

western Indiana, and the vicinity of Lake Michigan there was considerably greater precipitation than normal.

As an indication of the plentiful water supply in recent months over the north-central part of the country, the river stage at St. Louis, Mo., may be noted. On November 30 this reached 22 feet, which was 8 feet below flood stage, but was higher than any previous stage since the latter part of June, 1929.

SNOWFALL

There was practically no snowfall anywhere during the first decade. The middle decade brought a little snow in the northernmost districts from central North Dakota to the western end of Lake Superior and considerable over most of the northern Plateau region, 12 inches falling at Salt Lake City, Utah. During the final decade snowfall occurred in most districts where it is expected by the end of November, though scarcely any fell to the southward of the northern boundaries of Arkansas, Kentucky, and the Virginias. From the lower Missouri Valley to New Jersey a narrow strip received from 2 to 6 or 7 inches about the 26-27th. However, several districts farther northward, particularly large portions of Wisconsin and lower Michigan, received no measurable snow before November ended and most of the Lake region and northern New England had far less than normal.

Most of the Plateau region received snowfall during the closing decade, and some districts a short distance to the

eastward of the Divide had unseasonably heavy falls, Denver, Colo., recording almost 15 inches and El Paso, Tex., over 2 inches.

The month's total snowfall was usually less than normal in the eastern half of the country, except moderately above normal from Indiana to New Jersey. In the Plains States and to the westward it was mainly greater than normal. In Idaho the average fall was larger than in any previous November of record, and the records were approached in Utah, Arizona, and New Mexico.

SUNSHINE AND RELATIVE HUMIDITY

The sunshine during November was slightly above the normal locally in the Southeast, the northern Great Plains, the Lower Lakes, and north Pacific areas. Elsewhere it was below the seasonal average, the deficiency being rather pronounced in portions of the upper and central Mississippi and lower Missouri valleys and the central Great Plains.

The relative humidity during the month was generally above the normal from the Plateau and Rocky Mountain regions eastward, except in portions of the southeast and northwest, and locally in the Lake region, where the average was as a rule slightly below. Throughout the Pacific States the humidity was generally below the normal although the departures were small, for the most part.

SEVERE LOCAL STORMS, NOVEMBER, 1931

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards)	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Mapleplain, Minn. (vicinity of)	16	9:35 p. m.			\$12,000	Tornado	Some farm buildings totally demolished or badly damaged; telephone poles leveled for half a mile; path 5 miles long.	Official U. S. Weather Bureau.
Lindale (near), Tex.	17	5 a. m.	200		3,500	do.	Buildings damaged at Thedford Switch.	Do.
Longview, Tex.	17	6 a. m.				Wind	8 oil derricks blown down in Spring Hill community.	Do.
Ludington, Mich.	20	11:30-2:40 p. m.				do.	Poles and overhead wires damaged; 1 person injured.	Do.
Charles City, Iowa, and vicinity.	20	2:14 p. m.			15,000	Thunderstorm and wind.	Airplane wrecked and another damaged; garage unroofed; buildings on 7 farms damaged.	Do.
Trempealeau County, Wis.	20	4 p. m.			15,500	Squall winds	Schoolhouse and several small buildings wrecked, others damaged; livestock killed.	Do.
Winnsboro (near), La.	20					2 small tornadoes.	Some small buildings demolished, several others damaged; poultry and pigs killed.	Do.
Santa Fe, N. Mex., and vicinity.	21-22				1,000	Wind	Signs, roofs, awnings, and outbuildings damaged.	Do.
Castron, Valencia, McKinley, San Juan, Rio Arriba and Sandoval Counties, N. Mex.	21-23			9	50,000	Snow, wind, and cold.	Many Indians badly frozen; thousands of sheep lost.	Do.
Amarillo, Tex.	22					Rime	Much damage to telephone and light wires.	Do.
Barton, Rush, and Ness Counties, Kans.	22-23				10,000	Sleet and glaze	157 poles broken down; 1,000 breaks in wires; power and telephone service greatly hampered.	Do.
Butler, Polk, York, and Fillmore Counties, Nebr.	22-23				80,000	Ice	Considerable injuries to trees and overhead wires.	Do.
Monroe, Audubon, Mahaska, Wapello, Fremont, Mills, and Pottawattamie Counties, Iowa.	22-23					Heavy rains and floods.	Considerable damage to crops, especially unhusked corn, by inundating of farm lands; fences and wooden bridges damaged.	Do.