

Tennessee.—Chattanooga: snow was reported to have fallen on Lookout mountain during the morning of 22d.

Utah.—Salt Lake City, 2d.

West Virginia.—Helvetia, 22d.

Wyoming.—Fort Bridger, 2d, 29th; Cheyenne, 2d, 3d, 9th, 25th, 29th; Fort Washakie, 2d, 12th, 28th, 29th.

LARGEST MONTHLY SNOWFALLS.

[Expressed in inches.]

The following are the largest monthly snowfalls reported from the various states and territories during the month:

California.—Cisco, 55; Emigrant Gap, 33; Summit, 33.

Colorado.—Pike's Peak, 36 on the ground at end of the month, 28 of which fell during the month of May; Fort Lewis about 7; Fort Garland about 4.

Dakota.—Deadwood, about 30; Huron, 6.7.

Indiana.—Griffin's station, about 4; Rising Sun, 3.

Montana.—Helena, 5.7; Fort Maginnis, 6.2.

Nevada.—Truckee, 9.5; Boca, 6; Toana, 5.

New Hampshire.—On the summit of Mount Washington, 6.4, trace remaining on the ground at end of the month.

Ohio.—Toledo, 6.

Wyoming.—Fort Washakie, 16; Cheyenne, about 9; Fort Bridger, 7.8.

SLEET.

Fort Brady, Michigan, 2d, 10th.

Fort Niobrara, Nebraska, 3d.

North Lewisburg, Ohio, 21st.

Toledo, Ohio, 21st.

Saint Paul, Minnesota, 2d.

Mount Washington, New Hampshire, 5th to 8th, 10th to 24th, 25th.

Fort Totten, Dakota, 6th.

COTTON REGION REPORTS.

Temperature and rainfall observations in the cotton districts were continued during the month of May, 1883. The averages for the various districts, as determined from the observations made by the stations published in the REVIEW for April, 1882, are given in table below.

Meteorological Record of the Cotton Districts for the month of May, 1883.

Districts.	Average rainfall in inches.	Temperature.		Extremes.	
		Mean of the maxima.	Mean of the minima.	Highest.	Lowest.
New Orleans.....	3.95	84.8	62.9	100	30
Savannah.....	3.60	84.4	59.3	97	32
Charleston.....	5.08	82.7	57.8	90	40
Atlanta.....	2.58	80.7	56.5	92	34
Wilmington.....	2.33	82.0	54.6	92	33
Memphis.....	4.59	80.3	55.4	93	37
Galveston.....	2.18	86.6	66.2	99	42
Vicksburg.....	2.63	82.8	59.4	95	38
Montgomery.....	2.60	84.2	56.0	94	31
Augusta.....	2.70	83.5	59.1	95	31
Little Rock.....	4.24	82.0	54.6	93.3	33
Mobile.....	2.94	85.3	58.6	98	30

WINDS.

The prevailing directions of the wind for the month of May, 1883, at the Signal-Service stations are shown on chart iii. by arrows flying with the wind. On the California coast, the prevailing winds were westerly; in the north Pacific coast region, northerly; in the Gulf states, southerly and southeasterly; along the Carolina coast, southwesterly, except northeast at Kittyhawk; on the middle Atlantic coast, easterly and southerly; New England coast, southerly and southwesterly; lower lake region, westerly; in the upper lake region, upper Mississippi and Missouri valleys, they were mostly from the north and northwest.

TOTAL MOVEMENTS OF THE AIR.

In the following table are given the stations reporting the largest and smallest total movements of the air in each of the various districts:

