

WEEKLY WEATHER AND CROP BULLETIN

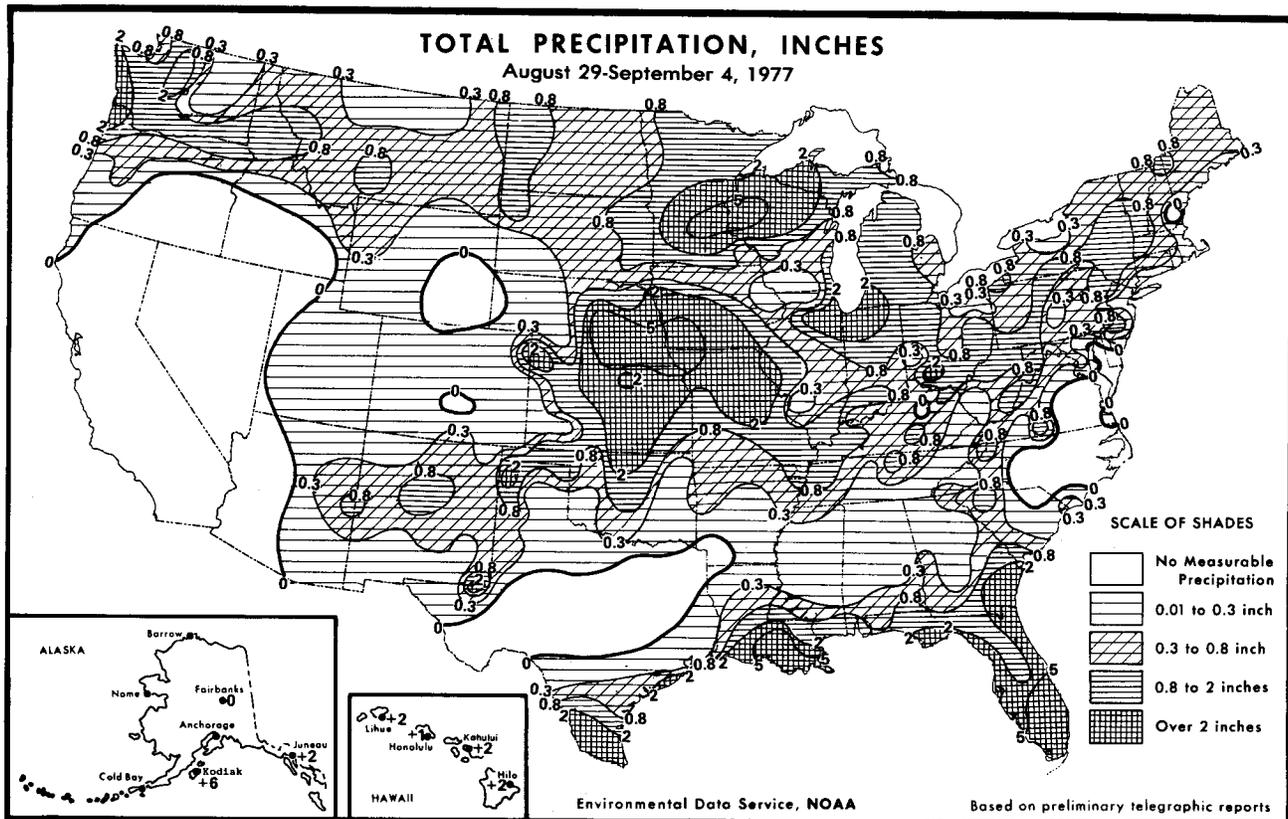
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National Weather Summary

Aug. 29 - Sept. 4

HIGHLIGHTS: Flooding rains inundated parts of the Midwest and Plains. The heaviest amounts drenched east central Minnesota, northwestern Wisconsin, southeastern Nebraska, and southwestern Iowa. Hurricane-related rainfall drenched the southern sections of Texas, Louisiana, and Florida.

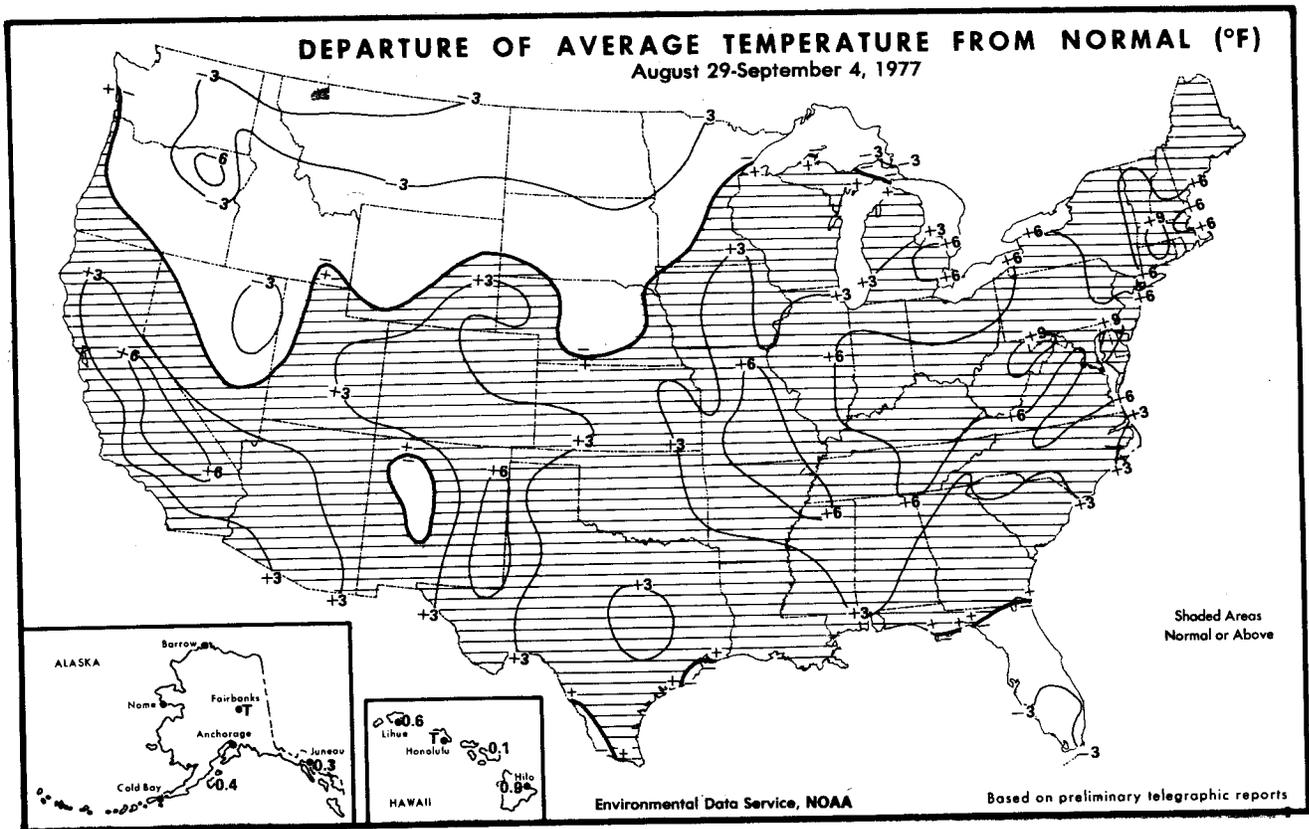
Temperatures were below normal from the northern Plains westward to the Pacific Northwest, and in most of coastal Florida. Readings ranged above normal, as much as 10° in parts of the East, over much of the remainder of the Nation.

Monday morning rainstorms moved over the lower Ohio Valley, hit West Texas, and dumped 3 inches on some points along the Gulf Coast. Later showers and thunderstorms dampened the South Atlantic Coast from the Carolinas to Florida and from the West Coast to Montana. Toward evening heavy thunder-showers produced some minor flooding in the upper Rio Grande Valley.

Temperatures ranged from highs in the 50's in western Washington to the 90's from New England to Virginia and the 100's in the Southwest. Records were set at Caribou, Maine, 92°, and Concord, N.H., 98°.

A close watch was being kept on a tropical depression developing over the Gulf of Mexico 250 miles south southeast of New Orleans.

Tuesday was a day of variety and a threat to the south. The day began showing showers and thunderstorms along the Gulf Coast, over the lower Appalachians and southeastern Ohio Valley, extending from the eastern Dakotas to Minnesota, and reaching to the northern Pacific Coast to the upper Missouri Valley. A stationary front triggered heavy afternoon thunderstorms from southern Pennsylvania to Virginia; hail pelted Charlottesville, Va., and Baltimore. Another heavy storm battered coastal Rhode Island. Severe storms formed over the central Plains bringing



hail to points in Kansas and Nebraska, spawning a tornado, and letting loose 4 inches of rain outside Grand Island, Nebr. Rainfall also inundated the central and western sections of New Mexico. By nightfall, an extremely heavy downpour struck the upper Mississippi Valley giving Minneapolis more than 7 inches of rain. Montana had something for everyone--readings in the 70's in the southeastern portion, a tornado just outside Great Falls, and 4 inches of snow 50 miles south of that city.

The gulf's tropical depression became a hurricane and was named Anita. As Tuesday closed, it drifted slowly westward.

Hurricane Anita intensified, packing winds of 100 mph, and continued the trek westward on Wednesday. Heavy rains kept falling in the morning over the upper Mississippi Valley and northern half of the Plains. Later, showers and thunderstorms drifted over the Gulf Coast, Florida, and lower half of the Appalachians. Severe thunderstorms bore down on lower Michigan and parts of Wisconsin and Kansas. A tornado touched down in Hale, Mich., while hail peppered Salina, Kans. By evening, a cold front marching across the center of the Nation soaked an area from the Great Lakes to the Texas Panhandle.

For the day, Philadelphia measured an inch of rain and Grand Island, Nebr., recorded its wettest August ever, 8.73 in.

Thursday began with more than 4 inches of rain covering parts of northern Illinois and storms spilling rain on the northern half of the Plains. Tributaries overflowed in parts of Illinois, Iowa, Kansas, and Missouri. Thunderstorms remained along the central Great Lakes, upper Ohio Valley, and Gulf Coast through the Atlantic Coast. A line of thunderstorms built up from lower Michigan through Illinois to Missouri. Tornadoes clipped

portions of Indiana, Michigan, Nebraska, and Kansas.

Hurricane Anita touched off showers along the South Texas Coast from Brownsville to Corpus Christi.

Portions of the Midwest and central Plains flooded on Friday after locally heavy rains; Grand Island noted its largest 24-hour rainfall ever--5.63 in. Hurricane Anita, 100 miles off the Mexican Coast, brought heavy rains to South Texas.

Storms decreased in the Midwest, but formed from southern Ohio eastward to the Blue Ridge Mountains and northeastward through Pennsylvania to New York; large hail hit near Huntington, W.Va. Thunderstorms again rushed over Nebraska dumping 1.50 in. in 20 minutes on Cairo in the east central part of the State. Other storms carried precipitation to the Carolina's, Alabama, Florida, eastern slope of the Rockies, and western Arizona.

Saturday morning rain fell from the Texas/Oklahoma Panhandles into northeastern New Mexico, scattered from the central Plains to South Dakota, and covered southern Minnesota, Iowa, Missouri, and South Texas. Storms dotted the upper Ohio Valley into New England. A tropical depression in the Gulf, later named Babe, produced thunderstorms from the Louisiana Delta across to Florida up to South Carolina.

Afternoon showers began from southern Nevada to Utah and into the northern Rockies. Flooding continued in portions of the central Plains and Midwest. Babe was upgraded to a tropical storm and made it a wet Saturday for much of Florida. Late in the evening, heavy rains and hail hit northeastern New Mexico.

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National Agricultural Summary

August 29 - September 4

HIGHLIGHTS: Hurricanes dumped torrents of water on the Texas Lower Rio Grande Valley, Louisiana, and Florida disturbing vegetable and sugarcane plantings. Unusually heavy rain also delayed final small grain harvests in northern areas and generally halted fieldwork in the central Great Plains. The rains improved northern pastures, but western and southern grasslands rated poor to fair. Plowing and seedbed preparation for small grains moved quickly and seeding advanced in extreme northern and southern areas. Corn harvest edged into parts of Illinois; Minnesota farmers opened a few fields. Some southeastern corn had aflatoxin. Cotton bolls opened early and harvest advanced into Tennessee. Soybeans rated good although many southern producers battled insects. Sorghum harvest progressed into Kansas.

SMALL GRAINS: Showers in the Dakotas, Montana, and parts of the Pacific Northwest slowed the final stages of the 1977 small grain harvest, but in spite of the recent delays combining was as much as 10 days earlier than normal. Montana farmers harvested 70% of the spring wheat crop, 10 points ahead of last year; Minnesota growers attained 93% compared with 98% last year and the 84% average. North Dakota growers harvested 95% of the oats, 90% of the spring wheat, 75% of the durum, and 98% of the barley.

Plowing for the 1978 winter wheat crop advanced rapidly and was ahead of last year and the average except in some areas from Indiana eastward. Indiana farmers plowed 30% compared with 50% in 1976 and 55% average; Illinois growers reached 87%, far surpassing 1976's 69% and the 74% average. In the West some Oregon farmers began seeding; Montana growers reached 10%; Colorado 20%, about normal progress; and Wyoming 27%. In the important southern Great Plains Texas growers planted 10% of the winter wheat surpassing last year's 4% and 6% average. Oklahoma farmers prepared seedbeds reaching 56% complete. In the northern winter wheat areas Minnesota growers seeded 23% and South Dakota producers 17% of the crop, generally earlier than last year but lagging the average.

CORN: The Nation's corn rated good throughout the Corn Belt, fair in most other areas, but poor in parts of the Southeast. Harvest ranged throughout the South and northward into Kansas; a few exceptionally early fields were harvested in northern areas including Minnesota. In the southern half of the Nation harvest ranged from 40 to 52% complete in Georgia and South Carolina where aflatoxin caused problems; 40% in Alabama and Louisiana, 13% in Mississippi, and 29% in Texas. Harvest reached 8 to 11% in Kentucky and Tennessee.

