 11th; 86, sw., 13th; 108, se., 16th; 60, nw., 21st; 59, nw., 23d; 50, nw., 27th.

Pike's Peak, Colorado, 50, nw., 9th; 60, nw. 10th; 76, nw., 11th; 54, n., 13th; 55, nw., 15th; 52, nw., 27th.

Cape Mendocino, California, 92, se., 1st; 104, se., 2d; 76, se., 3d; 92, s., 18th; 56, s., 19th.

Sandy Hook, New Jersey, 54, w., 10th; 56, nw., 11th; 56, se. and nw., 16th; 56, w., 17th.

Cape May, New Jersey, 52, nw., 10th; 55, nw., 11th; 52, nw., 17th.

Kitty Hawk, North Carolina, 56, n., 14th; 54, n., 20th. Buffalo, New York, 56, sw., 10th; 52, sw., 11th.

Fort Maginnis, Montana, 56, w., 2d; 64, w., 16th. Fort Macon, North Carolina, 58, se., 16th.

Barnegat City, New Jersey, 58, se., 16th. Boston, Massachusetts, 54, e., 16th.

Block Island, Rhode Island, 52, ne., 15th. New Haven, Connecticut, 50, e., 16th.

Delaware, Breakwater, Delaware, 52, ne., 15th. Cheyenne, Wyoming, 56, nw., 4th.

Chincoteague, Virginia, 52, nw., 1st. Fort Buford, Dakota, 50, w., 3d.

The total movements of the air, with the highest velocities recorded during February at the various Signal Service stations, are shown in the table of miscellaneous meteorological data.

LOCAL STORMS AND TORNADES.

Cape Mendocino, California, 1st: a high southeasterly wind prevailed during the day, increasing to hurricane force at night; it continued with great violence and reached a maximum velocity of one hundred and four miles during the early morning of the 2d.

Cape Lookout, North Carolina, 4th: during the morning light southerly winds prevailed, increasing in force during the afternoon and blowing at the rate of sixty miles per hour at 4 p. m.

Cheyenne, Wyoming: dangerously high winds from the northwest prevailed on the 4th; a violent gust of seventy miles per hour occurred at 3.30 p. m.; it lasted about one minute, carrying immense clouds of dust into the air.

Denver, Colorado: high westerly winds prevailed from 1.30 to 7.15 p. m. on the 4th; at 5 p. m. a velocity of sixty-four miles was recorded; out-buildings, trees, signs, etc., were blown down. At Georgetown, fifty miles distant, a railway train was blown from the track and several persons were injured. High winds also prevailed at Denver during the night of the 4-5th, and until 1.30 p. m.; a velocity of forty-two miles occurred at 5.20 a. m.

New River Inlet, North Carolina: a thunderstorm from the northwest prevailed from 5.10 to 5.20 p. m. on the 4th, accompanied by high winds and small hail; fencing and trees were blown down.

Fort Macon, North Carolina, 4th; a thunderstorm began at 5.45 p. m. and continued for thirty minutes, the wind reaching a velocity of fifty-two miles from the west.

Norwood, Warren County, Georgia: a tornado moving in a northeasterly direction occurred one mile northwest of this place at 6.30 p. m. on the 9th; numerous out-buildings were destroyed.

A tornado is also reported to have occurred twenty-seven miles northwest of Charlotte, North Carolina, on the 10th.

Kitty Hawk, North Carolina: a high northerly wind, accompanied by a severe snow squall which lasted fifteen minutes, occurred on the 20th; the squall of drifting snow and sand made it impossible to see objects twenty feet distant; a maximum wind velocity of fifty-four miles per hour occurred at 9.05 a. m.

NAVIGATION.

STAGE OF WATER IN RIVERS.