Districts.	Stations reporting largest.	Miles.	Stations reporting smallest.	Miles.
New England.....	Block Island, R. I.....	9,725	New London, Conn.....	4,537
Middle Atlantic states.....	Del. Breakwater, Del.....	11,980	Lynchburg, Va.....	3,496
South Atlantic states.....	Hatteras, N. C.....	13,978	Augusta, Ga.....	2,801
Florida peninsula.....	Punta Rasa.....	7,264	Sanford.....	4,105
East Gulf.....	Starkville, Miss.....	6,327	Montgomery, Ala.....	3,591
West Gulf.....	Indianola, Tex.....	10,838	Little Rock, Ark.....	4,325
Ohio valley.....	Louisville, Ky.....	6,818	Pittsburg.....	3,968
Tennessee.....	Nashville.....	5,549	Chattanooga.....	4,549
Lower lakes.....	Rochester, N. Y.....	9,667	Cleveland, Ohio.....	6,783
Upper lakes.....	Milwaukee, Wis.....	9,653	Marquette, Mich.....	6,532
Extreme northwest.....	Moorhead, Minn.....	9,227	Saint Vincent, Minn.....	6,857
Upper Mississippi valley.....	Saint Louis, Mo.....	9,362	Dubuque, Ia.....	4,023
Missouri valley.....	Huron, Dak.....	8,944	Omaha, Neb.....	6,626
Northern slope.....	North Platte, Neb.....	9,488	Deadwood, Dak.....	2,846
Middle slope.....	Fort Elliott, Texas.....	11,728	Denver, Colo.....	4,883
Southern slope.....	Fort Concho, Texas.....	8,119	Colman City, Texas.....	6,918
Southern plateau.....	Santa Fe, N. M.....	9,362	Tucson, Ariz.....	3,215
Middle plateau.....	Pioche, Nev.....	6,412	Salt Lake City, Utah.....	3,350
Northern plateau.....	Eagle Rock, Idaho.....	7,252	Lewiston, Idaho.....	2,481
North Pacific.....	Portland, Oregon.....	4,284	Olympia, Wash. T.....	1,408
* Middle Pacific.....	San Francisco, Cal.....	7,176	Sacramento, Cal.....	5,207
South Pacific.....	San Diego, Cal.....	5,086	Visalia, Cal.....	3,102

* No record at Cape Mendocino, Cal.

On the summits of Mount Washington, New Hampshire, and Pike's Peak, Colorado, the total movements of the air were 25,410 and 16,762 miles, respectively.

HIGH WINDS.

On the summit of Mount Washington, maximum velocities of fifty miles per hour or more were of daily occurrence, with the exception of the 1st, 4th, 5th, 15th, 18th, and 21st. The highest velocities recorded at this station as follows: 78 nw., 8th; 76 nw., 9th; 84 sw., 10th; 90 nw., 11th; 76 nw., 13th; 76 sw., 29th; maximum for the month, 96 sw., 31st. The following high velocities were reported from Pike's Peak, Colorado: 68 sw., 1st; 52 nw., 4th; 64 sw., 5th; 51 sw., 6th; 78 sw., 8th (maximum for month); 52 nw., 23d; 58 sw., 24th; 50 nw., 26th; 56 nw., 27th; 56 nw., 28th; 64 n., 31st.

Other stations reporting velocities of fifty miles or more per hour, are as follows: Fort Assiniboine, Montana, 52 w., 31st; Mackinaw City, Michigan, 52 e., 10th; Delaware Breakwater, Delaware, 50 n., 15th; Hatteras, North Carolina, 56 ne., 2d; Portsmouth, North Carolina, 64 ne., 2d.

LOCAL STORMS.

The most violent local storms and tornadoes of the month occurred in connection with the passages of the barometric depressions traced as numbers v. and vi. on chart i. Those which were associated with number v. were most violent in eastern Kansas and Missouri, and occurred on the afternoon of the 13th, while the centre of depression was near central Nebraska. The tornadoes occurring in connection with number vi. were numerous and severe. They occurred during the afternoon and evening of the 18th in the states of Illinois, Indiana, Iowa, Missouri, and Wisconsin. The barometric depression mentioned in connection with these storms, which are described in detail under "areas of low-pressure," were traced as follows:

Number v. was central in eastern Colorado on the morning of the 13th, and moved in an easterly direction, disappearing off the middle Atlantic coast on the afternoon of the 15th. Number vi. was first located near central Wyoming on the morning of the 17th; it moved northeastward over the upper lakes and Canadian provinces, and was last observed on the morning of the 21st over the Gulf of St. Lawrence.

Brief description of the local storms and tornadoes of May, 1883, are given below, under the heading of the various states in which they occurred.

Alabama.—A storm of great violence passed to the north and west of Headland, Henry county, during the evening of the 20th, destroying a number of buildings and blowing down many trees and fences.

Arkansas.—Eureka Springs, Carroll county, 18th: a tornado occurred during the evening of this date, first striking a point about five miles southeast of this place, where it cut a path, one-fourth of a mile in width, through a dense forest, and destroyed several buildings.

Fort Smith: a severe storm swept over this city during the morning of the 29th, breaking down and uprooting many shade trees. The southern hotel, one of the finest structures in the city, was unroofed.