In the eastern north central States 65 to 70% of the corn was in the dent stage in Michigan and Ohio, ahead of 1976 and the average in Michigan but lagging 1976 in Ohio. About 35% of Indiana's crop was mature and 90% of the Illinois corn, twice the average in both States. Illinois farmers harvested some corn.

In the western north central States the percent of mature corn was as much as 36 points ahead of 1976 in Missouri to 7 points behind in South Dakota. In Missouri 57% was mature, Kansas 45%, Nebraska 50%, South Dakota 30%, Iowa 48%, and Minnesota 36%. Harvest reached 10% in Kansas and Missouri, about two weeks earlier than usual.

COTTON: Cotton bolls opened rapidly and much earlier than last year or normal. Among the southern States boll opening ranged mostly from 23 to 44%; Mississippi was far ahead at 82%. Last year the pace ranged from 3 to 11% open bolls. Limited harvest began throughout most of the South. Arkansas growers applied defoliant. Texas producers harvested 14% of the cotton, more than double 1976's 6% and ahead of the 10% average. Picking was nearly complete from the lower Blacklands southward. Growers stripped a few southern High Plains fields. California growers applied pesticides.

OTHER CROPS: Grain sorghum harvest advanced into Missouri where 9% was already combined, 2 weeks earlier than normal. Half of the Kansas crop showed some color as producers began harvesting there. Oklahoma growers harvested 15% compared with 2% last year and the average. Texas harvest reached 61%, slightly ahead of 1976's 54% and 55% average.

Rice harvest reached into all the Delta States with harvest now in progress in Mississippi at 9% complete. Arkansas growers drained more fields and advanced the harvest to 8% compared with 1% last year. Most of Louisiana's unharvested rice lodged and some sprouted, but combining reached 67%. Texas growers were almost finished at 97% equalling last year.

Maine potatoes were growing well; farmers began killing top growth with good results. North Dakota growers harvested 5%. Idaho growers harvested 1% of the crop, equalling last year but only 25% of the vines were dying compared with 35% in 1976. Pacific Northwest producers harvested some potatoes.

FRUITS AND NUTS: The peach harvest was confined to the northern production areas. Various seasonal groups of apples were picked throughout the Nation. Grape harvest ended in the South, but was just getting started in northern areas. California growers picked grapes for raisins, wine, and fresh use along with a wide assortment of other fruits and nuts. Florida's citrus groves rated excellent with ample moisture. New fruit growth was good and the drop average. Some grapefruit passed the minimum maturity test for shipment.

VEGETABLES: Growers in northern areas harvested cabbage, onions, lettuce, sweet corn, tomatoes, peppers, squash, carrots, and snap beans. Florida producers transplanted and seeded a large array of crops. Light flooding washed some seedbeds which must be replanted and delayed other fieldwork. Southern Texas rains disrupted planting schedules, but in other areas dry soils halted planting and slowed vegetable growth. Growers shipped a large assortment of vegetables from northern Texas. California provided large supplies of most fresh vegetables; processing tomato harvest was also at its peak.

SOYBEANS: Soybeans rated fair to good with the lower ratings in the Southeast and some of the southern States. Only Virginia reported a poor crop. A few beans were harvested.

In the north central States almost half the crop began turning yellow and 10 to 20% shed leaves. Only Kansas farmers harvested some soybeans at 5%; in previous years none were harvested.

(continued on page 15)

September 4, 1977

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t.,

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham . . .	82	+ 5	.1	-. 8	La. Baton Rouge . . .	80	0	6.0	+ 5.1	Youngstown . . .	73	+ 5	.3	-. 3
Mobile . . .	83	+ 3	1.0	-. 6	Lake Charles . . .	81	0	1.8	+ . 8	OKLA. Okla. City . . .	80	+ 2	1.2	+ . 5
Montgomery . . .	82	+ 3	.3	-. 6	New Orleans . . .	82	+ 1	1.5	+ . 2	Tulsa . . .	80	+ 2	T	-. 8
ALASKA. Anchorage . . .	---	---	---	---	Shreveport . . .	81	0	.1	-. 6	OREG. Astoria . . .	60	0	2.7	+ 2.3
Barrow . . .	---	---	---	---	MAINE. Caribou . . .	63	+ 4	.4	-. 4	Burns . . .	60	- 2	0	-. 1
Fairbanks . . .	51	+ 0	T	-. 4	Portland . . .	69	+ 6	.2	-. 5	Medford . . .	70	+ 2	0	-. 1
Juneau . . .	54	+ 2	.3	-. 1.1	MD. Baltimore . . .	81	+ 9	T	-. 9	Pendleton . . .	62	- 6	1.5	+ 1.4
Kodiak . . .	59	+ 6	.4	-. 8	MASS. Boston . . .	72	+ 4	.3	-. 5	Portland . . .	64	- 1	.9	+ . 6
Nome . . .	---	---	---	---	Chatham . . .	69	+ 1	.1	---	Salem . . .	63	- 2	.1	-. 1
ARIZ. Flagstaff . . .	65	+ 4	T	-. 5	MICH. Alpena . . .	62	+ 1	.8	+ . 1	PA. Allentown . . .	72	+ 3	.2	-. 7
Phoenix . . .	94	+ 7	T	-. 2	Detroit . . .	74	+ 6	.6	0	Erie . . .	70	+ 5	.9	+ . 1
Tucson . . .	88	+ 5	T	-. 4	Flint . . .	72	+ 7	.8	+ . 1	Harrisburg . . .	78	+ 7	.4	-. 3
Winslow . . .	75	+ 2	.5	+ . 2	Grand Rapids . . .	70	+ 3	.8	+ . 1	Philadelphia . . .	80	+ 8	1.1	+ . 3
Yuma . . .	92	+ 1	0	-. 1	Houghton Lake . . .	63	+ 2	1.2	+ . 5	Pittsburgh . . .	72	+ 6	.7	+ . 1
ARK. Fort Smith . . .	82	+ 4	.4	-. 3	Lansing . . .	71	+ 5	.8	+ . 2	Scranton . . .	72	+ 5	.9	+ . 2
Little Rock . . .	82	+ 4	T	-. 8	Marquette . . .	63	+ 1	1.8	+ 1.0	R.I. Providence . . .	75	+ 8	T	-. 9
CALIF. Bakersfield . . .	85	+ 6	0	0	Muskegon . . .	67	+ 1	.9	+ . 2	S.C. Charleston . . .	80	+ 2	.3	- 1.0
Eureka . . .	59	+ 2	T	-. 1	S. Ste. Marie . . .	57	- 3	.7	-. 2	Columbia . . .	78	0	.2	- 1.0
Fresno . . .	79	+ 3	0	0	MINN. Duluth . . .	59	0	1.1	+ . 3	Greenville . . .	79	+ 4	1.1	+ . 2
Los Angeles . . .	74	0	0	-. 1	Internat'l Falls . . .	55	- 3	.8	0	S.D. Aberdeen . . .	62	- 3	1.0	+ . 6
Red Bluff . . .	82	+ 4	0	-. 1	Minneapolis . . .	66	+ 1	8.3	+ 7.6	Huron . . .	65	- 2	.5	+ . 1
San Diego . . .	73	+ 2	0	0	Rochester . . .	67	+ 3	.6	-. 2	Rapid City . . .	66	0	.1	-. 2
San Francisco . . .	66	+ 2	0	0	St. Cloud . . .	63	0	2.4	+ 1.6	Sioux Falls . . .	66	- 1	.5	-. 2
Stockton . . .	79	+ 5	0	0	MISS. Jackson . . .	81	+ 2	.1	-. 7	TENN. Chattanooga . . .	82	+ 6	T	-. 8
COLO. Denver . . .	71	+ 3	.1	-. 1	Meridian . . .	82	+ 3	T	-. 8	Knoxville . . .	81	+ 6	T	-. 6
Grand Junction . . .	76	+ 4	T	-. 2	MO. Columbia . . .	79	+ 6	2.4	+ 1.5	Memphis . . .	85	+ 8	.6	-. 2
Pueblo . . .	74	+ 3	T	-. 3	Kansas City . . .	74	0	1.4	+ . 4	Nashville . . .	81	+ 5	T	-. 8
CONN. Bridgeport . . .	78	+ 8	T	-. 8	St. Louis . . .	79	+ 5	.2	-. 4	TEX. Abilene . . .	82	+ 2	T	-. 5
Hartford . . .	77	+ 10	.7	-. 2	Springfield . . .	81	+ 7	.6	-. 2	Amarillo . . .	76	+ 2	T	-. 6
D.C. Washington . . .	81	+ 6	.4	-. 5	MONT. Billings . . .	62	- 3	.6	+ . 3	Austin . . .	85	+ 3	0	-. 7
FLA. Apalachicola . . .	79	- 2	2.1	-. 1	Glasgow . . .	58	- 4	.2	-. 1	Beaumont . . .	84	+ 2	.2	- 1.1
Daytona Beach . . .	81	0	3.9	+ 2.3	Great Falls . . .	59	- 3	.3	0	Brownsville . . .	83	0	2.0	+ 1.0
Ft. Myers . . .	80	- 3	4.5	+ 2.5	Havre . . .	61	- 2	.1	-. 2	Corpus Christi . . .	86	+ 2	.5	-. 6
Jacksonville . . .	80	0	4.4	+ 2.5	Helena . . .	58	- 3	.4	+ . 1	Dallas . . .	85	+ 1	.1	-. 4
Key West . . .	80	- 4	7.1	+ 5.6	Kalispell . . .	57	- 1	.5	+ . 2	Del Rio . . .	79	+ 1	.1	-. 2
Lakeland . . .	79	- 2	2.3	+ . 7	Miles City . . .	63	- 3	.5	+ . 2	El Paso . . .	83	+ 1	0	-. 7
Miami . . .	81	- 2	6.0	+ 4.2	Missoula . . .	58	- 3	.9	+ . 6	Fort Worth . . .	81	- 1	1.6	+ . 3
Orlando . . .	80	- 1	1.7	0	NEBR. Grand Island . . .	69	- 1	10.0	+ 9.4	Galveston . . .	82	0	T	- 1.1
Tallahassee . . .	81	+ 1	1.7	+ . 1	Lincoln . . .	71	0	6.6	+ 5.8	Houston . . .	82	0	T	- 1.3
Tampa . . .	81	- 1	2.1	+ . 3	Norfolk . . .	69	0	1.0	+ . 4	Lubbock . . .	79	+ 4	.4	-. 1
W. Palm Beach . . .	79	- 3	9.8	+ 7.8	N. Platte . . .	67	- 1	1.1	-. 2	Midland . . .	82	+ 3	T	-. 4
GA. Atlanta . . .	77	+ 1	T	-. 8	Omaha . . .	71	+ 2	5.0	+ 4.1	San Angelo . . .	83	0	.1	-. 7
Augusta . . .	79	+ 1	.4	-. 4	Valentine . . .	67	0	.3	-. 2	San Antonio . . .	85	+ 2	.5	-. 4
Macon . . .	81	+ 2	T	-. 8	NEV. Ely . . .	64	- 3	0	-. 1	Victoria . . .	86	+ 3	0	-. 6
Savannah . . .	80	+ 1	2.8	+ 1.4	Las Vegas . . .	88	+ 4	0	-. 1	Waco . . .	82	0	.3	-. 3
HAWAII. Hilo . . .	78	+ 2	.9	- 1.1	Reno . . .	66	+ 2	0	0	Wichita Falls . . .	82	0	.3	-. 3
Honolulu . . .	82	+ 1	T	-. 1	Winnemucca . . .	64	0	0	-. 1	UTAH. Blanding . . .	70	+ 3	T	-. 3
Kahului . . .	81	+ 2	.6	+ . 2	N.H. Concord . . .	70	+ 6	0	-. 7	Salt Lake City . . .	70	0	T	-. 2
Lihue . . .	81	+ 2	.6	+ . 2	N.J. Atlantic City . . .	79	+ 8	T	-. 9	VT. Burlington . . .	70	+ 6	.4	-. 4
IDAHO. Boise . . .	66	- 2	T	-. 1	Trenton . . .	78	+ 7	.3	-. 5	VA. Lynchburg . . .	77	+ 5	.3	-. 6
Lewiston . . .	66	- 2	1.3	+ 1.1	N.MEX. Albuquerque . . .	73	- 1	1.2	+ 1.0	Norfolk . . .	81	+ 6	T	- 1.2
Pocatello . . .	65	0	T	-. 2	Roswell . . .	81	+ 6	.2	-. 1	Richmond . . .	81	+ 7	T	- 1.0
ILL. Cairo . . .	81	+ 5	.9	+ . 1	N.Y. Albany . . .	72	+ 6	1.2	+ . 5	Roanoke . . .	79	+ 7	.1	-. 8
Chicago . . .	73	+ 3	4.2	+ 3.5	Binghamton . . .	70	+ 6	.8	0	WASH. Colville . . .	---	---	---	---
Moline . . .	73	+ 4	.3	-. 5	Buffalo . . .	72	+ 6	.4	-. 4	Omak . . .	63	- 3	.1	0
Peoria . . .	74	+ 4	.4	-. 4	New York . . .	77	+ 5	.1	-. 8	Quillayute . . .	57	- 1	1.9	+ 1.1
Rockford . . .	71	+ 3	.3	-. 6	Rochester . . .	72	+ 6	.2	-. 4	Seattle-Tacoma . . .	62	0	1.0	+ . 6
Springfield . . .	76	+ 5	1.4	+ . 7	Syracuse . . .	71	+ 4	.4	-. 3	Spokane . . .	60	- 4	.4	+ . 3
IND. Evansville . . .	80	+ 7	.6	0	N.C. Asheville . . .	73	+ 3	T	-. 9	Walla Walla . . .	65	- 5	1.6	+ 1.5
Ft. Wayne . . .	73	+ 4	1.8	+ 1.2	Charlotte . . .	81	+ 5	0	-. 8	Yakima . . .	63	- 2	.5	+ . 4
Indianapolis . . .	77	+ 7	1.1	+ . 5	Greensboro . . .	79	+ 6	0	-. 9	W. Va. Beckley . . .	73	+ 7	1.0	+ . 2
South Bend . . .	72	+ 4	3.5	+ 2.8	Hatteras . . .	78	+ 2	0	- 1.5	Charleston . . .	78	+ 7	T	-. 7
IOWA. Burlington . . .	72	+ 2	1.2	+ . 4	Raleigh . . .	79	+ 5	0	- 1.0	Huntington . . .	79	+ 8	T	-. 7
Des Moines . . .	72	+ 3	3.2	+ 2.4	Wilmington . . .	82	+ 4	T	- 1.5	Parkersburg . . .	77	+ 6	.8	+ . 1
Dubuque . . .	68	+ 2	T	- 1.1	N.DAK. Bismarck . . .	60	- 3	.7	+ . 3	WIS. Green Bay . . .	65	+ 1	.6	-. 1
Sioux City . . .	70	+ 1	2.9	+ 2.2	Fargo . . .	59	- 5	.4	-. 2	La Crosse . . .	68	+ 1	.9	+ . 1
KANS. Concordia . . .	75	+ 2	1.3	+ . 5	Williston . . .	60	- 3	.9	+ . 5	Madison . . .	66	+ 1	.2	-. 6
Dodge City . . .	78	+ 4	.2	-. 3	OHIO. Akron-Canton . . .	72	+ 4	1.0	+ . 4	Milwaukee . . .	67	+ 1	1.7	+ 1.0
Goodland . . .	72	+ 2	.1	-. 3	Cincinnati . . .	78	+ 6	T	-. 6	WYO. Casper . . .	64	0	T	-. 2
Topeka . . .	77	+ 4	4.4	+ 3.5	Cleveland . . .	72	+ 4	.2	-. 5	Cheyenne . . .	65	+ 2	T	-. 3
Wichita . . .	77	+ 1	3.2	+ 2.4	Columbus . . .	75	+ 6	.6	0	Lander . . .	63	- 1	.1	-. 1
KY. Lexington . . .	80	+ 8	0	-. 7	Dayton . . .	76	+ 6	.2	-. 4	Sheridan . . .	62	- 2	.1	-. 2
Louisville . . .	82	+ 9	.1	-. 6	Toledo . . .	71	+ 3	1.2	+ . 6	P.R. San Juan . . .	82	0	.4	- 1.1

