

On account of the dry conditions, the generally high temperatures and frequent low humidity, many fires occurred in the forests of the Northwest and much damage to timber resulted. There was also a considerable shortage of water for irrigation on a number of western projects, due chiefly to lack of snow last winter and partly to deficient rainfall since.

## HUMIDITY

As was the case with precipitation the relative humidity percentages varied greatly, though on the whole they

were less than normal from the Great Plains eastward, save in portions of New England, along the South Atlantic Coast, and in Texas, where there were general excesses. Humidity was generally low over the Pacific Coast States and in the far Northwest, some of the lowest percentages ever observed being reported. These low humidities associated with high temperatures and general drought conditions greatly increased the fire hazard.

In the middle Rocky Mountains and nearby areas the percentages were mostly above normal.

## SEVERE LOCAL HAIL AND WIND STORMS, JULY, 1926

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

Place	Date	Time	Width of path yards <sup>1</sup>	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Butler County, Iowa	1	9.20 p. m.	1,760-		\$65,000	Hail	Crops damaged and window panes broken over path 5 to 10 miles long.	Official, U. S. Weather Bureau.
Southern Cherry and northern Hooker Counties, Nebr.	1	10.30 p. m.	1,760-3,520		150,000	Hail	Windows broken and crops and roofs badly damaged.	Do.
Santuck (near) S. C.	1			1		Thunderstorm	No property damage reported; one cow killed.	Do.
Columbia (near), Tenn.	2				55,000	Hail	Considerable crop injury; minor damage to buildings.	Do.
Blanca (near), Colo.	3				1,000	do.	Crop damage over small area.	Do.
Upton, Wyo.	3				4,000	do.	Character of damage not reported.	Do.
Philadelphia, Pa., and vicinity	3-4					Thunderstorm	Several buildings struck by lightning, some damage by flooding.	Do.
Joyner, Ark.	4	4.30 p. m.	1,760			Heavy hail	Cotton severely damaged. Path 4 miles long.	Do.
Aurora, Mo. (4 miles south of)	4	6 p. m.			600-800	Hail	Crops and orchards damaged.	Do.
Memphis, Tenn.	4				10,500	Thunderstorm	Grandstand unroofed; electric power and telephone service impaired.	Do.
Mooring, Tenn. (vicinity of)	4				35,000	Hail	Eight hundred acres of crops practically ruined and 600 acres damaged.	Do.
O'Brien and Sioux Counties, Iowa.	4	p. m.	3,960		64,000	do.	Crops damaged; path 20 miles.	Do.
Tillman (near), Miss.	4	p. m.				Tornado	Moderate damage to property.	Do.
Tulip, Ark.	4					Heavy hail	Crops damaged about 30 per cent.	Do.
Buffalo Creek, Colo.	5	3-4 p. m.	2,600			Hail	Much damage to roads reported.	Do.
Chickasha, Okla. (5 miles northeast of)	5	4 p. m.	3,520		12,000	do.	Crops damaged, path three and a half miles long.	Do.
Stanton, Ill.	6	11.20 a. m.	5 mi.		15,000	Wind	Damage chiefly to property; minor crop injury.	Do.
Laramie, Wyo.	6	1.45-3 p. m.				Hail and rain	Streets and basements flooded.	Do.
Bourbon County, Ky.	6			1	40,000	Wind, rain and electrical.	Extensive damage to crops, buildings and wire systems.	Do.
Campbell, Ky.	6				50,000	do.	No property damage reported.	Do.
Cloverport (near), Ky.	6			3		Electrical	Corn crop ruined.	Do.
Jasper County, Ill. (north-central part of)	6		880			Hail		Do.
Ohio	6					Thunderstorms and wind.	Telephone and telegraph service crippled; traffic impeded; buildings and crops severely damaged. Dayton and Columbus suffer most.	Journal (Dayton, Ohio).
Sangamon County, Ill.	6			1		Thunderstorm	One person injured.	Official, U. S. Weather Bureau.
New England, N. Dak.	7				20,000	Small tornado.	A number of buildings wrecked.	Evening Post (Chicago, Ill.).
Senatobia (near), Miss.	7					Thundersquall	Some property damage reported.	Official, U. S. Weather Bureau.
Salina, Dickinson, and Ottawa Counties, Kans.	8	6-8 p. m.	25 mi.		25,000	Hail	Window panes broken, roofs, and autos damaged.	Do.
Dickinson and Morris Counties, Kans.	8	9.30 p. m.	165		6,000	Tornado	No towns in path.	Do.
Kansas City, Mo.	8	9.32 p. m.			203,500	Thunderstorm and wind.	Fire started by lightning destroyed roofing plant and elevator.	Do.
Wichita, Kans., and vicinity.	8	11.30 p. m.				Violent wind	Damage chiefly to telephone and power lines and oil rigs.	Do.
Alpena, Mich.	8					Thunderstorm	Many trees blown down and small buildings damaged.	Do.
Briggsville, Ark.	8	p. m.	3,520			Heavy hail	Crops ruined.	Do.
Great Bend (near), Kans.	8	p. m.	3,520			Violent wind	Wheat stacks and farm buildings damaged.	Do.
Port Huron, Mich.	9	2.15 p. m.			1,000	Wind and rain	Scores of shade trees uprooted; several persons injured; minor damage to buildings.	Official, U. S. Weather Bureau; Port Huron Times Herald (Mich.).
Buel Center, Mich.	9	2.20 p. m.	1,760		30,000	Tornadic wind	Eight barns and 2 silos blown down; orchards and shade trees leveled.	Do.
Calham, Colo., and vicinity.	9	3 p. m.	8,000		20,000	Hail	Poultry killed; windows broken.	Official, U. S. Weather Bureau.
Simla, Colo.	9	4-5 p. m.	4,000		40,000	do.	Crops damaged.	Do.
Florence County, Wis.	9	4.30 p. m.	10 mi.			do.	All crops badly damaged.	Do.
Indianapolis, Ind., and vicinity.	9	9.30 p. m.				Thunderstorm and wind.	Trees prostrated; traffic impeded; wires down in some sections.	Official, U. S. Weather Bureau; Star (Indianapolis, Ind.).
Buchanan (near), Mich.	9	11 a. m.		3	10,000	Tornado	Several cottages destroyed; four persons injured.	Berrien County Journal (Buchanan, Mich.); Official, U. S. Weather Bureau.
Centralia, Ill.	9					Wind	Considerable damage reported by newspapers.	Official, U. S. Weather Bureau.
Coffeen (near), Ill.	9			1		Electrical	Barn destroyed; one person injured.	Do.
Erie, Pa.	9	p. m.		1		Wind and rain	Large circus tent wrecked injuring 20 people.	Do.
Genesee and Monroe Counties, N. Y.	9	p. m.				Severe thunderstorm.	Trees, crops, buildings, and telephone lines damaged.	Do.

