

# WEEKLY WEATHER AND CROP BULLETIN

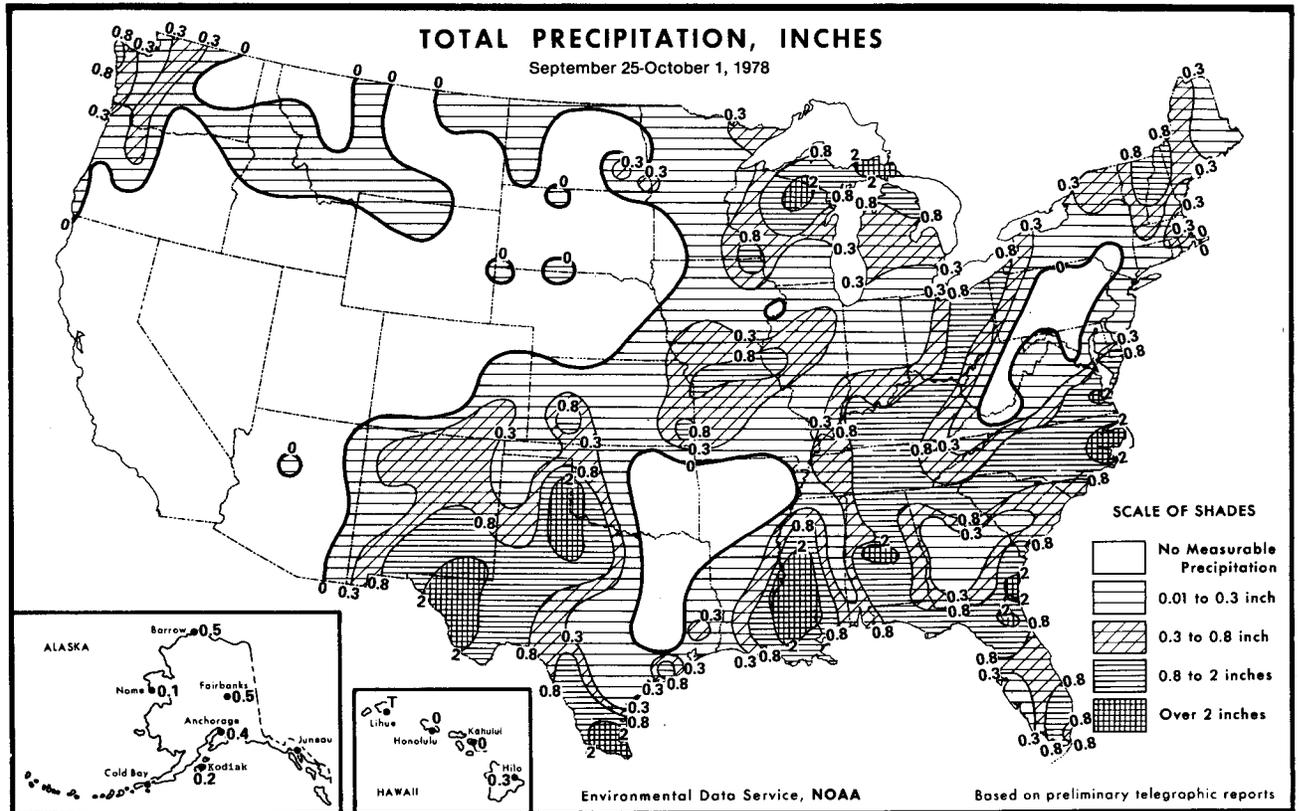
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## National Weather Summary

September 25 - October 1

**HIGHLIGHTS:** Contrary to the week before, the Rockies and Plateau Region recorded warm temperatures; the Southwest and southern Pacific Coast averaged 8 to 13 degrees warmer than normal. From Southwest Texas through the Great Lakes and New England, readings became near or colder than normal---as much as 6 to 8 degrees under what is expected this time of year.

Early heavy rains in New Mexico and West Texas triggered severe flooding along the Rio Grande River that continued through the end of the week.