Based on 1941-70 normals

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State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by SRS State offices in cooperation with the National Weather Service.

ALABAMA: Warm, dry. Temperatures 4° above normal. Rainfall widely scattered.

Fieldwork: 6.0 days suitable. Soil moisture very short to short. Cotton fair condition; 32% with open bolls, 3% 1976, 9% average. Corn poor condition, 40% harvested, 24% 1976, 14% average. Soybeans fair condition; 8% mature, 17% 1976. Peanuts fair to good condition; harvest just beginning. Pastures poor to fair.

ALASKA: Temperatures near to above normal. Rainfall light.

Excellent progress harvesting small grains, second crop hay, and potatoes. Soil moisture generally adequate. Harvest of cabbage, lettuce, and squash stable. Livestock in mostly good to excellent condition.

ARIZONA: Mostly dry conditions early week, some thunderstorms east. Temperatures mostly 1 to 7° above normal. Limited, localized rainfall.

Cotton good growth, substantial open cotton. High temperatures, humidity causing serious problems, insect counts climbing. Grain sorghum harvest increasing. Corn generally good progress, mostly dent stage. Alfalfa hay activity seasonally slow, renovation underway limited areas. Fall sugarbeets making good progress, seedbed preparation underway spring beets. Preparations, planting fall, winter vegetables well advanced. Early planted lettuce good stands. Fall cantaloup harvest underway Salt River Valley. Fields dry Yuma, planting underway again. Range condition vastly improved, higher elevations. Stock water supplies, soil moisture remain deficient desert ranges. Recent vegetative growth improved livestock conditions. Cattle, calves mostly fair condition. Supplemental feeding necessary some areas.

ARKANSAS: Highest mean 83°, lowest 77°. Extremes: 100 and 62°. Most precipitation 2.47 in., least 0.

Soil moisture short. Fieldwork: 6 days suitable. Soybeans mostly good condition, but need rain. Worms destroying foliage and pods. Spraying continued. Rice harvest 8% complete, 1% 1976, condition good. Fields being drained. Cotton defoliants applied; open bolls 38%, 3% last year. Corn 30% harvested. Sorghum harvest 35% complete, 17% last year. Haying still underway. Pastures below average to adequate.

CALIFORNIA: Little change to weather; precipitation non-existent, temperatures 5 to 6° above normal along coastal areas, slightly above normal in Central Valley and a few degrees below normal in northern mountains.

Rice normal, early fields being drained. Corn silage cut. Alfalfa seed full harvest. Cotton fair, good progress, continued pest control. Almond harvest active. Apple harvest increasing. Thompson seedless harvest table raisins. Zante currant raisins being rolled. Early wine grapes harvest begun. Tokay grape harvest active. Stonefruit harvest seasonally active. Late pear harvest continues. Avocado, fig harvests continue. Pomegranate harvest begun. Lemon harvest, Valencia orange harvest, grapefruit harvest slow. Artichoke, brussels sprouts, broccoli, and cauliflower continue good supply. Cantaloup increasing. Carrots, cucumbers, honeydews, and melons continue moderate. Lettuce good supply. Celery, sweet corn, and bell

peppers remain strong. Market tomatoes continue good supply. Processing tomatoes continue at peak. Watermelon strong. Rangeland extremely poor lower elevations, higher elevations show improvement. Fire risk critical. High temperatures caused egg, milk production decrease. Supplemental feeding continues, water hauling necessary. Barley stubble utilized for feed.

COLORADO: Seasonably dry. Rainfall spotty, heaviest in mountains. Temperatures near normal except western slope 3° above normal.

Winter wheat seeding 20% 1977, 18% 1976, 18% average. Spring barley harvest complete except San Luis Valley. Corn very good, 71% dough stage. Dry beans good; 22% cut, 14% threshed. Alfalfa 84% 2d cutting, 49% 3d cutting. Sorghum 95% headed. Range and pasture poor west, fair to good east. Livestock good.

FLORIDA: Heavy showers and thundershower activity. Rainfall ranged from 0.50 in. north to near 12.00 in. south. Temperatures averaged near to slightly below normal.

Soil moisture generally adequate to excessive as daily showers continue. Corn harvest active, nearing completion in some areas. Tobacco harvest complete, marketing continues active. Peanut harvest increasing. Hay harvest continues but interrupted by showers. Soybeans good condition, worms a problem. Sugarcane good condition, cutting for seed underway. Grazing lands generally fair to good condition. Most areas have received adequate rainfall. Some low-lying pastures under water. Cattle condition mostly good. Citrus groves excellent condition, moisture ample. New fruit growth good, fruit droppage average. Few crops grapefruit passing minimum maturity requirements for shipment. Transplanting tomatoes, green peppers, eggplant active most areas. Crops growing well. Thinning, spraying active. Seeding snap beans, sweet corn, cucumbers, squash, okra, underway. Early plantings up to good stands, growing. Sweet corn silking. Light flooding week's end. Some seedbeds washed; will need replanting. Fieldwork slowed and delayed. Plantings should gain momentum this week. Land preparation for fall plantings continues quite active.

GEORGIA: Temperatures 1 to 2° above normal except 3° above extreme northwest. Rainfall locally heavy, thunderstorms northwest, otherwise widely scattered. Amounts variable 0.50 to 0.75 in. north and south and 0.25 to 0.50 in. central. Scattered showers mainly south early weekend.

Soil moisture supplies declined; averaging short to adequate. Fieldwork: 5 days suitable. Insects, dry weather causing havoc. Corn rated poor, 40% harvested, last year 32%, average 12%. Tobacco harvest still in progress; late due to unfavorable weather conditions. Cotton rated mostly poor to fair; 41% open, last year 11%. Soybeans mostly fair. Peanuts fair; 4% dug, 2% threshed; last year 16% dug, 12% threshed; average 13% dug, 8% threshed. Pastures poor to mostly fair. Cattle and hogs mostly fair to good. Apples rated fair to good, harvest 44% complete, 68% a year earlier. Pecans fair. Small grain planting underway; wheat 2%, rye 1%, other small grains 2%. Last year wheat, rye, and other small grains 1% seeded.

HAWAII: Occasionally hot and humid. Some rain-fall mainly higher elevations sometimes drifting to low lying districts.

Hot weather affecting yields leafy crops. Spraying, irrigation frequent. Vegetable supplies most leafy crops, cucumbers, tomatoes short; other adequate. Banana supplies moderate to heavy. Papaya supplies moderate. Pineapple harvesting slackening. Sugar harvesting steady. Pastures fair to good.

IDAHO: Heavy precipitation and scattered showers in southeast. Temperatures well below normal.

Rains halted harvesting of crops temporarily. Grain crops progressing ahead of last year's crop. Winter wheat 95% harvested, 70% in 1976. Spring wheat 75% harvested, 55% in 1976. Barley 75% harvested, 65% in 1976. Second cutting alfalfa 90%, 80% in 1976. Dry bean harvest 5% complete. Sugar-beets maturing nicely. Potatoes 75% turning, 100% 1976; 25% dying, 35% 1976; and 1% harvested, 1% 1976.

ILLINOIS: Temperatures 2 to 7° above normal. Precipitation 0.33 in. to over 6.00 in. heaviest northeast.

Corn good; 90% mature, 44% 1976 and average; some harvested. Soybeans good; 56% turning yellow, 54% 1976, 42% average; 25% shedding leaves, 23% 1976, 19% average. 1978 winter wheat 87% plowed, 69% last year, 74% average. Third crop alfalfa hay 90% cut, 74% 1976, 71% average; mostly good. Pastures mostly good. Soil moisture adequate. Fieldwork: 3.8 days suitable.

INDIANA: Warm and humid. Temperatures 7° above normal and touched 95°. Rainfall heavy extreme northwest, 1.00 to 1.50 in. in parts of north, 0.50 in. elsewhere except none extreme southeast.

Fieldwork: 4 days suitable. Topsoil moisture mostly adequate to surplus. Subsoil moisture adequate. Pastures fair to mostly good. Corn 35% mature, 1976 15%, average 15%; fair to mostly good. Soybeans 40% turning yellow, 1976 40%; 10% shedding leaves, fair to mostly good. Wheat land 30% plowed, 1976 50%, average 55%. Peaches 95% picked, 1976 85%. Apples 60% picked, 1976 40%.

IOWA: Temperatures 2 or 3° above normal. Heavy rains with some flooding southwest and some west central and south central areas, most north and east central areas measured light rainfall.

Soil moisture continues to improve. Topsoil adequate; subsoil short to adequate. Fieldwork: 3.0 days suitable. Corn good; 48% dent, 48% mature compared to 48% mature last year. About 15% of corn cut for silage. Soybean condition good; 43% leaves turning, 15% leaves shedding, 14% mature. Hay in fair to good condition. 3d cutting alfalfa 72% complete, 2d cutting clover 88% complete. Pastures continue to improve due to recent rains. Livestock generally good with increase in pasture and water supply.

KANSAS: Heavy rains most areas except few hundreds portions northwest and extreme west. Amounts ranged 0.50 in. west central, over 2.00 in. central and east central, 4.49 in. northeast. Temperatures averaged 73° northwest, 79° southeast; 4° above normal southeast and east central, 1 to 3° above normal elsewhere.

Successive weeks rainfall, abundant moisture, fieldwork standstill. Moisture conditions adequate to surplus. Corn 95% dough state, equal last year, ahead average 90%. Corn dented 80%, last year, average 65%. Corn fully mature 45%, last year, average 30%. Corn harvested 10%, last year, average none. Sorghums 95% headed, last year, average

85%. Turning color 50%, last year, average 40%. Sorghum harvesting begun. Soybeans harvested 5%, last year, average none. Alfalfa hay 95% third cut, last year 90%, average 85%. Alfalfa hay fourth cut 35%, last year 20%. New crop alfalfa plantings 35%, last year 25%, average 40%. Livestock grazing native pastures, wheat stubble, volunteer wheat. Principal farm activities haying, wheat seedbed preparation, working harvesting equipment.

KENTUCKY: Temperatures 7° above normal. Light rain beginning week and few heavy showers midweek. Rainfall averaged 0.25 to 0.50 in.

Soil moisture adequate. Fieldwork: 5.5 days suitable. Activities: cutting tobacco and hay, chopping silage, spraying soybeans and shelling corn. Corn for grain harvest well ahead of normal with 8% in bin. Over 33% corn for silage cut. Corn 33% mature, 87% dent or mature, last year 19 and 71% respectively. Army worms damaging corn and soybeans. About 66% soybeans still green, 25% turning yellow and 9% shedding leaves. Last year and average 71% and 65% green, 22% and 27% turning yellow and 7% and 8% shedding leaves. Burley tobacco harvest 48% complete compared with 53% last year and 38% average. Dark types 55% cut, 51% last year and 44% average. Plowing for fall seeding lagging behind last year's pace.

LOUISIANA: Temperatures 1 to 2° below normal. Extremes: 64 and 98°. Rain mostly limited to south.