California.—Stockton, San Joaquin county: the most severe thunder-storm experienced here for years occurred on the 5th.

Germantown, Colusa county: during the storm of the 4th and 5th, 1.75 inches of rain fell. This storm resulted in damage to the harvested hay, but was of great benefit to the grain crops.

San Leandro, Alameda county, 5th: much damage has been done to the roads and grain crops in this vicinity by the recent rains.

Dakota.—Fort Stevenson: this place was completely isolated from the outside world by the storm of the 9th and 10th. The telegraph lines were prostrated for miles and all travel was obstructed, causing serious interruption to business. Several mills were compelled to shut down, it being impossible to do hauling over the roads.

Illinois.—Chicago: the storm on the afternoon of the 9th was very severe north of this city. At South Evanston a church was blown from its foundation and completely wrecked. Several other buildings in Evanston and South Evanston were damaged.

Sterling: a severe storm passed over the southern part of Whiteside county on the afternoon of the 9th. A large number of buildings were blown down or damaged. In Sterling, many windows were broken by the hail accompanying the storm.

Hillsboro', Montgomery county: the tornado, which passed through the outskirts of Hillsboro' on the evening of the 18th was first seen as a dense black cloud, coming from a point almost due southwest. While its path, in places, was zigzag, its general course was in a direct line nearly northeast. The fact that its path through this vicinity was exactly in a line with those of the tornadoes which passed near Nokomis, in this county, and Staunton, Macoupin county, leads to the conclusion that these storms are identical. If this conclusion is correct, a section of country for a distance of fifteen miles, over which it passed, was left untouched, between the place of its last appearance in Macoupin county and the point first touched in Montgomery county. It left the earth again about three miles northeast of Hillsboro' and next touched at Nokomis, about ten miles distant, where it made several successive bounds, destroying two dwellings and several barns, and then entirely disappeared. As the tornado swept by Hillsboro', its velocity supposed to be not less than forty miles per hour, it was accompanied by a deafening roar. At a distance of one-fourth of a mile on either side of the cloud, there was a tremendous suction or side draft of the air toward the centre. The width of the path varied with the nearness of its approach to the ground, being thirty rods wide in some places, while in others it was not more than ten rods. Where the pendent stem or small end of the funnel-shaped cloud swept along, it left a path not more than four or five feet wide, which was plainly marked. No houses in this vicinity were struck by the centre of the storm, consequently the loss of life was not as great as it would otherwise have been. A number of stones, of peculiar formation and shapes uncommon in this region, were showered upon a farm near its track. The iron suspension bridge of the Indianapolis and Saint Louis railroad was blown away at 9.55 p. m., resulting in the complete wreck of the train due at Hillsboro' at 10.03 p. m.

Nokomis, Montgomery county: a violent storm visited this vicinity between 10 p. m. and midnight of the 18th, causing serious losses.

Grafton, Jersey county: the tornado of the 18th resulted in the destruction of much property and loss of life at this place. Large stones were lifted from Grafton bluffs and thrown with great force into the Mississippi river, and were also strewn along the track of the Wabash railway for several miles. A car loaded with stone weighing 42,000 pounds, was lifted from the track and the stones were scattered in various directions.

Pierson station, Piatt county: a violent tornado visited this county at about 12.15 a. m. of the 19th. It moved in a northeasterly direction, destroying much property in its path. Trees of various sizes were broken or twisted off, some of which were three feet in diameter. The storm was accompanied by constant and vivid lightning.

Clinton, De Witt county: a severe storm passed over this vicinity during the night of 18-19th, doing great damage to property, and causing loss of life. The cloud was funnel-shaped and revolved with great rapidity. Near Kinney, the storm was accompanied by hailstones as large as hickory-nuts. Reports from Staunton, Macoupin county, state, that at 10 p. m. of the 8th, a tornado passed about three miles east of that place, demolishing residences and doing great injury to the orchards in that vicinity. About twenty-five persons were injured and one was killed.

Harvard, McHenry county, 18th: shortly before 6 p. m. a dark cloud, accompanied by a roaring sound, was observed over Chemung, a village near this place. In a moment a funnel-shaped cloud formed and swept over the village, completely destroying a large number of buildings and killing several persons. The tornado passed eastward, doing considerable damage at Belvidere and Lawrence.

Chicago, 19th: the storm of last night caused considerable damage in various parts of this city. A great many signs were blown down and much window-glass was broken. Several buildings were blown down.

