

**16th.**—Hail destroyed gardens and broke glass about Bird Island, Minn.

**17th.**—During a thunderstorm at Arkadelphia, Ark., in the evening, a man was killed by lightning. Hail destroyed crops in central Minnesota. An exceptionally severe rain and thunder storm visited the country about Syracuse, Kans. The storm was attended by a heavy downpour of rain, incessant lightning, and high wind. The town of Syracuse was flooded; stock was drowned, and great damage was done to property.

**18th.**—Some damage was done at Seibert, Colo., by hail.

**19th.**—Thunderstorms occurred in New Jersey and destructive hailstorms in Minnesota. At Somerville, N. J., a thunderstorm, with hail, occurred in the afternoon; damage was done to property and crops. In western and southwestern Minnesota damage was done to crops and property by hail. At Dodge City, Kans., a thunderstorm began at 2.20 and ended at 6.18 p. m., with heavy rain from 3.05 to 5.10 p. m.; 2 miles west of Dodge City railroads were washed out. An unusually severe thunderstorm struck Denison, Tex., about 5.30 p. m.; several persons were struck by lightning and damage was done to property. At Santa Fe, N. Mex., a thunderstorm began at 8.23 and continued until 10.40 p. m.

**20th.**—A violent electric storm passed over Waco, Tex., in the morning; a man was struck by lightning and damage was done to buildings. During a thunderstorm at Pueblo, Colo., in the evening, minor damage was done by lightning.

**21st.**—A severe thunderstorm occurred 4 miles west of Ellendale, N. Dak.; a man was killed by lightning.

**23d.**—A heavy thunder and rain storm occurred at Minneapolis, Minn., in the evening. At Bird Island, Minn., a hailstorm destroyed gardens and broke glass. At Sioux City, Iowa, a heavy rain and thunder storm began at 5.30 p. m.; a house was struck by lightning, and damage to property by flood was estimated at \$40,000. During a thunderstorm at Hutchinson, Kans., a horse was killed by lightning.

**24th.**—At Valparaiso, Ind., a barn was struck by lightning and burned, together with 5 horses and 2 cows. A heavy thunderstorm, with high wind and some hail, passed north-

west of Waukesha, Wis.; 2 barns were struck by lightning and damage was done to corn and grain. At Minneapolis, Minn., a thunder and rain storm began at 8.30 a. m. and ended at 11.48 a. m.; hail fell for 10 minutes. A second storm began at 12.25 and ended at 3.12 p. m.; 4.08 inches of rain fell in the two storms. A house was struck by lightning and damage was done by flood. During a heavy thunderstorm at Red Wing, Minn., in the early morning, the wind reached a maximum velocity of 32 miles per hour. A house was struck by lightning.

**26th.**—A heavy thunder and rain storm occurred 10 miles south of Bowling Green, Ky., accompanied by high wind and hail. Damage was done to corn and tobacco.

**27th.**—Five miles north of Lebanon Springs, N. Y., a barn was struck by lightning and burned. During a heavy thunderstorm at New Lisbon, N. Y., several barns were struck by lightning. A violent electric storm visited Rome, N. Y., about 3 p. m.; rain fell in torrents, accompanied by heavy hail. Damage was done to property. In Lewis County, N. Y., several buildings were struck by lightning. A destructive gale passed over Kiowa, Kans., in the early morning. Brick buildings and heavy plate glass windows had the appearance of being struck by grapeshot. At one place the clouds appeared to dip, and outhouses, small buildings, etc., were picked up and scattered in all directions. A heavy storm at Sterling, Kans., prostrated crops.

**28th.**—During a heavy thunderstorm at Bear Valley, S. Dak., a house was struck by lightning and a child killed. A cloudburst in the mountains in northwestern Arizona caused considerable damage by flood.

**29th.**—A horse was killed by lightning near Wellington, Nev.

**31st.**—During a thunderstorm at Petersham, Mass., 3 children were killed by lightning. At Chattanooga, Tenn., a heavy thunder and rain storm began in the evening and continued until midnight. In the northeast suburbs the rain was very heavy and damage was done to railroads. Considerable damage was done at Salt Lake City, Utah, by a severe windstorm.