Heavy rains persisted in the Southwest on Monday; especially hard hit was the southeastern corner of

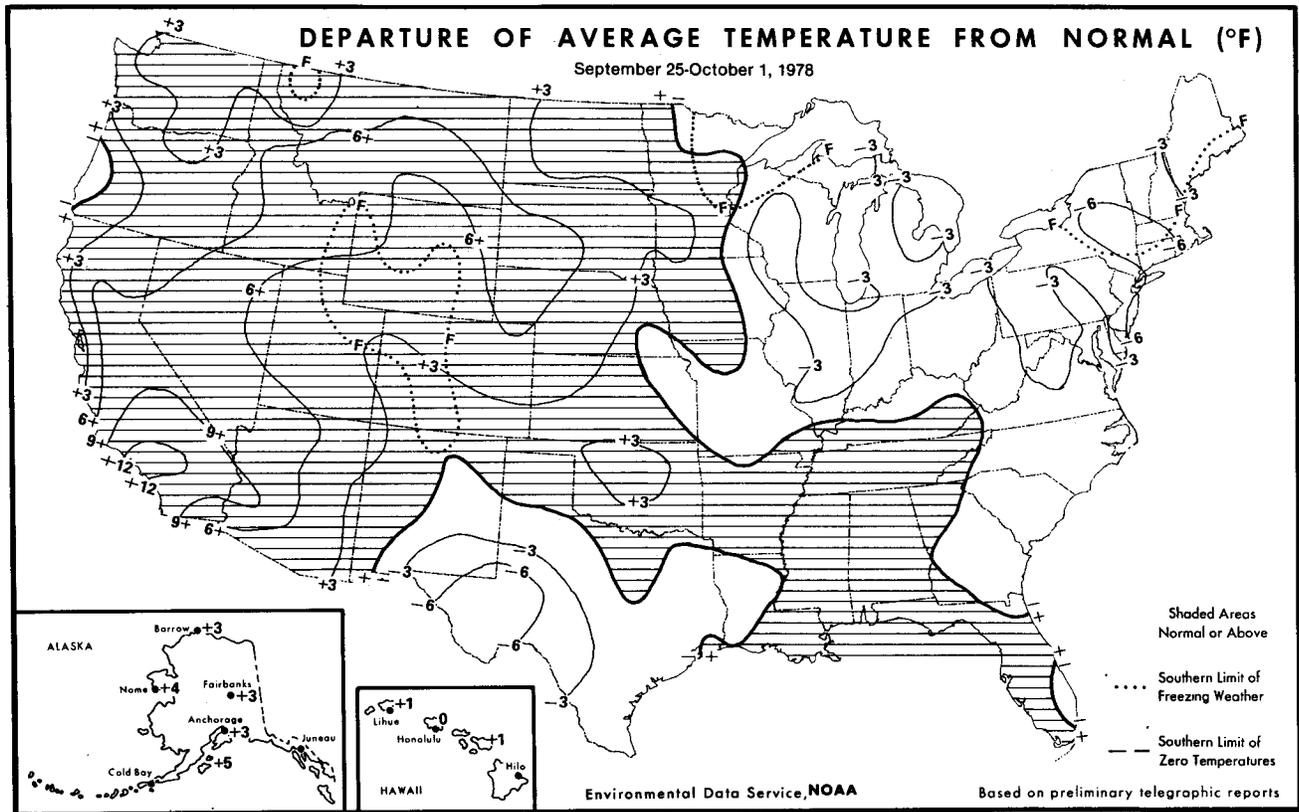
New Mexico where more than a foot fell in some isolated places. Rivers in the area topped bankfull. One-inch-plus rains extended to Kansas and across the South to Alabama.

The southern Pacific Coast sweltered under another hot day. Los Angeles hit a record-equaling 107° while San Diego raced past its old record by 5 to 101°.

Showers dampened southeastern New Mexico with another half-inch of rain early Tuesday. However, the most intense weather traveled eastward into Texas where the Pecos and Rio Grande Rivers overflowed after an accumulation of 6 to 8 inches from the past few days. Downpours also stretched across the Gulf States; a sampling showed more than an inch at New Orleans and Baton Rouge, 3.31 in. at McComb, Miss., and 1.75 in. at Pensacola, Fla.

Meantime the autumn chill covered the Northeast. A record low reading of 33° surprised Hartford, Conn.

On Wednesday, Texas's Rio Grande River continued to cause problems after rising well above flood



stage; parts of Pecos reported 3 feet of water in the streets.