Gillespie, Macoupin county, 18th: at 9 p. m. a violent tornado passed from southwest to northeast, between this place and Carlinville, causing loss of life and great destruction to property.

Springfield, 18th: at 7.10 p. m. a tornado occurred about three miles south of the centre of this city, and moved in a northeasterly direction. Property valued at \$75,000 was destroyed in this vicinity; four persons were killed and several more or less seriously injured. At Round Prairie, a small settlement four miles east of this city, the storm was also very severe.

Pesotum, Champaign county: a destructive storm occurred at this place at 11.30 p. m. of the 18th, causing much damage to property in this vicinity.

Decatur, Macon county: between 9 and 10 p. m. of the 18th a tornado passed over the northwestern part of this county, sweeping away many houses and barns. No serious damage was done in this city.

Virginia, Cass county: a tornado occurred in this vicinity at 8 p. m. of the 18th. Littleberry, a village of three hundred inhabitants, seven miles south of this place, was almost entirely destroyed. The track of the storm was about one-half mile in width. Six persons were killed and a large number wounded.

Mount Pulaski, Logan county: during the night of the 18th this vicinity was visited by a violent tornado. It first struck near Cornland, where a dwelling was destroyed. From this point the storm moved eastwardly with great violence and destroyed nearly everything in its path. The storm-cloud seems to have lifted from Lake Fork to Salt creek, passing off into De Witt county.

Pekin, Tazewell county: during the severe storm of the 18th a number of out-buildings, fences, and trees were blown down. At Manito nearly all of the windows were broken by the hail which accompanied the storm.

Jacksonville, Morgan county: this section was visited by the most destructive storm ever known here during the evening of the 18th. At Greasy Prairie, eleven miles south of this place, a large number of farm-houses were destroyed and four persons were killed. At Woodlawn, where a violent tornado occurred three years ago, the railroad depot was blown down; cars were blown from the track and destroyed, while in places the railroad track was partly torn up. At Leitenburg, nine miles north of Jacksonville, the storm passed over the most thickly settled part of the place, destroying and injuring many buildings. At this place six persons were killed and fifteen were

injured. The storm extended as far south as Litchfield, near which place a railroad bridge was blown away and a train thrown into a ravine. Great damage was done in the vicinity of Murrayville, where many dwellings were wrecked and several lives lost.

Edwardsville, Madison county: this city and immediate vicinity was visited by a violent tornado during the evening of the 18th. Only one life was lost in this locality, but a large amount of property was destroyed. The storm came from the southeast, first appearing about two and one-half miles distant; and the width of its path was from six hundred to eight hundred feet. The total damage to property is estimated at \$50,000.

Alton, Madison county, 19th: the storm of last night resulted in no serious damage at this place, but at Grafton, Jersey county, a few miles northward, all of the derricks of the Grafton Stone Quarry company were destroyed, together with five engines and several houses. The storm was also severe at Edwardsville, Madison county. At Shipman, Macoupin county, a great deal of property was destroyed. This storm seems to have come directly from the west. It first appeared at Jonesburg, Montgomery county, Missouri, where it blew down several houses and caused loss of life.

Mason City, Mason county: about 9 p. m. of the 18th a tornado, coming from the south, struck a point about three miles southeast of this place, blowing down and unroofing buildings. Two persons were killed and several wounded at this place by the falling timbers.

Petersburg, Menard county, 18th: at 9 p. m. a tornado struck this county about four miles north of Tallula; thence it passed northeasterly across the county, doing great damage to buildings and orchards and causing loss of life.

Up to midnight of the 19th the number of deaths caused by the tornadoes, occurring on the afternoon of the 18th, in the various counties in Illinois, aggregated sixty-three.

Collinsville, Madison county, 25th: a tornado of small extent occurred five miles west of this place. Its track was about seventy-five feet in width and one mile in length. The damage was slight.

Cairo, 28th: a storm occurred here on this date, the wind reaching a velocity of forty miles. A few shade trees, chimneys, &c., were blown down.

The following report was published in the Saint Louis "Globe Democrat," June 2d, 1883: "Litchfield, Illinois, June 1st.—Information was received to-day from a party at Millersville, Christian county, that a book containing the name of J. F. Blackburn, of Litchfield, was picked up about a mile east of that place in the track of the late cyclone. The book was undoubtedly carried from Woodsboro', where Mr. Blackburn's house was demolished, a distance of over thirty miles from the place where it was found."