INLAND NAVIGATION.

STAGE OF WATER IN RIVERS.

The following table shows the danger-points at the various river stations; the highest and lowest stages for the month, with the dates of occurrence; and the monthly ranges:

*Heights of rivers above low-water mark, August, 1893.*

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
<i>Red River.</i>	<i>Feet.</i>	<i>Feet.</i>		<i>Feet.</i>		<i>Feet.</i>
Shreveport, La. ....	29.2	5.0	I	0.9	16	4.1
<i>Arkansas River.</i>						
Fort Smith, Ark. ....	22.0					
Little Rock, Ark. ....	23.0	7.9	19	4.6	6	3.3
<i>Missouri River.</i>						
Fort Buford, N. Dak. ....	25.0	10.5	I	7.2	31	3.3
Bismarck, N. Dak. ....	75.0	5.1	I	2.6	30, 31	2.5
Pierre, S. Dak. ....	13.0					
Sioux City, Iowa. ....	18.7	9.5	I-4	7.0	31	2.5
Omaha, Nebr. ....	18.0	8.9	I	7.1	31	1.8
Kansas City, Mo. ....	21.0	13.2	19	7.8	31	5.4
<i>Mississippi River.</i>						
Saint Paul, Minn. ....	14.0	2.6	31	1.8	11	0.8
La Crosse, Wis. ....	10.0	2.9	I	1.9	24, 25, 28-31	1.0
Dubuque, Iowa. ....	16.0	3.4	I	1.7	30, 31	1.7
Davenport, Iowa. ....	15.0	2.4	1, 2	0.9	30, 31	1.5
Keokuk, Iowa. ....	14.0	2.6	I	1.8	30, 31	1.8
Hannibal, Mo. ....	17.0	3.4	I	0.5	30, 31	1.6
Saint Louis, Mo. ....	30.0	11.3	3	5.7	31	5.6
Cairo, Ill. ....	40.0	11.3	5	6.0	31	5.3
Memphis, Tenn. ....	33.0	8.5	I	4.5	24, 25	4.1
Vicksburg, Miss. ....	41.0	14.3	I	4.2	29	10.1
New Orleans, La. ....	13.0	7.2	I	3.4	30, 31	3.8

Heights of rivers—Continued.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
<i>Ohio River.</i>	<i>Feet.</i>	<i>Feet.</i>		<i>Feet.</i>		<i>Feet.</i>
Parkersburg, W. Va. ....	38.0					
Cincinnati, Ohio. ....	45.0	6.0	10, 11	3.6	29, 30	2.4
Louisville, Ky. ....	24.0	3.6	I	2.3	29-31	1.3
<i>Cumberland River.</i>						
Nashville, Tenn. ....	40.0	8.4	4	1.2	27	7.2
<i>Tennessee River.</i>						
Chattanooga, Tenn. ....	33.0	5.2	18	1.6	28, 29, 31	3.6
Knoxville, Tenn. ....	29.0					
<i>Monongahela River.</i>						
Pittsburg, Pa. ....	22.0	6.5	29	5.3	6, 7, 30	1.2
<i>Savannah River.</i>						
Augusta, Ga. ....	32.6	12.9	29	5.0	26	7.9
<i>Willamette River.</i>						
Portland, Oregon. ....	15.0	12.7	I	5.1	31	7.6
<i>Susquehanna River.</i>						
Harrisburg, Pa. ....	17.0	3.1	31	0.3	16-19, 25	2.8
<i>Alabama River.</i>						
Montgomery, Ala. ....	48.0	14.1	16	0.8	31	13.3
<i>James River.</i>						
Lynchburg, Va. ....	18.0	11.3	29	0.0	10-13, 16-19, 22, 27, 28	11.3
<i>Sacramento River.</i>						
Red Bluff, Cal. ....	22.0	1.6	1	1.3	17-31	0.3
Sacramento, Cal. ....	25.0	12.0	1	9.0	31	3.0
<i>Des Moines River.</i>						
Des Moines, Iowa. ....	19.0					