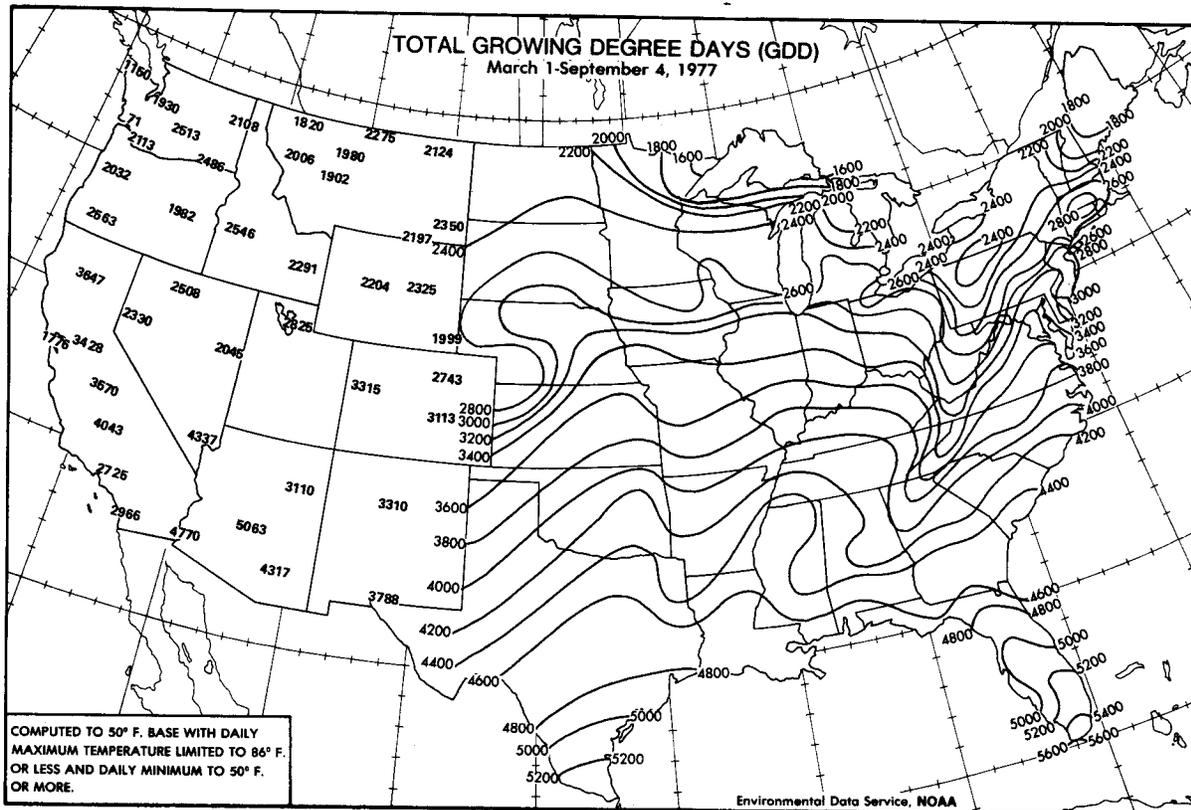
Soil moisture short to adequate north, surplus south. Fieldwork: 3.0 days suitable. Main activities: Insect control cotton, soybeans, pasture; harvesting corn and rice; repairing machinery; draining fields. Unharvested rice lodged severely and sprouting; 83% ripe; 67% harvested, 65% last year, 60% average. Cotton fair to good; 23% open, 6% last year; defoliation and light harvest underway. Soybeans fair to good; insect infestations continue; 94% setting pods--same as last year. Sugarcane good; considerable lodging due to wind and rains; 3% planted, 23% last year. Corn fair--39% harvested, 41% last year. Sorghum fair, 69% turning color. Sweetpotatoes 27% dug, 19% last year. Pastures fair to good. Hay cutting delayed by bad weather. Cattle fair to good.

MARYLAND & DELAWARE: Temperatures 6° above normal. Highs in 90's, lows in 70's; mountains highs 80's, lows 50's. Precipitation light; zero to 0.25 in.

Soil moisture short. Pastures below average. Corn 80% dent stage, 40% mature. Soybeans 80% podded. Tobacco 60% harvested. Peach harvest finished. Apple picking will begin next week.

MICHIGAN: Temperatures 3 to 8° above normal over southern Lower and normal to 4° above normal elsewhere. Precipitation generally 0.50 to 1.00 in. over southeast Lower and east Upper; around 2.00 to 4.00 in. fell in a strip from extreme southwest Lower to east central and over west Upper, about 1.00 to 1.50 in. elsewhere.

Topsoil moisture adequate to surplus, subsoil remains dry in heavy soils north. Pasture feed supplies good. Fieldwork: 3.5 days suitable. Main activities: Plowing, haying, equipment repair, and harvesting fruits and vegetables. Third cut hay 35%, 30% 1976, 15% normal. Corn 65% dent, 50% 1976, 40% normal. Oats harvest complete. Most dry bean leaves turning, 35% shedding, and some water damage. Soybeans 30% leaves turning, 10% shedding. Summer potato harvest 35%, 22% 1976 and normal. Fruit and vegetable harvest: Summer apples 95%, peaches 85%, sweet corn 80%, carrots 60% and onions 70%.



MINNESOTA: Temperatures near normal except 3 to 5° below normal extreme north and northwest. Extremes: 85 and 32°. Precipitation total 0.25 to 1.00 in. extreme south and west and 1.00 to 2.00 in. elsewhere except 2.00 to 5.00 in. northeast and east central with the local areas east central over 8.25 in.

Rains aided moisture supplies, most areas adequate, few surplus. Corn rapidly maturing, few fields combined. All but late soybeans turning yellow, few mature. Rains again delayed spring wheat, flax harvests. Limited sugarbeet lifting expected to begin this week. Some fall potatoes dug. Corn 36% mature, 1976 28%, normal 15%; silage 27% cut, 1976 39%, normal 14%. Soybeans 88% yellowing, 1976 86%, normal 59%, 32% shedding leaves, 1976 42%, normal 18%. Combined: Spring wheat 93%, 1976 98%, normal 84%; flax 58%, 1976 66%, normal 52%. Seeded: Winter wheat 23%, 1976 18%, normal 29%; rye 25%, 1976 15%, normal 28%. Sweet corn 90% harvested, 1976 73%, normal 69%.

MISSISSIPPI: Temperatures near normal south to 3° above normal north. Extremes: 100 and 59°.

Soil moisture short to very short north, short central, short to adequate south. Fieldwork: 5.8 days suitable. Soybeans 94% podding, 87% 1976; 28% turning, 13% 1976; 6% shedding, 2% 1976. Cotton 82% open bolls, 11% 1976, 10% average; 2% harvested. Rice 75% mature, 13% 1976; 9% harvested. Corn 92% mature, 74% 1976; 13% harvested, 9% 1976, 8% average. Sorghums 76% ripe, 56% 1976; 23% harvested, 23% 1976, 19% average. Hay crops 75% harvested, 77% 1976, 72% average. Sorghum silage 66% harvested, 60% 1976. Peanuts 29% harvested, 22% 1976, 26% average. Corn silage 89% harvested, 71% 1976. Sweetpotatoes 23% harvested, 17% 1976, 28% average. Soybeans and cotton in fair to good condition. Rice in good condition. Corn, pastures, and pecans in fair condition.

MISSOURI: Temperatures above normal ranging from 2° above in the northwest prairie to 7° above in the bootheel. Precipitation general with rain nearly every day. Precipitation ranged from 1.15 in. east Ozarks to 2.36 in. northwest prairie.

Fieldwork: 4.0 days suitable. Corn 57% matured, 21% last year, 24% normal; 10% harvested, 2 weeks ahead of normal. Soybean condition good; 90% setting pods, 86% last year and normal; 14% turning color, 18% normal. Grain sorghum 47% matured, 16% last year, 19% normal; 14% turning color, 19% normal. Grain sorghum 9% harvested, 2 weeks ahead of normal. Cotton 43% with open bolls, 6% last year. Pasture condition fair to good. Soil moisture adequate.

MONTANA: Wet but turning dry over plains by end of week. Precipitation below normal north central and southeast. Heaviest amounts near 1.00 in. northeast and northwest. Scattered frost. Temperatures 2 to 4° below normal.

Cool, rainy weather slowed grain and hay harvests. Winter wheat harvest nearing completion. Spring wheat, barley harvest 70% complete, normal 60%. Oats combining 75% finished, normal 60%. Harvest dry beans, chopping corn silage 5% complete. Winter wheat seeding 10% complete. About 25% cattle and sheep moved from summer ranges, normally only 10%. Contracting, early marketings mostly light to average.

NEBRASKA: Temperatures slightly above normal. Precipitation light far west; above normal elsewhere. Many amounts 1.00 to 3.00 in. range. Several stations reported 9.00 to 10.00 in.

Corn 50% mature, 30% year ago, 20% normal. Sorghum 35% ripe, 20% year ago, 10% normal. Soybeans 40% leaves turning, 40% year ago, 35% normal. Fourth cutting alfalfa hay 25% completed. Topsoil and subsoil moisture adequate.

NEVADA: Cool early, warm end of week. Temperatures normal to slightly above. Extremes: 105 and 29°. Scattered light thundershowers dampened ground central localities.

Second cuttings alfalfa hay 75% finished. Rain damage all areas except northwest. Some cattle moving off summer ranged due drought.

NEW ENGLAND: Temperatures fluctuated above normal. Precipitation mostly scattered showers.

Maine potato crop doing well. Potato harvest started Rhode Island. Many potato fields top killed with good results. Vegetable growth variable. Peaches, apples, pears, and cranberries doing well. Field corn progressing well in most areas. Showers hindered hay harvest.

NEW JERSEY: Hot, dry. Temperatures 3 to 8° above normal. Extremes: 51 and 94°. Rainfall 0.10 in. north, 0.21 in. central and 0.31 in. south. Soil moisture, in percent of field capacity 62% north, 55% central and 50% south. Soil temperature 71° north, 73° central and 76° south.

Cutting corn silage increasing. Harvest fall cabbage increasing. Moderate to good volume peppers, squash, and snap beans available. Tomato harvest continues to decline. Red Delicious apple harvest underway. Late variety peaches picked in moderate but declining volume. Land preparation for fall seeding grains and cover crops increasing.

NEW MEXICO: Almost daily shower and thunderstorm activity. Totals near or above 1.00 in. Lightest rainfall eastern plains.

Cotton, irrigated grain sorghum, corn, good. Dryland grain sorghum fair. Heading of irrigated grain sorghum virtually completed. Dryland grain sorghum 90% heading. Corn 95% in dough stage, ensilage underway. Cotton, limited boll opening. Alfalfa third cut 60% completed north, fourth cut 80% completed south. Ranges good improving from recent rains. Livestock fair to good.

NEW YORK: Scattered showers and thunderstorms. Rain up to 1.00 in. in Adirondacks and Hudson Valley. Average temperatures in 60's and 70's; 6 to 12° above normal. Extremes: 95 and 40°.

Second cutting alfalfa about done, 3d cutting 35%. Poor drying conditions. Early corn dent stage. Early silage cutting underway. Oat harvest nearly complete. Good onion harvest weather Orange County. Iceberg lettuce harvest resumed. Kraut cabbage harvest started. Potato harvest delayed by wet weather. Peach harvest past peak. Early variety grape harvest underway.

NORTH CAROLINA: Temperatures 2 to 5° above normal. Extremes: 55 and 96°. Little rain.

Fieldwork: 5.8 days suitable. Soil moisture short. Conditions: Corn and pasture poor to fair; soybeans, cotton, peanuts, and sweetpotatoes fair; apples fair to good. Harvested: Burley 23%, 1976 22%; apples 20%, 1976 29%, average 26%; sweetpotatoes 10%, 1976 7%; corn for grain 25%, 1976 17%; corn for silage 68%, 1976 52%.

NORTH DAKOTA: Temperatures 1 to 2° above normal except northwest and west central, which averaged 4° above normal. Extremes: 84 and 38°. Precipitation near normal southwest and south central and 0.05 in. to 1.50 in. below normal elsewhere.

Combining small grains again slowed by showers but still about 10 days ahead of normal. Hard red spring wheat combining 90% complete, durum 75%, oats 95%, barley 98%. Dry bean cutting 20% complete, potato digging 5% complete. Sugarbeet harvest expected to start this week southeast. Pastures remain generally fair to poor condition. Livestock generally fair condition.

OHIO: Temperatures above normal. Extremes: 94 and 52°. Precipitation variable.

Fieldwork: 5 days suitable. Main activities: Haymaking, tomato harvest, cutting corn silage, plowing for winter wheat (55%). Crop development: 70% corn in dent stage, 1976 80%, average 70%. Soybeans 35% turning yellow, 1976 35%, average 25%. Corn cut for silage 20% complete, 1976 20%, average 20%. Alfalfa 3d cutting 65%, 1976 65%, average 50%. Tobacco cutting 45% complete, 1976 30%, average 30%. Corn mostly good to excellent. Soybeans, sugarbeets, pasture mostly good. Soil moisture adequate.

OKLAHOMA: Temperatures above normal. Precipitation received all areas ranging from 0.11 in. southwest to 1.06 in. east central.

Topsoil and subsoil moisture adequate. Wheat seedbed 56% prepared, 47% 1976, and 56% normal. Corn good to excellent condition, 46% mature, 43% 1976, and 54% normal. Sorghums good to excellent condition, 15% harvested, compared with 2% last year and normal. Cotton good condition with light insect activity, 99% setting bolls, 91% 1976, and 92% normal. Peanuts good condition, 92% spiking, 90% 1976, and 91% normal. Soybeans good condition, 84% setting pods, 70% 1976, and 68% normal. Alfalfa hay fair to good condition. Pasture and ranged rated good to excellent. Livestock rated good to excellent. Some purchases of cattle for anticipated grazing of wheat pasture reported.

OREGON: Temperatures ranged from 2 to 4° above normal along the coast to 5 to 8° below over extreme or interior valleys; central basins averaged near normal. Frost in few eastern locations. Rainfall varied considerably. Most of east reported amounts from near 0.33 in. to a trace. Interior western valleys had 0.25 in. or less.

Grain harvest nearly complete in west. Varies in east according to elevation. Some fall seeding has begun. Mint harvest continues in east, near completion in the west. Bartlett harvest continues. Sweet corn harvest in full swing. Hops and bean harvest continues. Potato harvest underway. Range situation remains poor to fair in east and fair to good in west. Increasing cattle movement in east.

PENNSYLVANIA: Partly sunny, warm and very humid through 2d when change to cooler and dryer. Temperatures 4 to 8° above normal. Extremes: 93 to 44°. Scattered showers and thunderstorms through 2d but rain less than 0.10 in. central. Northwest 1.00 in. or more.

Fieldwork: 5 days suitable. Moisture adequate. Activities: Making hay and baling straw, digging potatoes, cutting tobacco and corn ensilage, picking tomatoes, apples, peaches, pears. Tobacco 56% cut, last year 69%; poor curing weather. Potatoes 30% dug, last year 28%. Ensilage corn 6% cut, last year 11%. Grain corn 42% dented, last year 30%; 5 days ahead. Fall plowing 35%, last year 40%. Alfalfa third cut 62%. Hay quality fair to good. Feed from pastures average.