Indiana.—Franklin, Johnson county, 14th: at 7.30 p. m. a severe storm of wind and hail passed over Amity, three miles south of this place, causing great damage to property. Several dwellings were moved from their foundations and a large number of small buildings and fences were destroyed.

During the night of the 14th a tornado swept across the country about six miles north of Connersville, Fayette county, striking the village of Waterloo, where only three houses were left standing. An iron bridge over White Water river was ruined. In the southern part of Wayne county, much damage was done. The storm passed into Preble county, Ohio, unroofing houses and barns, and causing damage estimated at \$70,000. Further eastward in Montgomery county, there was a severe hail-storm, which did great damage to vegetation, and especially to the fruit crop.

Muncie, Delaware county: during the night of the 14th a severe storm visited the western part of this county, doing great damage by demolishing barns, unroofing houses and destroying valuable timber.

Indianapolis, 14th: this vicinity was visited by a severe storm at 6 p. m. No serious damage was caused at this place, but at Southport, six miles south, two churches, a school-house,

and other buildings were blown down. The damage will amount to \$10,000. West of Southport, the tornado divided into two parts, and again united after passing a distance of one mile.

La Fayette, Tippecanoe county: a severe wind and rain storm occurred during the night of the 18th, causing much damage to buildings, fruit trees, and growing crops in this vicinity.

Wabash: at 4 p. m. of the 19th a violent tornado from the southwest passed over this place. Its track was very narrow, and within it many buildings were unroofed and trees blown down. The tornado was of short duration, but it was one of the severest ever experienced here, and caused serious damage in this city and vicinity.

Clay City, Clay county: at 5 p. m. of the 28th a violent tornado occurred in this vicinity. No serious damage was done at this place, but at Neal's Mill a dwelling was totally destroyed, killing six persons. In a neighboring settlement several houses were blown down and five persons were killed. This tornado proved very destructive in Decatur, Owen, Johnson, and Shelby counties.

At 6 p. m. of the 28th a violent storm with heavy rain struck the town of Edinburg, Johnson county. The wind blew with great force for ten minutes, during which time several buildings were badly injured, and other damage done.

Iowa.—Dubuque: a severe rain and hail storm occurred in this vicinity during the afternoon of the 9th. Telegraph lines, fences, &c., were prostrated, one house was blown down, and a steamer and several barges were blown from their moorings. Considerable damage was done by flooding cellars and basements.

Cedar Rapids, Linn county: during the evening of the 9th a tornado passed through the western part of this county, in the vicinity of Fairfax, demolishing several and unroofing a large number of buildings.

Davenport, 18th: during a storm on the afternoon of this date, a part of the roof of the Phoenix mills was carried away; signs and chimneys were blown down in various parts of the city.

Kansas.—At about 5 p. m. of the 13th, a heavy storm passed over Troy, Doniphan county. It came from a south-westerly direction, and was observed several minutes before it struck the town. One residence was demolished, and the telegraph poles along the Saint Joe railroad were blown down, obstructing the track and causing delay of travel.

Wyandotte, 13th: at 4.30 p. m. the most violent tornado which has ever visited Wyandotte county, crossed the Kansas river near Muncie. It travelled in a northeasterly direction across the county, the width of its path varying from three hundred to four hundred feet. Large forest trees were twisted off and many buildings were completely demolished.

Atchison: the storm of the 13th, which proved so destructive at Wyandotte and Kansas city, was discernible from this place and caused much alarm. Very heavy rain fell here, accompanied by thunder and occasional hail.

Wichita, Sedgwick county: the severe storm of the 13th caused large losses of sheep and cattle by drowning. Many bridges were washed away, and the streams were swollen to higher points than have been known for years.

McPherson, McPherson county: a violent storm occurred twelve miles west of this place on the 24th. The wind reached an estimated velocity of eighty-five miles per hour, blowing down buildings and doing other damage.

Michigan.—Detroit, 10th: a severe wind and rain storm passed over this city at 3.40 p. m., damaging the roofs of buildings and blowing down signs, etc. The damage was almost entirely confined to the north side of Grand River avenue for a distance of two squares. The storm was very severe along the river front below the Michigan Central railroad property, where fences and numerous out-houses were blown down.

Lansing: about 1 p. m. of the 10th, a severe thunder-storm passed over this place. The wind reached a velocity of seventy-two miles per hour, blowing down chimneys, unroofing

buildings, and doing other damage. During the storm the telegraph and telephone wires were much disturbed, the lightning playing freely over the wires inside the buildings, melting the coils around the magnets and discharging with loud reports.