<sup>1</sup> "Mi." signifies mile instead of yards.

Severe local hail and wind storms, July, 1926—Continued

Place	Date	Time	Width of path yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Hammond, Ind.	9		100		5,000	Thunderstorm and wind.	Some property damage.	Official, U. S. Weather Bureau.
Ladessa, Okla.	9	p. m.	1,760		1,000	Hail.	Crops damaged.	Do.
Michigan City, Ind. (near)	9		16			Probably tornado.	A number of barns and small buildings demolished.	Do.
Syracuse, N. Y., and vicinity.	9	p. m.		1	500,000	Thunderstorm.	Cellars and sewers flooded; embankments and driveways washed out; crops injured; buildings damaged by wind and lightning.	Do.
Blaine County, Okla.	10	A. m.	3 mi.		250,000	Hail.	Roofs and auto tops pierced; windows broken; poultry killed; many fields swept clean.	Do.
South Windsor, Conn.	10	5 p. m.	166		8,000	Tornado.	Tobacco barns on several farms damaged; path 3 miles long.	Hartford Courant (Conn.).
Kenton, Okla., and vicinity.	10	6.20-6.40 p. m.	3,520		45,000	Hail.	Two roofs riddled; gardens and some alfalfa fields completely ruined; some poultry killed; path 15 miles.	Official, U. S. Weather Bureau.
Philadelphia, Pa., and vicinity.	10	7.32-9.55 p. m.				Wind and electrical.	Trees leveled; some damage to buildings by lightning; traffic impeded.	Do.
Blanca (near), Colo.	10				2,500	Hail.	Crops damaged over small area.	Do.
Claiborne County, Tenn. (western part of).	10		5 mi.		50,000	do.	Crops and timber damaged over path 10 miles long.	Do.
Howard, southern Baltimore and northern Anne Arundel Counties, Md.	10	P. m.				Thundergust.	Some trees uprooted and minor property damage.	Do.
Kadron (near), Tenn.	10				1,500	Hail.	Crops hurt.	Do.
Elk Creek (near), Nebr.	11	5-8 p. m.	4 mi.			do.	Considerable damage in places; path 8 miles long.	Do.
San Jose and Delavan, Ill. (near).	12	3.30-4.30 p. m.	1,760			do.	Crops severely injured in places.	Do.
Prairie Home, Nebr.	12	3.30-5 p. m.	3 mi.		5,000	do.	Considerable destruction in places.	Do.
Bradshaw, Nebr.	12	4.20-4.45 p. m.	4 mi.			do.	Windows broken, roofs punctured, crops damaged 80 per cent and gardens totally destroyed.	Do.
Lincoln County, Okla. (northern part of).	12	7 p. m.	4,400		20,000	do.	General damage reported. Amount of damage other than that of crops considerable but not estimated.	Do.
Fremont, Louisa, Monroe, and Union Counties, Iowa.	12	P. m.			112,500	do.	Damage chiefly to crops; some poultry killed and windows broken.	Do.
Weatherford (near), Tex.	12		3 mi.		500,000	Wind and hail.	A number of houses and barns demolished; cotton and corn injured. Path 15 miles.	Dallas Morning News (Tex.).
Jeffersonville, N. Y.	13		1,320		15,000	Moderate hail.	Crops and buildings damaged.	Official, U. S. Weather Bureau.
Sterling, Colo.	14	4 p. m.	3,520		5,000	Hail.	Crops damaged.	Do.
Biloxi, Miss. (Back Bay Section).	15					Thundersquall.	Several frame buildings blown down; some property damaged by lightning, and small craft injured.	Do.
Madrid, Nebr.	15		3,520		25,000	Hail.	Character of damage not reported. Path 10 miles long.	Do.
Spooner, Wis.	16	1.30 a. m.	3 mi.		50,000	do.	Damage principally to crops.	Do.
Northern Bayfield County to northwest Vilas County, Wis.	16	6.15 p. m.	100-440	3	90,000	Tornado and hail.	Farm buildings, bridges, overhead wires, timber and crops wrecked or damaged. Path 85 miles long; 16 persons injured.	Do.