PUERTO RICO: Island rainfall 1.53 in. or 0.23 in. below normal. Temperatures about 82° on coasts and 76° interior. Extremes: 97 and 60°.

SOUTH CAROLINA: Temperatures slightly warmer than normal. Rainfall below average except south. Heaviest rainfall 2.37 in.

Soil moisture short to adequate, most adequate. Worms problem in crops. Aflatoxin problem in corn crop. Tobacco harvesting 93% complete. Cotton condition poor; worms plaguing crop. Spraying active most fields; about 44% acreage has open bolls. Farmers harvesting corn crop. Elevators turning corn away due high aflatoxin content. Soybean condition fair; worm activity heavy. Farmers spraying chemicals. About 77% acreage setting pods.

About 93% grapes, 56% apples harvested. Cultivating fall vegetables. Corn harvested 52% 1977, 40% 1976, N/A 5 year average.

SOUTH DAKOTA: Temperatures 1 to 7° below normal. Precipitation ranged from 0.02 to 1.74 in.

Topsoil moisture adequate. Row crop development slowed slightly by cool weather, still ahead of normal. Silage cutting underway. Flax harvest slowed by wet weather. Livestock good condition. Feed supplies adequate. Corn in dent stage or past 87%, 1976 80%, normal 67%. Corn mature (safe from frost) 30%, 1976 37%, normal 26%. Flax combined 81%, 1976 99%, normal 86%. Soybeans shedding leaves 31%, 1976 40%, normal 24%. Grain sorghum showing color 61%, 1976 60%, normal 55%. Fall plowing complete 53%, 1976 41%, normal 46%. Winter wheat seeded 17%, 1976 13%, normal 22%. Rye seeded 19%, 1976 5%, normal 21%.

TENNESSEE: Temperatures normal northeast; 5 to 8° above normal elsewhere. Precipitation mostly less than 1.00 in.

Fieldwork: 5.4 days suitable. Soil moisture short. Pastures poor. Insect and worm problems declining. Soybeans setting pods 95% 1977, 75% 1976, 83% normal. Cotton open bolls 42% 1977, 3% 1976, 10% normal. Cotton harvested 3% 1977, 1% normal. Corn mature 55% 1977, 27% 1976, 36% normal. Corn harvested 11% 1977, 3% normal. Dark-fired tobacco harvested 70% 1977, 75% 1976, 55% normal. Burley tobacco harvested 62% 1977, 79% 1976, 58% normal. Air-cured tobacco harvested 76% 1977, 30% 1976, 52% normal. Fall plowing completed 46% 1977, 41% 1976, 43% normal.

TEXAS: Thundershowers Lower Rio Grande Valley, followed by heavy rains midweek from Anita. Night-time thunderstorms common northwest. Rainfall 2.00 to 3.00 in. above normal Lower Valley; near normal Panhandle, coastal plains; nil elsewhere. Temperatures 3° above normal southwest; 1 to 2° above normal northwest, north, south; elsewhere, near normal.

Rains improved pastures, provided moisture wheat planting Panhandle. Cotton harvest active; nearing completion from lower Blacklands southward. Cotton Panhandle maturing; few fields southern High Plains stripped. Sorghum harvest active southern Low Plains, Edwards Plateau. Fields High Plains maturing rapidly. Corn earworm damaged heads some stands. Corn harvesting High Plains more active, should accelerate. Lodging, some early maturing fields. Wheat planting, land preparation good progress; showers delayed operations Panhandle. Early planted fields High Plains good stands. Peanut harvest continued south, south central. Many stands Cross-Timbers moisture stressed; need rain soon. Late crop, southern areas, need moisture. Soybean fields growing well; early varieties maturing. Rice harvest hampered by showers; but progress made. Oat planting more active. Many growers planted in dry ground. Sorghum harvested 61%, 54% 1976, 55% average. Rice harvested 97%, 97% 1976, 90% average. Corn harvested 29%, 30% 1976, 32% average. Cotton harvested 14%, 6% 1976, 10% average. Peanuts harvested 11%, 13% 1976, 13% average. Wheat planted 10%, 4% 1976, 6% average. Oats planted 4%, 1% 1976, 2% average. Lower Rio Grande Valley, rains disrupted fall planting. Central Texas vegetable production slowed because hot, dry weather. Planting where moisture permits. Harvests cucumbers, carrots, tomatoes, green peppers, cabbage, okra, squash, northern areas.

Grasses Cross-Timbers, Blacklands, Edwards Plateau, Trans-Pecos, south central mostly dry; adequate to below adequate grazing. Some ranchers

these areas feeding, hauling water. Elsewhere, rains improved pastures, hay fields; scattered areas still dry. Livestock generally fair, good condition; weight losses common dry areas.

UTAH: Scattered shower and thunderstorm activity. Accumulated amounts generally light to moderate but locally heavy in few localities. Temperatures ranged from near normal to 9° below. First frost of season some higher elevations.

15% of 1978 winter wheat crop planted. 63% alfalfa hay expected to be harvested three or more times, off 13% from normal. Third crop alfalfa harvest progress 30%. Range feed poor to fair. Livestock condition fair to good.

VIRGINIA: Temperatures several degrees above normal. Extremes: 98 and 49°. Rains scattered and variable, ranging from none to 2.04 in., averaging 0.25 in.

Topsoil moisture short. Fieldwork: 5.7 days suitable. Corn for grain harvest 12% complete, 12% 1976, 4% average. Silage harvest continues. Soybean condition poor, spraying for corn earworms very active. Peanut condition good, spraying active. Tobacco mostly fair condition. Flue-cured 45% harvested, 48% 1976, 40% normal. Burley 32% cut, 55% 1976, 27% normal. Sun-cured 54% harvested, 58% 1976, 36% normal. Land preparation, fertilizing, cover crops seeding active.

WASHINGTON: West: Temperatures 2 to 3° below normal. Precipitation 0.20 to 1.60 in. above normal.

Shower activity slowed harvest of truck crops. Grain corn looks good, harvest early. Range and pasture feed in good shape after shower activity.

East: Temperatures 5 to 6° below normal. Precipitation considerably above normal except near normal northeastern area.

Peach harvest finishing up, pear harvest continues. Apples coloring well. Scattered rain slowed harvest of alfalfa hay and alfalfa seed causing moderate damage some areas. Mint, hops, truck crops, potatoes continue to be harvested. Most small grain harvest completed. Range feed conditions quite poor; recovery will take some time despite shower activity. Some operators will have to put livestock in winter feed immediately after finishing stubble pasture.

WEST VIRGINIA: Temperatures above normal with both daily highs and lows above normal. Precipitation above normal southwest and west; below central and northeast.

Fieldwork: 4.5 days suitable. Soil moisture mostly adequate. 2d haying 75%, 73% 1976, 71% average. 3d hay 33%, 30% 1976. Corn development: 15% silked, 61% dough stage, 20% mature, 4% harv. Corn condition mostly good. Potatoes 42% dug, 50% 1976, 47% average. Tobacco virtually all topped; 40% harvested, 18% 1976. Wheat and barley less than 5% planted. Pasture and hay condition fair to good.

WISCONSIN: Temperatures near normal. Highs in 70's and 80's, lows mostly in 50's. Rainfall heaviest north and west where totals exceeded 2.00 in. less than 1.00 in. east and south.

Corn nearing maturity; grain 65% safe from frost, 1976 50%, normal 35%. Ears hanging and husks drying on early corn. Silo filling 10% done, 1976 10%, normal 5%. Soybeans leaves 25% turning yellow, 1976 35%, normal 15%. Third crop hay 40% harvested, 1976 15%, normal 5%. Pastures in good fall grazing conditions except northeast where dry. Tobacco harvest progressing. Little fall

plowing of wheat land. Vegetable and potato harvests continuing. Soil moisture adequate. Streamflows improved after August rains.

WYOMING: Temperatures below normal. Extremes: 94 and 27°. Precipitation near normal.

Topsoil moisture short to adequate. Normal small grain progress. Spring wheat 87% harvested,

barley 86%, and oats 81%. Seeding of 1978 winter wheat 27% complete. Dry beans 27% windrowed and 6% combined. Grain corn 15% in milk, 54% in dough, 27% dented; behind last year. Alfalfa 22% third cutting harvested. Other haying progress ahead of normal with 94% harvested. Cattle and lambs lighter than usual.

World Weather and Crop Update

August 29 - Sept. 4, 1977

USSR. Conditions were generally favorable over the USSR as the cool, damp weather of the past two weeks gave way to a warming trend. Precipitation was light over most areas although amounts of 35 to 40 mm were recorded in the eastern Ukraine. The pace of harvesting also picked up considerably in Siberia and northern Kazakhstan where cool, damp weather had been plaguing these important spring wheat regions. By August 29, threshing was completed on 81 million hectares or almost two-thirds of the total area in small grains. Cotton harvesting was underway in central Asia, some 1 to 2 weeks earlier than normal. Fall plowing and seeding of winter grains continued to push southward; almost 10 million hectares were seeded by August 29.

ASIA. In the People's Republic of China, precipitation was generally light to moderate over much of the northern agricultural areas including the northeast provinces. Corn, coarse grains, and soybeans matured rapidly in these regions while harvest of early-sown crops was underway in some areas. Rainfall was generally adequate, even locally excessive, in the rice growing provinces south of the Yangtze River. Minor drought problems however, were reported in some provinces, notably Szechwan. India's monsoon continued as one of the best in many years. Moisture has been timely and well-distributed. Weather zones accounting for 99 percent of fall-harvested cereal crops have received normal to above normal rainfall since June 1. Light to moderate showers moistened parts of Australia's grain belt in West Australia and New South Wales to enhance early prospects for the wheat crops in those states.

AFRICA. It was warm and seasonally dry in North Africa; while at the other end of the continent in South Africa, it was cool and dry. The central African countries of Mauritania, Chad, Senegal, and Upper Volta and, to a lesser extent, Ivory Coast, Ghana, Togo, and Benin continued to suffer from well below normal precipitation. Some areas received only 20 to 40 percent of normal rainfall during the current monsoon season. Unusually wet weather is required during the remainder of the monsoon season for normal agriculture in the dry season.

(continued from page 2)

Thunderstorms provided a dreary Sunday morning in the Southeast, Gulf Coast States, parts of the Midwest, Mississippi Valley, upper Great Lakes, and the Plains from Texas to South Dakota; showers dampened an area from the northern Rockies through Washington and northern Oregon and from western New Mexico to eastern Arizona.

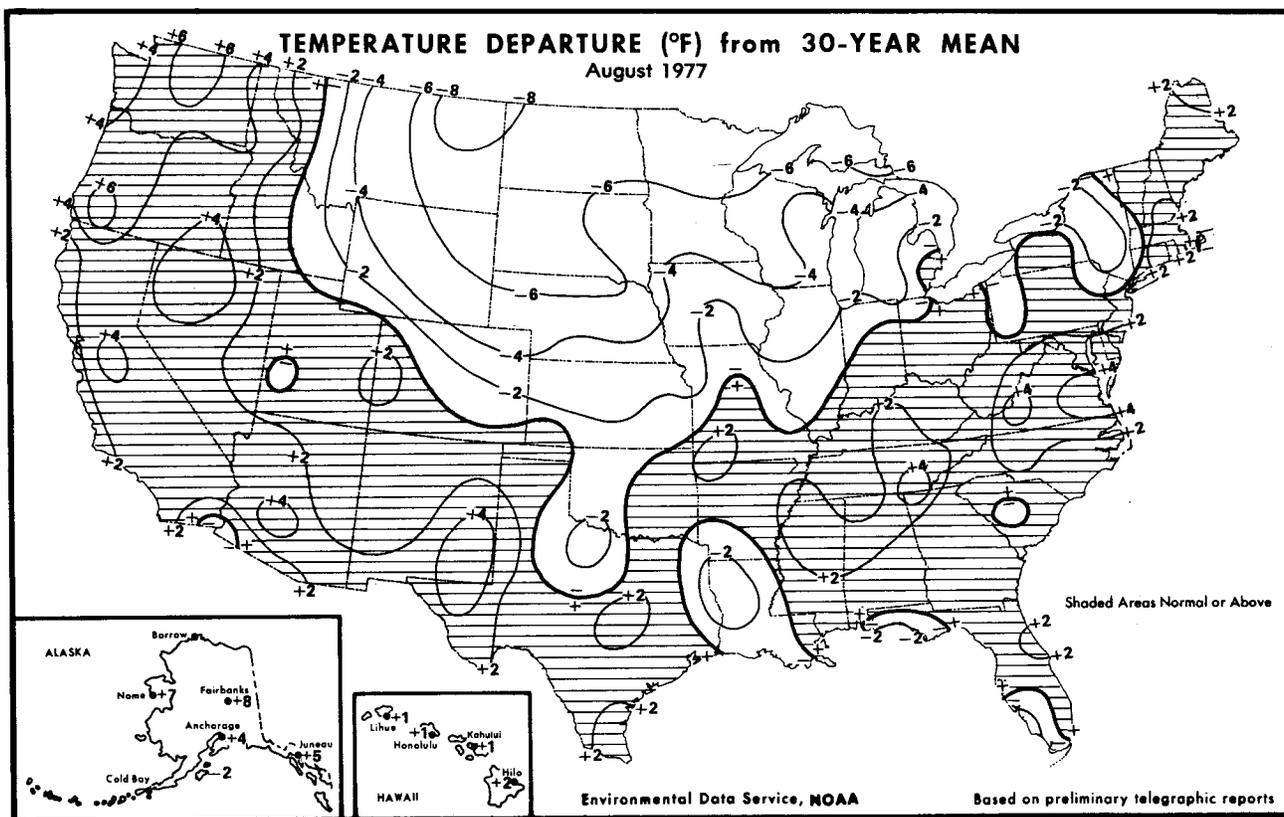
SOUTH AMERICA. A cold air mass invaded the coffee-growing regions of Brazil, but minimum temperatures were well above freezing and posed no threat to the coffee trees. Moderate to locally heavy rains fell throughout most of the agriculturally important southeastern states, but the main wheat regions in the south received only light precipitation--a welcome respite from the deluges that have plagued the area in recent weeks. But the drought-stricken wheat regions in Argentina received little moisture except for isolated showers.