White Pigeon, Saint Joseph county, 14th: a violent wind-storm occurred at 4 p. m., during which a school building was blown down, killing one of the pupils and injuring several others.

Sturgis, Saint Joseph county: a tornado struck this place about 3.30 p. m. of the 14th. It came from a southeasterly direction and passed through the outskirts of the town. The path of the storm was about one-half mile in width, within which many buildings were demolished. Four persons were killed about two miles from this place. The storm, which was accompanied by very heavy rain and hail, was also very severe in Branch county.

Minnesota.—Duluth: a severe and destructive storm visited this city and vicinity between 1 and 2 p. m. of the 18th. The storm lasted but a few minutes. One dwelling and a large number of out-houses were blown down. The damage caused by the storm is estimated at \$2,000.

Missouri.—Jefferson City: the storm of the afternoon of the 9th did considerable damage to the growing crops and fences in the western and southwestern sections of Cole county. The storm was particularly severe near Russellville. Very large hail accompanied the storm.

Kansas City: at 4.30 p. m. of the 13th, a tornado struck this city, coming from a southwesterly direction. It is reported that before the tornado reached this city, it came from a northerly direction, striking Wyandotte county, Kansas, about ten miles before reaching this place. In Wyandotte county the tornado divided, one part going northeastward through Clay county, Missouri, and the other passing near the asylum for the blind, north of Wyandotte, and turning south and east, partly wrecked that city. Argentine and other suburbs of Wyandotte were completely destroyed. It lifted from the earth and cleared West Kansas City, striking again upon the crest of the bluff at Sixteenth and Jefferson streets. Trees as large as a man's body were snapped off, and heavy timbers and roofs were carried long distances. The track of the tornado was from one hundred and fifty to two hundred yards wide, and from its point of contact with the top of the bluff, it pursued a northeasterly course. In some instances substantial brick structures were demolished, while small frame buildings escaped without injury. Above Wyandotte the storm was more severe than in Kansas City. The other tornado crossed the river about one mile north of Wyandotte, pursuing a northeasterly course. This storm appears to have been more violent than the one which struck Kansas City. Four persons were killed and about two hundred houses of various sizes were demolished. The damage done in Kansas City and vicinity is estimated at \$300,000. At Liberty, Clay county, the storm did considerable damage; many buildings were blown down or otherwise damaged.

Troy, Lincoln county: a tornado struck this place at 3 p. m. of the 13th. It was of short duration and was not especially severe. The storm apparently started about two miles west of this place, and caused but slight damage in its course.

Cameron, Clinton county, 13th: the country fifteen miles north of this place was visited by a destructive storm about 5 p. m. The storm pursued a northwesterly course, and resulted in great damage. Houses and trees were blown down and many horses and cattle were killed.

Macon, Macon county: about 8 p. m. of the 13th, this town was visited by a severe storm, which caused great damage to all kinds of property. No lives were lost in this immediate vicinity, but at other points several persons were killed.

Pattonsburg, Daviess county: a tornado passed south and east of this town about 5 p. m. of the 13th, blowing down buildings, fences, trees, &c.

St. Joseph: reports from Whitesville, Andrew county, state that a storm passed over that place on the evening of the 13th,

destroying several houses, barns, and orchards in that vicinity. At Liberty, Clay county, several houses were destroyed or badly damaged, and in an adjacent county many farm-houses and other buildings were blown down.

Springfield: a severe wind and hail storm visited this vicinity during the night of the 13th; the hailstones were very large and broke much window-glass in the city. Near Cave Spring, fifteen miles northwest, much fencing was destroyed, but no other damage occurred.

Omaha, Putnam county, 17th: soon after 6 p. m. a tornado struck the southwestern part of this town. Its path was about one hundred and fifty yards wide, within which many trees over one foot in diameter were broken off close to the ground.

The storms which visited Howell county, during the 18th and 19th, did great damage to farms and other property. Bridges and embankments on the Kansas City, Springfield and Memphis railroad were washed away or badly damaged. Every house in the town of Moody was blown down. The tornado swept across Maries county levelling everything in its track, which was about one hundred yards wide. In Miller county the storm was also very severe.

Berger, Franklin county, 18th: At 7 p. m. a tornado visited this section, causing damage to the extent of several thousand dollars.