Lancaster, Pa., and vicinity.	18	A. m.				Electrical and hail.	Considerable damage, particularly in Elizabethtown.	Do.
Tioga and Lycoming, Pa.	18	1.50 p. m.				Severe hail.	Crops badly beaten.	Do.
Garrett County, Md. (northwest part of).	18	5-6 p. m.	4 mi.		100,000	Hail.	Birds killed; auto tops pierced; roofs damaged; fields and orchards ruined. Path 15 miles long.	Do.
Preston County, W. Va. (northern part of).	18	5.30-6 p. m.	1,320		200,000	Heavy hail.	Great damage to crops, roofs, and windows.	Do.
Parkersburg, W. Va.	18	P. m.				Wind.	Many fruit and shade trees ruined; awnings and signs blown down; wires damaged.	Do.
New England (sections of).	18	Do.		7		Series of thunderstorms.	Some buildings destroyed, others damaged; telephone and light service crippled in many places; trees uprooted.	Official, U. S. Weather Bureau; Hartford Courant (Conn.); Boston Post.
Mount Gretna and vicinity and York and Adams Counties, Pa.	18	Do.				Heavy hail and electrical.	Considerable hail damage; minor damage by wind.	Official, U. S. Weather Bureau.
Van Wert County southeast across State into Monroe County, Ohio.	18	Do.		1	455,000	Series of thunderstorms and hail.	Extensive crop damage.	Do.
Corning to Horseheads, N. Y.	18		1,760			Heavy hail.	Corn, tomatoes, garden truck, and greenhouses damaged.	Do.
Julesburg, Colo.	20	5.45-6 p. m.	2,440		30,000	Hail.	Chief damage to crops.	Do.
Gillette, Wyo. (10 miles northwest of).	20					do.	Crops destroyed.	Do.
Dunn, Chippewa, Clark, Taylor, Lincoln, Langlade, Oconto, Marinette, and Door Counties, Wis., to Washington Island, Kauhauna, Wis.	20-21	10 p. m.-3 a. m.	1/4-30 mi.		297,000	Severe squall, probably tornado.	Scores of farm buildings wrecked; trees prostrated; crops ruined. Path 240 miles long.	Official, U. S. Weather Bureau; Telegram (Chippewa Falls, Wis.).
	21	3.15 p. m.	880		2,000	Severe squall.	Damage chiefly to buildings.	Official, U. S. Weather Bureau.
Lynxville, Wis.	21	4 p. m.	1,760		10,000	Hail.	do.	Do.
Dalton, Nebr. (18 miles northwest of).	21	4.15 p. m.	16-33			Small tornado.	Storm passed over sparsely settled region.	Do.
Altus (near), Okla.	21	9.30 p. m.			50,000	Heavy hail.	Heavy crop loss.	Do.
Chester, S. C.	21				2,400	Thunderstorm.	Barns and outbuildings fired by lightning.	Do.
Hobart, Okla. (4 miles west of).	22	2 a. m.	1,760		20,000	Heavy hail.	Damage confined to crops.	Do.
Sunbury, Pa.	22	5 p. m.	10 mi.		100,000	Wind and electrical.	Crops and buildings damaged.	Do.
Albany, N. Y.	22			3	250,000	Severe thundersquall.	Trees, buildings, and overhead wires damaged.	Do.
Maine (Atlantic coast and vicinity).	22				14,100	Wind and hail.	Trees uprooted; buildings, wires, autos, and signs damaged.	Do.
Orange, Ind.	22					Heavy hail.	Considerable damage reported.	Do.
South-central counties, N. Y.	22					Thundersqualls.	Heavy damage to trees, buildings, and telephone lines.	Do.
Sparta (near), Tenn.	22					Wind and hail.	Trees uprooted, small buildings partially wrecked, crops injured.	Do.
Plymouth and Sioux Counties, Iowa.	23	3-5 p. m.				Hail.	Crops damaged 50 per cent.	Do.
Romney, W. Va. (2 miles northwest of).	23	3.30 p. m.	1,760-3,520		75,000	Heavy hail.	Extensive crop and property damage.	Do.