EUROPE. Western Europe, in general, enjoyed a week of warm weather with only light precipitation occurring in most areas. The welcome break in the cool, damp weather of recent weeks has helped the harvest of grain crops and haying operations. Rainfall was light over the main agricultural areas of Spain; nonirrigated crops and pastures are under heavy stress in the southern regions where soil moisture is very short. Heavy showers fell throughout the Po Valley in northern Italy, but only isolated thundershowers occurred in the south. Eastern Europe also experienced a week of generally light rainfall although East Germany received moderate to heavy showers late in the week. Rainfall was light in moisture-short Greece while the main agricultural areas in Turkey were without significant rainfall.

NORTH AMERICA. Rains considerably improved the drought situation west of the mountains in the Pacific Northwest; the greatest improvement was in Washington. Lesser amounts of precipitation fell east of the mountains in Washington which should improve pastures and provide needed moisture for seeding winter grains in that area. Moderate rains throughout the central Great Plains provided timely moisture for the seeding of early winter wheat fields. Some improvement took place in the southeastern states, but spotty drought conditions still prevailed in central and western portions of North Carolina. Cool, damp weather plagued harvest operations in the spring wheat regions of the Canadian Prairie Provinces. Killing frost cut across the Peace River and central Alberta and record low temperatures were reported for September 1 and 2.

Late afternoon storms buffeted the upper half of the Mississippi Valley and Great Lakes bringing hail near Milwaukee and 2.36 in. of rain to Carmi in southeastern Illinois. Babe became a hurricane and continued to trigger storms along the Gulf Coast.

Waco, Texas, notched a record reading of 102°, breaking the 1963 mark of 100°.



August Weather Summary

HIGHLIGHTS: August was a month of healthy amounts of rain in key agricultural areas. Many States in the Corn Belt and Plains growing sections received much more rain than was expected for the time of year. Although temperatures were 2 to 4° cooler than normal in these same regions, crops flourished. The East and West Coasts experienced above-normal temperatures, while along the northern tier, from Montana to New York, readings dipped 2 to 8°.

Typical August weather was marked by many series of thunderstorms in the first week. The first day of the month brought heavy rains to the eastern States; Tallahassee and Columbia, S.C., gathered 2 inches while Philadelphia was drenched by 4 inches. The remainder of the initial week brought record-tying temperatures, low and high. Palm Springs, Calif., notched 117°, and 32° was recorded in northeastern Minnesota. One day was highlighted by five tornadoes--three in Illinois and one each in Missouri and Florida. At week's end, Atwater, Ohio, was inundated by 8 inches of rain.

The second week of August was noted by ample precipitation in the Corn Belt and parched northwestern Virginia. The Pacific Northwest was under the spell of a heat wave when the northern Plains were near freezing, showing 9 to 13° below normal.

Central Iowa was especially hard hit by 3 to 7 inches on the 8th. More than 2 inches of rain hit a variety of sections throughout the Nation including southern Florida, western New York, the central Kansas/Oklahoma border, and most of Kentucky. Nearly the entire West Coast remained dry as did West Texas and central Georgia. A

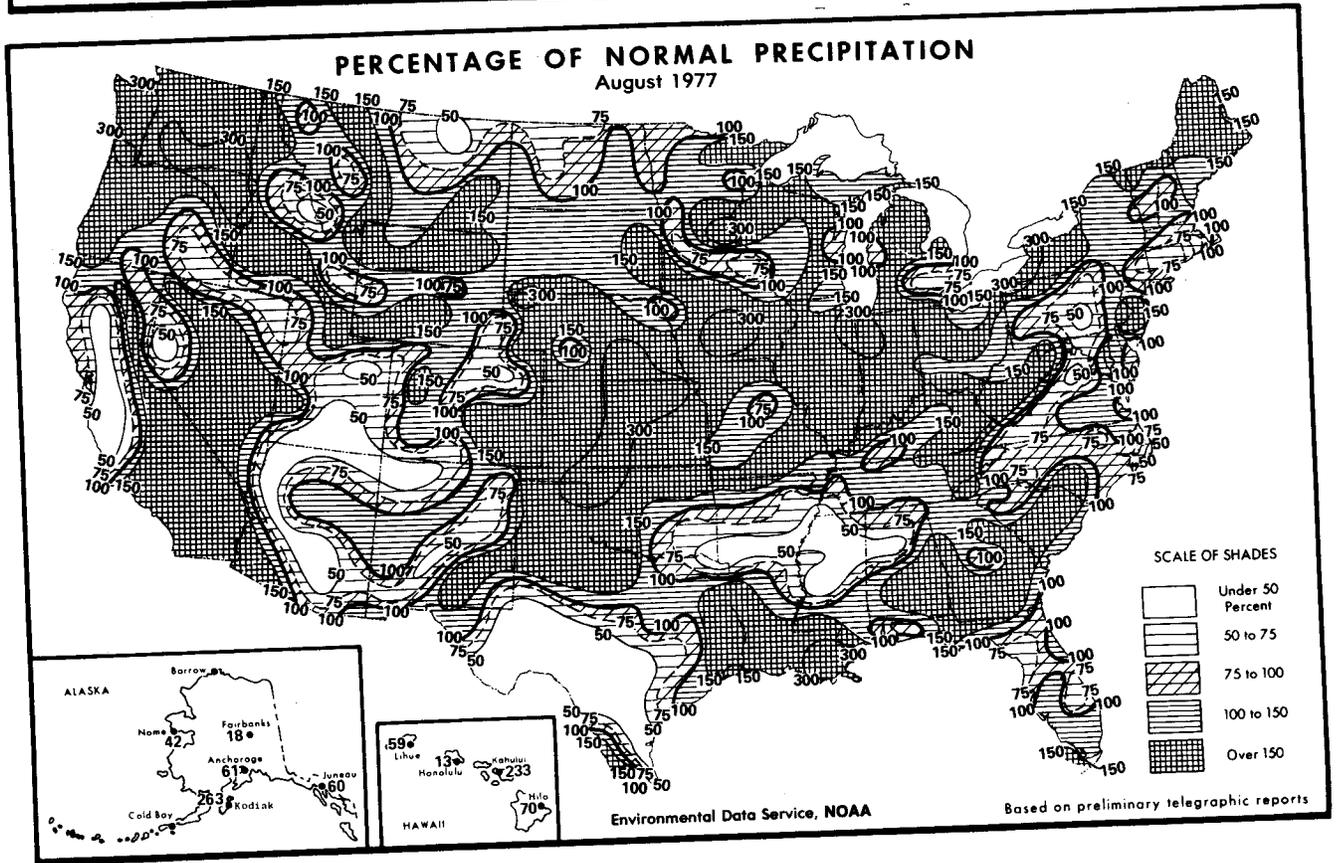
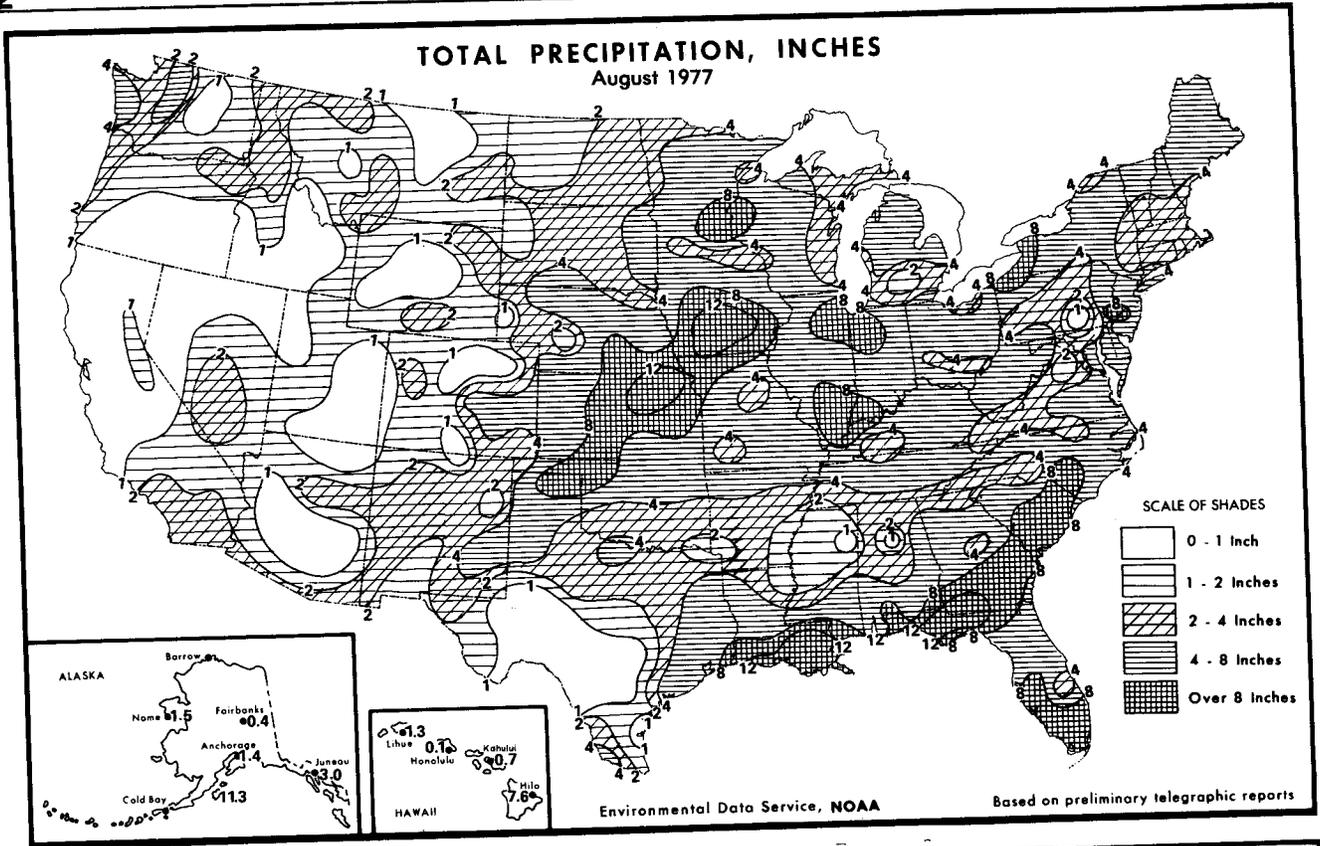
large part of the Nation had above-normal temperatures for August in most of the Plains, the upper half of the Midwest, the northern Rockies, and most of Florida.

The month's third full week carried the new season's first hurricane, Doreen, which pushed heavy precipitation into southern California and parts of the Southwest. Portions of the Corn Belt, once again, received heavy rain alleviating some of the dry soil moisture conditions; 6 to 8 inches fell on some Iowa points. Sections along the Gulf and middle Atlantic Coasts, middle Mississippi Valley, and central Plains were soaked. Temperatures ran below normal in most of the country except west of the Rockies and the isolated locales of West Texas, southern Florida, the upper South, and Louisiana Delta.

August's fourth week saw relief from the heat in the Pacific Northwest that had reached into the 100's for several days. A winterlike cold front produced large amounts of rain well ahead of the traditional rainy season. The central Plains and, again, Iowa were awash with heavy rain. Other areas of heavy precipitation included the southern parts of Illinois, Indiana, and Louisiana; central Georgia to the South Carolina coast; and the upper Midwest.

Several stations set precipitation records for the month--Baton Rouge, Des Moines, and Buffalo among them.

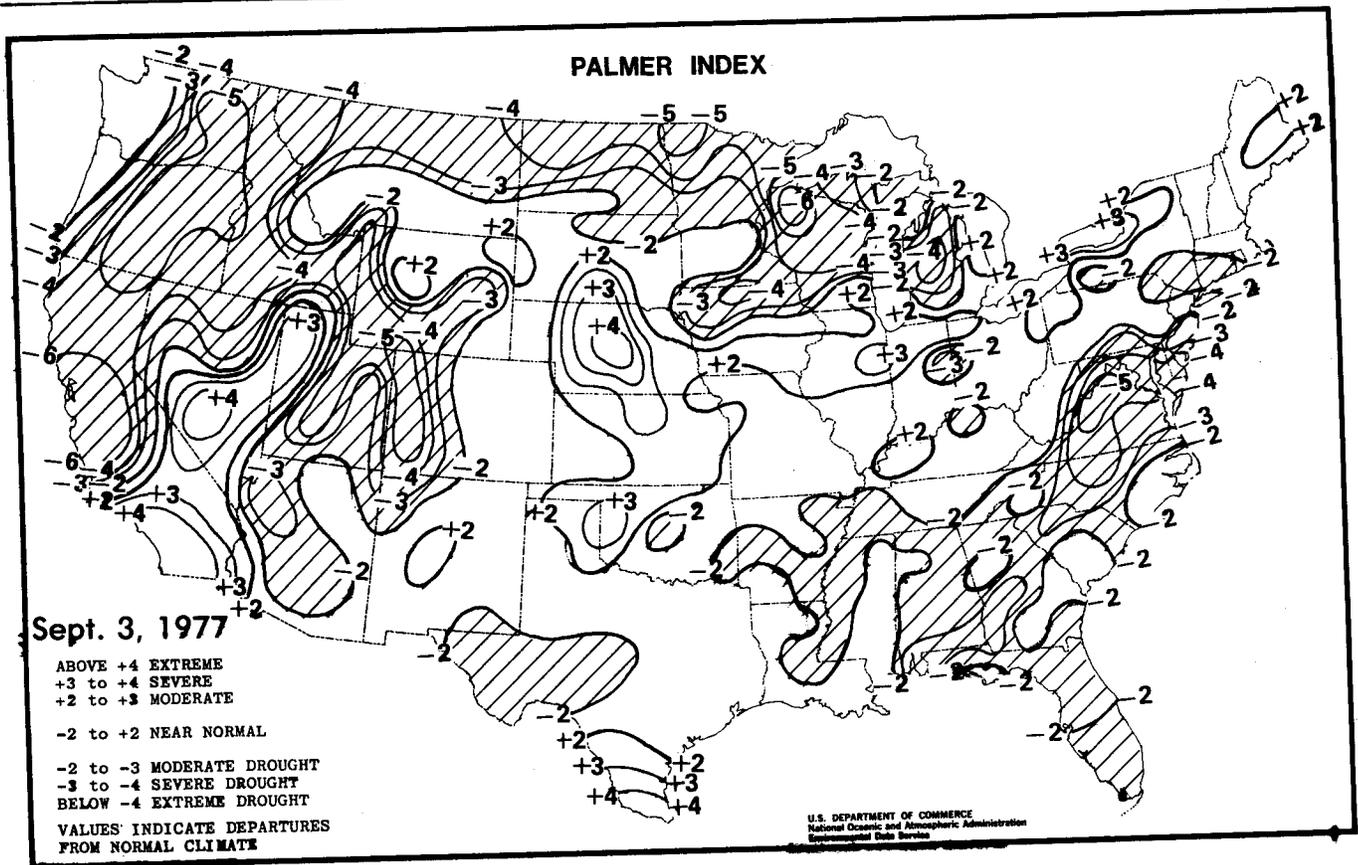
The month closed with ominous threats from Hurricanes Anita and Babe, but little damage resulted.