Wellsville, Montgomery county: a tornado passed over the southern part of this county about 7 p. m. of the 18th, totally destroying six dwellings and one mill. One person was killed and several wounded. The damage in this vicinity will aggregate \$30,000.

Forestel, Saint Charles county: a violent tornado passed south of this place during the evening of the 18th. It was of very short duration, and was accompanied by a roaring sound. The storm pursued a zigzag course from southwest to northeast, the width of its path being from two hundred to three hundred yards. Great damage was done along the course of the storm, from Tuque post office, Warren county, to Wintzville, Saint Charles county.

A tornado passed over Dog Prairie, Saint Charles county, during the evening of the 18th, doing damage to the extent of more than \$30,000.

Reports from Marquand, Madison county, state that a violent tornado visited that place at 5 p. m. of the 18th, causing a large amount of damage.

Carthage, Jasper county: at 7.40 p. m. of the 18th, a tornado struck the town of Oronogo, a few miles west of here, and in a few minutes destroyed nearly all the buildings in the town. Six persons were killed, and thirty-three more or less seriously wounded. The damage at Oronogo is estimated at \$75,000. Webb City, Joplin, and Carthage escaped with but little damage. The storm passed up Spring River valley, its track being about two hundred yards wide. At Cartersville, two miles southeast of Oronogo, a church was completely wrecked, and several buildings were blown down.

Montana.—Butte City, Silver Bow county: a tornado passed over a section of this country, eight miles south of this place, on the 15th, destroying houses, trees, and fences. Five hundred feet of basin-fluming, thirty feet above the ground, were blown down, seriously injuring six men.

Nebraska.—Omaha: At 6 p. m. of the 17th, a tornado passed over the southern outskirts of this city. Before the approach of the tornado there were observed to the southward of the city two funnel-shaped clouds, travelling rapidly to a converging point. When the clouds met, a loud noise, resembling an explosion, was heard. The track of the storm was not continuous, the tornado-cloud only touching in places in a direction from southwest to northeast. A few out buildings and fences were blown down, entailing a loss of about \$400.

Valparaiso, Saunders county: during the afternoon of the 17th a tornado destroyed a number of houses and injured several persons at this place. The storm passed about one-quarter of a mile east of the town at 4.15 p. m., reaching Valley, Douglas county, at about 5 p. m.

Nevada.—Carson City: from 11.20 a. m. to 1.20 p. m. of the 11th, the most violent thunder-storm that has been known for many years prevailed at this place. The storm was accompanied by hail and an unusual electrical display.

New Jersey.—Keyport, Monmouth county: considerable damage was done in this vicinity by the storm of the 8th.

Paterson: a severe storm visited this place during the evening of the 8th, unroofing a number of mills and doing other damage. Several persons were injured.

The storm on the afternoon of the 21st was the most violent ever known in the eastern part of Monmouth county. It was particularly severe along the coast, and great damage was done at Highlands, Seabright, and Long Branch. The swollen streams did great injury to the country bridges, and the growing crops were badly damaged by the heavy rain. At Seabright a residence valued at \$30,000 was struck by lightning and totally destroyed, and at Long Branch a church was badly damaged by lightning.

New Mexico.—Santa Fé, 12th: a violent whirlwind with a funnel-shaped cloud passed through this city on this date. Two houses were unroofed, trees were blown down, and other damage done.

New York.—New York City: A storm of considerable severity occurred in this vicinity on the afternoon of the 8th. A number of chimneys, signs, &c., were blown down in this city and in Brooklyn, and considerable damage was done by lightning.

Constantia, Oswego county: at 6 p. m. of the 10th this village was visited by one of the worst storms ever known in this locality. The storm was of less than ten minutes duration, during which time many buildings were unroofed, and chimneys, fences, and trees were blown down. At Gaysville, a small settlement near here, the storm was very violent. Large trees, barns, and out-houses were blown down.

The storm of the 21st was one of the severest that has visited Long Island for many years. The thunder and lightning was almost incessant, and the rain fell in torrents for nearly five hours, flooding cellars in some localities and badly washing the road-beds. The lightning caused considerable damage at various points, several barns and dwellings being totally destroyed.

Ohio.—Frederickstown, Knox county: a destructive storm swept over this place during the afternoon of the 14th, destroying and unroofing buildings.

At Bridgeport, Belmont county: during the storm of the 28th the bridge across the Little Miami river was torn from its piers and wrecked, and a flour mill was unroofed. In Butler county, a large number of barns were unroofed and a few dwellings were demolished. This storm did considerable damage in Shelby, Bartholomew, Decatur, and Owen counties, Indiana.