## Severe local hail and wind storms, July, 1926—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Lyman, Nebr. (4 miles south of)	23	4 p. m.	3,520		6,000	Hail	Damage over small area	Official, U. S. Weather Bureau.
Dalton, Nebr. (west of)	23	5 p. m.	1,760		5,000	do	do	Do.
Gothenburg, Nebr. (north of)	23	5-7 p. m.	2,640		12,000	do	do	Do.
Valley County, Nebr. (eastern part of)	23	6 p. m.	20 mi.		25,000	do	Much damage in places. Path 25 miles	Do.
Rockingham County, Va. (western part of)	23	P. m.	20 mi.		100,000	Thunderstorm and hail	Crops badly beaten by hail; buildings damaged by wind.	Do.
Chester County, Pa.	24	10 a. m.				Thunderstorm and wind	Heavy property and crop loss reported	Do.
Allegany County, Md.	24	p. m.				Destructive hail	Character of damage not reported	Do.
Oshoto (near), Wyo.	24		3,520		8,000	Hail	Crops and gardens ruined; trees stripped	Do.
Charleston, Ill., and east of	25	12.30-2 p. m.	1,760			Wind and hail	Church damaged; 50 per cent crop loss on 200 acres.	Do.
Yoder, Wyo.	25		1,760			Hail	Small grain damaged 80 to 90 per cent; minor damage to other crops.	Do.
Chacon, N. Mex.	26	3 p. m.	880-1,760			Heavy hail	Crops injured	Do.
Chattanooga, Tenn.	26-27				1,500	Thunderstorm	Streets and roads flooded; telephone service impaired.	Do.
Boone, Calhoun, Webster, Hamilton, Pocahontas, and Wright Counties, Iowa.	27				861,800	Hail	Damage principally to crops; some poultry killed.	Do.
East coast of Florida	27-28			1	3,051,000	Tropical hurricane	Some groves damaged; large quantity of fruit lost; heavy damage to buildings and celery crop.	Do.
Greene, Hamilton, and Keokuk Counties, Iowa.	28				40,000	Hail	Crops damaged about 50 per cent. Storms usually occurred in the morning.	Do.
Orangeburg, S. C.	28				2,000	Wind	Rural residences demolished	Do.
Wedgfield, S. C.	28					Tornado	Minor damage reported	Do.
Wilmar, Minn.	28					Hail and wind	Crops injured, other minor damage	Do.
Mount Carroll, Ill.	29	6.16-7.15 a. m.			1,100	Electrical	Electric lines damaged	Do.
Franklin County, Iowa	29	6 p. m.	3,520			Hail	Crop loss about 50 per cent; path 4 miles	Do.
Dunn, N. C.	29					Wind and rain	Crops, trees, and a few small houses damaged	Do.
Redwood Falls, Minn.	29					Wind	Some damage over limited area	Do.
Ottawa, Ill.	30	2.30 p. m.				Wind, rain, and electrical	Trees blown down; much damage by flooding; 800 telephones out of order; car service suspended.	Do.
Peoria, Ill., and vicinity	30					Electrical	A few barns burned	Do.