Temperature and Precipitation Data for August 1977

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham . . .	82	+ 3	.9	- 3.4	La. Baton Rouge . . .	81	- 1	13.3	+ 8.4	Youngstown . . .	69	0	4.6	+ 1.4
Mobile . . .	83	+ 1	5.4	- 1.5	Lake Charles . . .	81	- 1	11.5	+ 6.7	OKLA. Okla. City . . .	81	0	3.1	+ .5
Montgomery . . .	81	0	6.4	+ 2.9	New Orleans . . .	82	- 3	16.1	+ 10.8	Tulsa . . .	82	+ 1	4.9	+ 1.9
ALASKA. Anchorage . . .	60	+ 4	1.4	- .9	Shreveport . . .	80	- 3	4.3	+ 1.6	OREG. Astoria . . .	63	+ 3	3.8	+ 2.3
Barrow . . .	---	---	---	---	MAINE. Caribou . . .	64	+ 2	7.9	+ 4.1	Burns . . .	69	+ 3	.3	- .1
Fairbanks . . .	63	+ 8	---	---	Portland . . .	67	+ 1	2.8	+ .2	Medford . . .	76	+ 6	4	+ .1
Juneau . . .	59	+ 5	3.0	- 2.0	MD. Baltimore . . .	78	+ 3	3.3	- .9	Pendleton . . .	75	+ 3	2.6	+ 2.3
Kodiak . . .	53	- 2	11.3	+ 7.0	MASS. Boston . . .	73	+ 2	2.9	- .6	Portland . . .	72	+ 5	3.3	+ 2.5
Nome . . .	---	---	---	---	Chatham . . .	69	---	2.9	---	Salem . . .	70	+ 4	1.7	+ 1.1
ARIZ. Flagstaff . . .	66	+ 2	3.7	+ 1.0	MICH. Alpena . . .	62	- 2	4.8	+ 2.1	PA. Allentown . . .	73	+ 1	5.8	+ 1.6
Phoenix . . .	94	+ 5	.2	- 1.0	Detroit . . .	71	0	2.2	- 1.1	Erie . . .	67	- 1	11.1	+ 7.7
Tucson . . .	86	+ 2	.8	- 1.5	Flint . . .	68	0	3.2	- .1	Harrisburg . . .	74	0	.9	- 2.3
Winslow . . .	77	+ 1	2.2	+ .7	Grand Rapids . . .	68	- 2	4.8	+ 2.3	Philadelphia . . .	76	+ 1	8.7	+ 4.6
Yuma . . .	92	- 1	3.0	+ 2.6	Houghton Lake . . .	62	- 3	5.7	+ 3.3	Pittsburgh . . .	68	- 2	2.7	- .5
ARK. Fort Smith . . .	82	+ 1	2.6	- .3	Lansing . . .	68	- 2	1.6	- 1.2	Scranton . . .	69	- 1	4.2	+ .4
Little Rock . . .	81	0	2.1	- .9	Marquette . . .	62	- 4	3.6	+ .6	R. I. Providence . . .	73	+ 3	2.1	- 1.8
CALIF. Bakersfield . . .	85	+ 3	1.0	+ 1.0	Muskegon . . .	67	- 2	2.4	- .2	S. C. Charleston . . .	81	+ 1	8.1	+ 1.7
Eureka . . .	58	+ 1	.2	- .1	S. Ste. Marie . . .	57	- 6	3.5	+ .4	Columbia . . .	79	- 1	10.7	+ 5.1
Fresno . . .	81	+ 3	T	0	MINN. Duluth . . .	57	- 7	3.3	- .5	Greenville . . .	79	+ 1	5.0	+ .9
Los Angeles . . .	76	+ 2	2.3	+ 2.3	Internatl Falls . . .	57	- 6	3.0	- .4	S. D. Aberdeen . . .	66	- 5	2.5	+ .4
Red Bluff . . .	82	+ 2	T	- .2	Minneapolis . . .	66	- 3	9.3	+ 6.2	Huron . . .	68	- 4	2.6	+ .6
San Diego . . .	73	+ 2	2.1	+ 2.0	Rochester . . .	65	- 4	2.6	- 1.0	Rapid City . . .	68	- 6	1.8	+ .3
San Francisco . . .	64	+ 1	T	0	St. Cloud . . .	63	- 5	6.1	+ 2.2	Sioux Falls . . .	68	- 4	5.6	+ 2.8
Stockton . . .	79	+ 4	0	0	MISS. Jackson . . .	82	+ 1	1.5	- 2.1	TENN. Chattanooga . . .	82	+ 4	3.5	+ .3
COLO. Denver . . .	70	- 2	1.0	- .3	Meridian . . .	83	+ 2	4.7	+ .8	Knoxville . . .	79	+ 2	5.8	+ 2.6
Grand Junction . . .	78	+ 3	.6	- .5	MO. Columbia . . .	77	+ 1	2.3	- 1.5	Memphis . . .	83	+ 3	1.6	- 1.7
Pueblo . . .	74	- 1	3.5	+ 1.5	Kansas City . . .	74	- 3	8.0	+ 4.2	Nashville . . .	80	+ 1	4.7	+ 1.5
CONN. Bridgeport . . .	74	+ 1	4.7	+ .9	St. Louis . . .	76	- 1	5.3	+ 2.4	TEX. Abilene . . .	83	- 1	2.5	+ .4
Hartford . . .	73	+ 3	2.4	- 1.5	Springfield . . .	79	+ 2	3.1	+ .2	Amarillo . . .	78	0	4.9	+ 2.0
D. C. Washington . . .	79	+ 2	4.7	0	MONT. Billings . . .	66	- 4	1.1	+ .1	Austin . . .	87	+ 2	.1	- 2.1
FLA. Apalachicola . . .	81	- 1	6.9	- 1.2	Glasgow . . .	61	- 8	.6	- .9	Beaumont . . .	85	+ 2	7.2	+ 1.5
Daytona Beach . . .	83	+ 2	7.9	+ 1.1	Great Falls . . .	63	- 4	1.9	+ .8	Brownsville . . .	86	+ 2	1.3	- 1.4
Ft. Myers . . .	81	- 2	10.6	+ 2.9	Havre . . .	64	- 4	.8	- .3	Corpus Christi . . .	87	+ 2	.4	- 2.8
Jacksonville . . .	82	+ 1	7.3	- .6	Helena . . .	64	- 2	.7	- .3	Dallas . . .	---	---	---	---
Key West . . .	83	- 2	10.4	+ 5.9	Kalispell . . .	64	+ 1	1.1	- .2	Del Rio . . .	87	+ 1	.1	- 1.1
Lakeland . . .	82	0	8.1	+ .9	Miles City . . .	66	- 7	2.4	+ 1.2	El Paso . . .	83	+ 2	1.4	+ .3
Miami . . .	83	0	8.3	+ 1.6	Missoula . . .	68	+ 3	1.3	+ .4	Fort Worth . . .	85	0	2.3	0
Orlando . . .	82	0	6.3	- .4	NEBR. Grand Island . . .	72	- 3	8.7	+ 6.2	Galveston . . .	83	0	6.5	+ 2.1
Tallahassee . . .	81	0	15.7	+ 8.8	Lincoln . . .	72	- 4	7.5	+ 4.2	Houston . . .	83	0	4.5	+ .1
Tampa . . .	83	+ 1	6.0	- 2.0	Norfolk . . .	70	- 4	4.3	+ 1.6	Lubbock . . .	80	+ 2	4.3	+ 2.4
W. Palm Beach . . .	83	+ 1	8.0	+ 1.1	N. Platte . . .	69	- 4	1.8	- .3	Midland . . .	83	+ 1	.4	- .9
GA. Atlanta . . .	78	0	4.2	+ .7	Omaha . . .	71	- 3	7.1	+ 3.1	San Angelo . . .	86	+ 1	.4	- 1.0
Augusta . . .	80	0	7.8	+ 3.6	Valentine . . .	67	- 6	4.4	+ 2.0	San Antonio . . .	85	0	.1	- 2.3
Macon . . .	81	0	3.0	- .7	NEV. Ely . . .	66	0	1.6	+ 1.0	Victoria . . .	85	0	2.5	- .7
Savannah . . .	81	0	8.0	+ 1.5	Las Vegas . . .	90	+ 3	1.4	+ .9	Waco . . .	88	+ 2	2.0	+ .2
HAWAII. Hilo . . .	78	+ 2	---	---	Reno . . .	70	+ 3	T	- .2	Wichita Falls . . .	83	- 3	4.1	+ 2.3
Honolulu . . .	82	+ 1	.1	- .7	Winnemucca . . .	72	+ 4	.6	+ .3	UTAH. Blanding . . .	72	+ 1	.8	- .8
Kahului . . .	80	+ 1	.7	+ .4	N. H. Concord . . .	69	+ 2	3.5	+ .6	Salt Lake City . . .	75	0	1.9	+ 1.0
Lihue . . .	---	---	---	---	N. J. Atlantic City . . .	75	+ 2	6.5	+ 1.6	VT. Burlington . . .	68	+ 1	6.3	+ 2.6
IDAHO. Boise . . .	74	+ 2	.7	+ .4	Trenton . . .	75	+ 1	7.9	+ 3.7	VA. Lynchburg . . .	76	+ 2	5.7	+ 1.6
Lewiston . . .	77	+ 5	1.6	+ 1.0	N. MEX. Albuquerque . . .	77	0	2.3	+ 1.0	Norfolk . . .	81	+ 4	4.6	- 1.3
Pocatello . . .	69	- 1	.3	- .3	Roswell . . .	83	+ 5	4.5	+ 3.0	Richmond . . .	80	+ 4	6.2	+ 1.1
ILL. Cairo . . .	79	0	5.0	+ 1.5	N. Y. Albany . . .	68	- 2	3.7	+ .8	Roanoke . . .	78	+ 4	2.3	- 1.9
Chicago . . .	72	- 2	9.7	+ 6.6	Binghamton . . .	67	0	3.0	- .6	WASH. Colville . . .	---	---	---	---
Moline . . .	71	- 2	7.0	+ 3.6	Buffalo . . .	68	0	10.7	+ 7.2	Omak . . .	74	+ 6	.9	+ .3
Peoria . . .	71	- 3	7.3	+ 4.2	New York . . .	75	0	4.5	0	Quillayute . . .	61	+ 2	3.2	+ .4
Rockford . . .	69	- 3	5.3	+ 1.6	Rochester . . .	69	0	5.7	+ 2.7	Seattle-Tacoma . . .	68	+ 4	3.6	+ 2.5
Springfield . . .	73	- 1	6.0	+ 3.3	Syracuse . . .	67	- 3	4.9	+ 1.4	Spokane . . .	71	+ 3	1.2	+ .6
IND. Evansville . . .	77	+ 1	8.4	+ 5.4	N. C. Asheville . . .	74	+ 1	3.7	- .8	Walla Walla . . .	78	+ 4	2.9	+ 2.4
Ft. Wayne . . .	71	0	7.3	+ 4.4	Charlotte . . .	80	+ 2	2.4	- 1.6	Yakima . . .	74	+ 5	1.2	+ .9
Indianapolis . . .	74	+ 1	4.5	+ 1.7	Greensboro . . .	78	+ 2	4.0	- .3	W. Va. Beckley . . .	70	+ 1	5.9	+ 2.1
South Bend . . .	70	- 1	6.0	+ 2.7	Hatteras . . .	79	+ 1	2.7	- 4.1	Charleston . . .	74	0	6.6	+ 2.9
IOWA. Burlington . . .	71	- 3	6.3	+ 2.9	Raleigh . . .	78	+ 1	4.1	- .8	Huntington . . .	75	+ 1	5.9	+ 2.6
Des Moines . . .	72	- 1	13.7	+ 10.4	Wilmington . . .	81	+ 1	5.9	- .9	Parkersburg . . .	74	0	3.6	+ .3
Dubuque . . .	67	- 3	6.0	+ 2.0	N. DAK. Bismarck . . .	62	- 7	1.9	- .1	WIS. Green Bay . . .	66	- 2	2.4	- .2
Sioux City . . .	69	- 5	2.5	- .5	Fargo . . .	63	- 6	2.5	- .4	La Crosse . . .	67	- 4	3.0	0
KANS. Concordia . . .	74	- 3	10.7	+ 7.5	Williston . . .	62	- 7	1.6	0	Madison . . .	65	- 4	5.2	+ 2.1
Dodge City . . .	78	0	7.4	+ 4.8	OHIO. Akron-Canton . . .	71	+ 1	4.6	+ 1.8	Milwaukee . . .	67	- 2	3.8	+ 1.1
Goodland . . .	71	- 3	5.4	+ 3.3	Cincinnati . . .	74	0	5.5	+ 2.9	WYO. Casper . . .	66	- 4	.3	- .3
Topeka . . .	76	- 1	11.2	+ 7.0	Cleveland . . .	70	0	4.0	+ 1.0	Cheyenne . . .	64	- 4	1.1	- .4
Wichita . . .	78	- 2	6.3	+ 3.2	Columbus . . .	72	0	4.8	+ 1.9	Lander . . .	65	- 4	.5	+ .1
KY. Lexington . . .	76	+ 1	4.8	+ 1.4	Dayton . . .	73	0	3.6	+ 1.0	Sheridan . . .	64	- 5	2.0	+ 1.0
Louisville . . .	78	+ 2	6.1	+ 3.1	Toledo . . .	69	- 2	5.8	+ 2.7	P. R. San Juan . . .	81	0	4.4	- 2.6

Based on 1941-70 normals



THE PALMER AND CROP MOISTURE INDICES

The Palmer Index was designed to evaluate the scope, severity, and frequency of prolonged periods of abnormally wet or dry weather. For this purpose it works reasonably well. However, it does not provide a measure of the current status of agricultural drought; i.e. the effects of short periods of very dry weather. For this reason the Crop Moisture Index was developed to respond rapidly to changes in the soil moisture situation and take into account only those moisture aspects which affect vegetation and field operations.