In the following table are shown the danger points in the rivers at the various stations, the highest and lowest stages for February, 1885, with the dates of occurrence, and the monthly ranges:

Heights of rivers above low-water mark, February, 1885. [Expressed in feet and tenths]

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Date.	Height.	Date.	Height.	
<i>Red River:</i>						
Shreveport, Louisiana.....	29 9	1	24 1	23	15 6	8 5
<i>Arkansas:</i>						
Fort Smith, Arkansas.....	15 0	8, 9	8 2	22, 23	1 4	9 6
Little Rock, Arkansas.....	23 0	11	15 5	25	6 0	9 5
<i>Missouri:</i>						
Yankton, Dakota*.....	24 0					
Omaha, Nebraska*.....	18 0					
Leavenworth, Kansas?.....	20 0					
<i>Mississippi:</i>						
Saint Paul, Minnesota*.....	14 5					
La Crosse, Wisconsin*.....	24 0					
Dubuque, Iowa*.....	16 0					
Davenport, Iowa*.....	15 0					
Keokuk, Iowa*.....	14 0					
Saint Louis, Missouri.....	32 0	9	15 0	28	7 7	7 3
Calto, Illinois.....	40 0	15, 16	27 9	27, 28	15 0	11 9
Memphis, Tennessee.....	34 0	1	26 9	28	10 7	16 2
Vicksburg, Mississippi.....	41 0	2, 3, 4	42 4	28	28 6	13 8
New Orleans, Louisiana?.....	3 0	3, 8	1 5	28	3 6	2 1
<i>Ohio:</i>						
Pittsburg, Pennsylvania.....	22 0	11	8 3	24	1 8	6 5
Cincinnati, Ohio.....	50 0	12	29 2	25	7 3	21 9
Louisville, Kentucky.....	25 0	13	11 0	27	5 0	6 0
<i>Cumberland:</i>						
Nashville, Tennessee.....	40 0	1, 13	16 2	25	7 7	8 5
<i>Tennessee:</i>						
Knoxville, Tennessee.....						
Chattanooga, Tennessee.....	33 0	12	9 6	23, 24	5 0	4 6
<i>Monongahela:</i>						
Pittsburg, Pennsylvania.....	29 0	11	8 3	24	1 8	6 5
<i>Savannah:</i>						
Augusta, Georgia.....	32 0	11	20 8	24	8 6	12 2
<i>Mobile:</i>						
Mobile, Alabama.....		1	17 8	27	15 3	2 5
<i>Sacramento:</i>						
Red Bluff, California.....						
Sacramento, California.....		10-13	18 0	28	16 1	1 9
<i>Willamette:</i>						
Portland, Oregon.....		21	12 3	1	5 0	7 3
<i>Colorado:</i>						
Yuma, Arizona.....						

* Frozen the entire month. † Below high-water mark of 1874 and 1883. ‡ Below bench mark.

ICE IN RIVERS AND HARBORS.

Arkansas river.—Fort Smith, Arkansas; on the 12th, there were large quantities of ice in river.

Barnegat bay.—Barnegat City, New Jersey: bay frozen from 3d to 9th.

Chesapeake bay and Patapsco river.—Baltimore, Maryland: considerable ice in bay and river on 2d and 3d, interrupting navigation; ice formed rapidly on the 11th; on the 22d the harbor was frozen over, and ice is reported to have been three inches thick as far down as Point Lookout.

Chincoteague bay.—Chincoteague, Virginia: bay frozen from 21st to 25th; ice went out of bay on 26th.

Delaware bay.—Delaware Breakwater: on the 23d the harbor was frozen and the bay full of ice; the ice extended seaward as far as could be seen.

Delaware river.—Trenton, New Jersey: an ice-dam formed on the 10th, causing an overflow; in south Trenton scores of houses were flooded nearly to the second stories.

Goose lake.—Lake View, Oregon: the ice in the lake broke up on the 4th.

James river.—Lynchburg, Virginia: the river above the water works was frozen on the 21st, the ice being sufficiently strong to bear skaters; on the 24th, the ice was four inches thick.

Kentucky river.—Hawesville, Hancock county, Kentucky: on the 21st, the river was frozen across, the ice being three inches thick.

Kitty Hawk bay.—Kitty Hawk, North Carolina: ice formed in bay on the 11th; on the 21st navigation was interrupted by ice, and on the 22d the bay was frozen.