Lebanon, Warren county: during the evening of the 28th, a tornado passed near this place. It passed in a northeasterly course to the village of Genntown, where it blew down all of the fences and trees, and unroofed a number of barns and dwellings. A substantially built cottage was carried a distance of forty feet and dashed to pieces. After reaching Genntown the course of the storm changed to the eastward. Its track was about one hundred and twenty yards in width near Lebanon, but it increased about three-eighths of a mile at Genntown. The storm was attended throughout its course by rain and hail.

Pennsylvania.—Danville, Montour county: the most violent wind storm which has visited this vicinity for many years occurred on the 8th. Many houses were unroofed or otherwise injured, and two persons were killed. Trains were delayed on account of the washing away of embankments and culverts.

Philadelphia, 9th: reports from Easton state that the storm of the 8th, in the Lehigh and Wyoming valleys, was the severest ever known in eastern Pennsylvania. Between Penn Haven, Carbon county, and Hazleton, Luzerne county, a clear

path was cut through the forest for a distance of two thousand feet. A large amount of damage was done to various kind of property.

Greensburg: about 5 p. m. of the 10th, a tornado of very short duration occurred about two miles southeast of this place. Many trees were broken off or uprooted, and several buildings were unroofed. The tornado was accompanied by heavy hail.

Erie: a violent wind storm began at 4.45 a. m. of the 21st, and continued during the day, reaching a maximum velocity of forty miles, and doing considerable damage to the wharves, buildings, and telegraph lines. Several fish houses were destroyed, and fishing nets, valued at \$3,000, were lost.

Pottstown, Montgomery county: a severe storm visited this place at 7 a. m. of the 22d, and continued for one hour; several buildings were damaged by lightning during the storm. This storm was also severe at Wilkesbarre, where a number of houses were struck by lightning.

Tennessee.—Chattanooga: a tornado is reported to have occurred at a point about thirty miles north of this place about 4 p. m. of the 20th, blowing down two buildings and damaging others.

Texas.—Denison: a tornado struck this city at 9 a. m. of the 17th. It came from a southwesterly direction, and caused damage to the extent of \$50,000 in this vicinity. About twenty buildings were destroyed and the fruit crop was nearly ruined.

Indianola: a severe storm, accompanied by hail, occurred on the 20th, during which the wind attained a velocity of eighty miles per hour, damaging buildings and uprooting trees. Over two inches of rain fell in thirty-five minutes.

Wisconsin.—Waukesha, Waukesha county: a tornado of great severity visited this locality on the evening of the 3d, blowing down many barns and fences. The damage in this vicinity is estimated at from \$7,000 to \$10,000. Farmers from the surrounding country report great damage to out-buildings and fences.

Janesville, Rock county: a storm of wind, rain, and hail visited this city during the evening of the 18th. No buildings were blown down, but many windows were broken by the hail. In the town of Plymouth, ten miles southwest of this place, the damage to buildings by this storm is estimated at \$20,000.

Beloit, Rock county: a violent wind storm passed over the Norwegian settlement, twelve miles north of this place, on the evening of the 9th. Two large barns were blown down and several other buildings were unroofed.

Rock, Rock county: this town was visited by a tornado at 4 p. m. of the 9th. The path of the storm was about forty rods wide and about three miles in length. The damage to buildings and orchards in this vicinity is estimated at \$10,000.

A tornado struck the northern part of the city of Racine at about 7 p. m. of the 18th. The storm was very violent in this vicinity, causing damage estimated at more than \$60,000. Twenty-five persons were killed, one hundred were injured, and about one hundred and fifty houses were destroyed. Had the storm struck the central part of the city the losses would have been much greater. The storm pursued a northeasterly course, its track being about five hundred yards wide and about one and one-half miles in length. Some of the houses in the path of the storm were blown from twenty to thirty feet from their foundations; others were completely demolished and some only partially destroyed. As the tornado moved from the city over Lake Michigan a most remarkable spectacle was witnessed. The whirling column of air seemed like great wreaths of smoke, bearing with them spiral columns of water.

Watertown, Jefferson county, 18th: the storm of this date caused damage to the extent of several thousand dollars in this county.

Sussex, Waukesha county: a whirlwind passed over this village on the 25th, completely demolishing a small barn. No other damage was done.