If one is interested in the overall soil moisture situation, which will integrate the effects of the past weather over weeks and even months, the Palmer Index provides the best evaluation. However, if one is interested in the availability of moisture to meet current demands, the Crop Moisture Index is the most useful. For example, a recent rain might have replenished the soil sufficiently to meet the current demands. However, if the Palmer Index is highly negative, one can interpret this to mean that the overall soil moisture situation is very poor.

A negative CMI value means that the demand for moisture, or the potential evapotranspiration, has been greater than available supplies so that actual transpiration has been reduced. On the other hand, positive CMI values mean that either actual evapotranspiration exceeded the expected amount, or

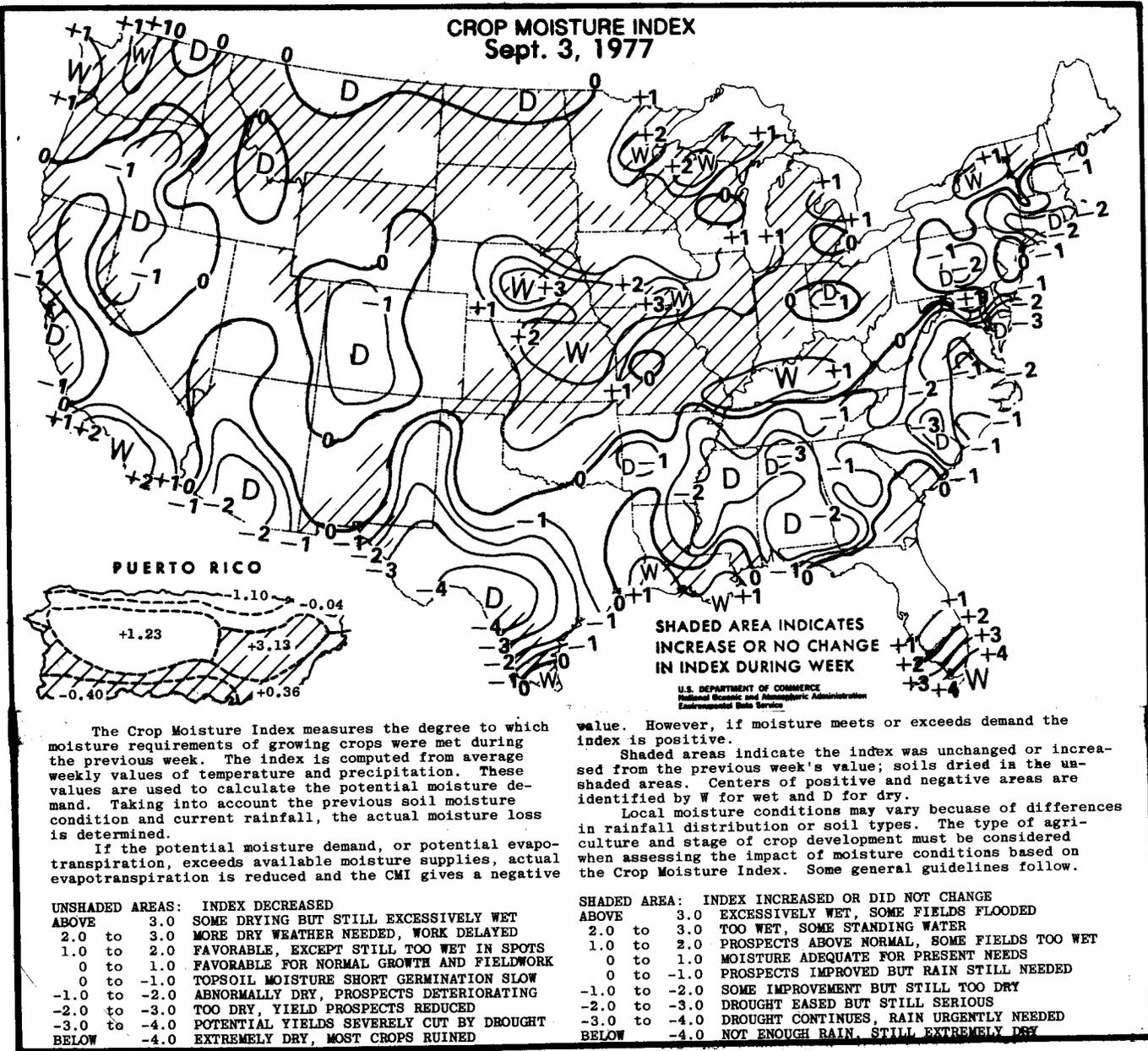
recent rainfall exceeded the moisture requirements of the crops and the additional moisture was added to the soil or was regarded as runoff.

Negative Palmer Index values imply negative abnormalities of either evapotranspiration, the amount of moisture stored in or added to the soil, or of runoff, or a combination of all these types of moisture shortages. In other words, negative PI values simply indicate that the weather has been abnormally dry, and do not specify the exact nature of the effects of the dry weather.

However, positive PI values indicate that the moisture supply either from current or antecedent rainfall exceeded the amount required to sustain soil moisture levels that would be considered as normal and appropriate for the climate of the area.

In brief summary, Palmer Index values are based on all aspects of the moisture situation, but the Crop Moisture values refer only to the crop moisture situation. In addition, the PI values are highly dependent upon antecedent moisture conditions, whereas CMI values are much more responsive to weekly or current rainfall, or the lack of it.

The CMI map will appear each week in the Bulletin during the season from now through October. The Palmer Index will be published only in the first issue of each month during the same period.



The Crop Moisture Index measures the degree to which moisture requirements of growing crops were met during the previous week. The index is computed from average weekly values of temperature and precipitation. These values are used to calculate the potential moisture demand. Taking into account the previous soil moisture condition and current rainfall, the actual moisture loss is determined.

If the potential moisture demand, or potential evapotranspiration, exceeds available moisture supplies, actual evapotranspiration is reduced and the CMI gives a negative

value. However, if moisture meets or exceeds demand the index is positive.

Shaded areas indicate the index was unchanged or increased from the previous week's value; soils dried in the unshaded areas. Centers of positive and negative areas are identified by W for wet and D for dry.

Local moisture conditions may vary because of differences in rainfall distribution or soil types. The type of agriculture and stage of crop development must be considered when assessing the impact of moisture conditions based on the Crop Moisture Index. Some general guidelines follow.

(continued from page 3)

In the south central States only a quarter of the crop had yellowing leaves and leaf drop was only beginning. Soybeans need rain in some of the southern States notably Arkansas where dry soils and insects affected the crop.

but in the West and across the South conditions were mostly poor to fair. Florida was an exception where rains improved growth and in some areas flooded low-lying pastures. In western areas cattlemen moved herds off summer ranges early because of drought conditions. California's higher ranges improved but remained poor at lower elevations.

PASTURES AND LIVESTOCK: Grasslands rated good in most of the north central States and the Northeast,



FIRST CLASS MAIL

COM 210

Heating Degree Days (Base 65° F.)
August 1977

ALA, Birmingham . . .	0	MAINE, Caribou . . .	93	OKLA, Okla. City . . .	0
Mobile . . .	0	Portland . . .	55	Tulsa . . .	0
Montgomery . . .	0	MD, Baltimore . . .	0	OREG, Astoria . . .	82
ALASKA, Anchorage . . .	144	MASS, Boston . . .	4	Burns U. . .	86
Barrow . . .	---	Chatham . . .	14	Medford . . .	4
Fairbanks . . .	196	MICH, Alpena . . .	156	Portland . . .	19
Nome . . .	0	Detroit . . .	17	Salem . . .	23
ARIZ, Flagstaff . . .	19	Flint . . .	35	PA, Allentown . . .	10
Phoenix . . .	0	Grand Rapids . . .	48	Erie . . .	51
Tucson . . .	0	Houghton Lake . . .	134	Harrisburg . . .	5
Winslow . . .	0	Lansing . . .	50	Philadelphia . . .	41
Yuma . . .	0	Marquette U. . .	126	Pittsburgh . . .	39
ARK, Fort Smith . . .	0	S. Ste. Marie . . .	246	Scranton . . .	37
Little Rock . . .	0	MINN, Duluth . . .	196	R. I. Providence . . .	6
CALIF, Bakersfield . . .	0	Internatl Falls . . .	246	S. C. Charleston . . .	0
Eureka U. . .	200	Minneapolis . . .	246	Columbia . . .	0
Fresno . . .	0	Rochester . . .	60	Greenville . . .	0
Los Angeles U. . .	0	St. Cloud . . .	90	S. DAK, Aberdeen . . .	27
Red Bluff . . .	0	MISS, Jackson . . .	0	Huron . . .	48
Stockton . . .	0	Meridian . . .	0	Rapid City . . .	22
San Diego . . .	0	Vicksburg U. . .	---	Sioux Falls . . .	0
San Francisco . . .	48	MO, Columbia . . .	0	TENN, Chattanooga . . .	0
COLO, Denver . . .	14	Kansas City . . .	0	Knoxville . . .	0
Grand Junction . . .	4	St. Louis . . .	0	Memphis . . .	0
Pueblo . . .	3	Springfield . . .	59	Nashville . . .	0
CONN, Bridgeport . . .	8	MONT, Billings . . .	140	TEX, Abilene . . .	0
Hartford . . .	0	Glasgow . . .	119	Amarillo . . .	0
D. C. Washington . . .	0	Great Falls . . .	95	Austin . . .	0
FLA, Apalachicola . . .	0	Havre . . .	92	Beaumont . . .	0
Ft. Myers . . .	0	Helena . . .	97	Brownsville . . .	0
Jacksonville . . .	0	Kalispell . . .	59	Corpus Christi . . .	0
Key West . . .	0	Miles City . . .	76	Dallas . . .	---
Lakeland U. . .	0	Missoula . . .	1	Del Rio . . .	0
Miami . . .	0	NEBR, Grand Island . . .	0	El Paso . . .	0
Orlando . . .	0	Lincoln . . .	5	Fort Worth . . .	0
Daytona Beach . . .	0	Norfolk . . .	34	Galveston U. . .	0
Tallahassee . . .	0	North Platte . . .	3	Houston . . .	0
Tampa . . .	0	Omaha . . .	35	Lubbock . . .	0
GA, Atlanta . . .	0	Valentine . . .	43	Midland . . .	0
Augusta . . .	0	NEV, Ely . . .	0	San Angelo . . .	0
Macon . . .	0	Las Vegas . . .	12	San Antonio . . .	0
Savannah . . .	0	Reno . . .	28	Victoria . . .	0
IDAHO, Boise . . .	32	Winnemucca . . .	58	Waco . . .	0
Lewiston . . .	17	N. H. Concord . . .	0	Wichita Falls . . .	0
Pocatello . . .	38	N. J. Atlantic City . . .	0	UTAH, Milford . . .	16
ILL, Cairo U. . .	0	Trenton U. . .	0	Salt Lake City . . .	11
Chicago . . .	5	N. MEX, Albuquerque . . .	0	VT, Burlington . . .	53
Moline . . .	6	Roswell . . .	0	VA, Lynchburg . . .	0
Peoria . . .	6	N. Y. Albany . . .	51	Norfolk . . .	0
Rockford . . .	20	Binghamton . . .	61	Richmond . . .	0
Springfield . . .	2	Buffalo . . .	40	Roanoke . . .	0
IND, Evansville . . .	0	New York . . .	44	WASH, Colville . . .	---
Fort Wayne . . .	11	Rochester . . .	63	Omak . . .	142
Indianapolis . . .	18	Syracuse . . .	0	Quillayute . . .	43
South Bend . . .	8	N. C. Asheville . . .	0	Seattle-Tacoma . . .	56
IOWA, Burlington . . .	3	Charlotte . . .	0	Spokane . . .	13
Des Moines . . .	8	Greensboro . . .	0	Wallia Walla U. . .	24
Dubuque . . .	43	Hatteras R. . .	0	Yakima . . .	11
Sioux City . . .	9	Raleigh . . .	0	W. VA, Beckley . . .	2
KANS, Concordia . . .	0	Wilmington . . .	111	Charleston . . .	0
Dodge City . . .	0	N. DAK, Bismarck . . .	93	Huntington . . .	0
Goodland . . .	10	Fargo . . .	131	Parkersburg U. . .	64
Topeka . . .	0	Walliston U. . .	21	WIS, Green Bay . . .	95
Wichita . . .	0	OHIO, Akron-Canton . . .	2	Madison . . .	47
KY, Lexington . . .	0	Cincinnati U. . .	26	Milwaukee . . .	51
Louisville . . .	0	Cleveland . . .	17	WYO, Casper . . .	74
LA, Baton Rouge . . .	0	Columbus . . .	29	Cheyenne . . .	50
Lake Charles . . .	0	Dayton . . .	28	Lander . . .	73
New Orleans . . .	0	Toledo . . .	28	Sheridan . . .	73
Shreveport . . .	0	Youngstown . . .	28		

Preliminary reports from airport locations, except those marked U for urban and R for rural.
 *Estimated.