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## STORMS AND WEATHER WARNINGS

## WASHINGTON FORECAST DISTRICT

The tropical disturbance that appeared east of the Leeward Islands on the 22d and passed near the island of Dominica during the following night, apparently as a storm of only moderate intensity, increased gradually in intensity as it moved west-northwestward south of the Virgin Islands and Porto Rico, San Juan reporting a maximum wind velocity of 66 miles an hour from the east on the 23d. The lowest barometer reading at San Juan was 29.70 inches, the storm center apparently passing close to the extreme southwestern part of Porto Rico the evening of the 23d as the path changed from west-northwest to northwest. The morning report of the 24th from Santo Domingo was missing, but the Port au Prince and Puerto Plata reports indicated that the center was a short distance south of Santo Domingo. However, the delayed morning report was received late in the afternoon of the 24th and it showed that the storm center had already passed the extreme eastern point of the island and was moving northwestward along or near the coast line.

In the advisory warnings sent out up to and including the morning of the 24th the direction of movement of the storm was given as west-northwest, but caution was advised for all vessels bound for the region south of latitude 25° N., which is the latitude of Nassau, Bahamas, and on the morning of the 24th this area was extended to include the Bahama Islands and neighboring waters. Upon receipt of the delayed morning report from Santo Domingo the following advisory warning was sent out:

Advisory, 5 p. m. (24th).—Tropical storm will likely pass between Turks Island and Great Inagua to-night, moving northwestward or west-northwestward. No further danger in Caribbean Sea.

At 8 p. m. the barometer at Turks Island read 29.68 inches, and the wind which had reached a maximum

velocity of 74 miles an hour from the northeast had shifted to southeast and decreased to 38 miles an hour. The following warning was issued at 10 p. m. of the 24th:

Hoist northeast storm warning Jupiter Inlet to Key West, Fla. Hurricane central between Turks Island and Inagua moving northwestward. Center will probably pass near Nassau early Sunday night. Increasing northeast winds along southeast Florida coast becoming strong Sunday afternoon or night. Caution advised all vessels bound toward hurricane's path.

At 8 a. m. of the 25th the barometer at Nassau had scarcely begun to fall, and the weather was clear with only 6 miles of wind from the northeast. The S. S. *Standard*, however, in latitude 24° N. and longitude 74° 30' W., reported a barometer reading of 29.86 inches with a wind velocity of 50 miles from the east. At noon the barometer on this vessel read 29.56 inches and the wind had increased to 70 miles an hour from the northeast. By 8 p. m. the pressure at Nassau had fallen to 29.78 inches and the wind which was 34 miles an hour from the northeast at 4 p. m., had increased to 60 miles from the same direction. The following warning was issued:

Continue northeast storm warnings 10 p. m. Key West to Jupiter Inlet, Fla. Hurricane central about twenty-four north, seventy-six west moving northwestward toward Nassau. \* \* \* Increasing northeast winds probably becoming strong Monday forenoon, especially between Jupiter and Miami. Caution advised all vessels off the east Florida coast.

No further reports were received from Nassau, where the hurricane was very severe. Unofficial reports indicated that the wind reached an estimated velocity of 135 miles an hour at that place. At 2 p. m. of the 26th, the S. S. *West Erral*, only a short distance east of Miami, reported a wind velocity of 70 miles an hour from the northeast with a rough sea. At 3.30 p. m., the following warning was issued:

Change to hurricane warnings Jupiter Inlet to Key West, Fla., and hoist northeast storm warnings north of Key West to Tampa.