Meantime heavy rains drenched the Deep South. Two and a quarter inches soaked Jackson, Miss., and Brunswick, southeastern Georgia, while Jacksonville, Fla., counted 4 inches producing localized flooding.

Once again cool weather covered the Northeast; Hartford, Conn., scored a record-equaling low of 30°.

Thursday stood as one of the calmest days in some time over most of the Nation. A few light showers fell in New England, the South, and Northwest. The heaviest accumulation was about a third of an inch at Boothville, La.

Cold air stretched from the Midwest to the upper Atlantic Coast. Heat persisted on the West Coast and in the Southwest. Las Vegas, Nev., at 103°, not only broke the old daily record but set a new high reading for so late in the year.

A slow-moving low pressure system edged into the upper Midwest and reached down to the Mississippi Valley on Friday. Quincy, western Illinois, received 1.58 in., and half-inch dousings dampened parts of Minnesota, Wisconsin, and Missouri.

In the South, heavy rains dumped 1.69 in. near Jacksonville, Fla., 1.08 in. at Pensacola, and a half inch on Savannah, Ga., and Boothville, La. The Rio Grande River stayed above flood stage in the lower valley.

Unseasonable heat again baked the Southwest; Las Vegas checked in with another record-breaker of 102°.

Substantial rains fell over the country's southeastern quadrant on Saturday sending an inch and more to Montgomery, Ala., and Florida's West Palm Beach and Tallahassee.

Further north, Lexington, Ky., collected 1.69 in. and three-quarters to one inch fell over Chattanooga, Cleveland, Akron, and Erie.

Another hot day in the Southwest pushed readings to record heights. For the third consecutive day, Las Vegas opened the books---this time to 101°. In Arizona, Phoenix, at 104°, and Winslow, at 90°, tied their high marks.

A cold front cut through the Atlantic Seaboard on Sunday bringing rain to most of the coast with heaviest amounts in the central portion.

One to 2 inches covered southeastern Virginia, stations in the Carolinas, and Maryland's Eastern Shore.

The Rio Grande River crested at Presidio, Southwest Texas, producing its second worst flood in history.

Though temperatures topped 100° in the Southwest, no records were reached. However, North Platte, central Nebraska, tied its high reading at 91°.



## National Agricultural Summary

September 25 - October 1

**HIGHLIGHTS:** Clear weather allowed small grain producers to virtually finish harvesting oats, barley, and spring wheat; Pacific Northwest growers need a few more clear days. Rains brought welcome moisture to parts of the Texas winter wheat area. Nationally, winter wheat seeding reached 48%, lagging 1977's 63% and the 58% average. Grain sorghum harvest in the 7 major producing States stood at 34%, equalling the average but 5 points less than last year. Cotton harvest in the 11 southern States reached 18%, falling between 1977's 22% and the 14% average. Dry soils defoliated plants early in the Southeast. Soybean combining advanced to 16%, ahead of 1977's 13% but short of the 17% average. Corn harvest moved well along in the southern States, and between 10 and 11% in the Corn Belt; the U.S. figure was 15%, lagging 1977's 21% but ahead of the 14% average. Frost posed no problem in the Corn Belt for either corn or soybeans.

**SMALL GRAINS:** Producers almost finished combining the 1977 small grain crop. Only the Pacific Northwest needed a few more days to wrap up the harvest.

Winter wheat seeding advanced 17 points for the week to reach 48%. Last year planting stood at 63% and on the average 58%. Texas rains improved germinating conditions; dry-sown stands emerged. States in the southern Great Plains most lagged last year. Oklahoma reached 30% and Texas 39%, compared with 58% and 57% respectively a year ago. In the northern Plains, seeding was well advanced. South Dakota reached 95%, short of last year's 100%, while Nebraska stood at 85%, equalling last year and average. Kansas reached 45%, 20 points off the 1977 pace.

Winter wheat seeding in the Corn Belt surged ahead of last year but less than the average. Pacific Northwest growers prepared seedbeds and planted winter wheat.

**CORN:** Corn continued to rate good, except poor to fair in the Southeast. Frosts did not damage the crop. Maturity was well advanced in all areas. Harvest in the U.S. stood at 15%, compared with 21% in 1977, and the 14% average.

In the eastern north central States, harvest reached 10%, an increase of 6 points for the week; last year progress stood at 11% and the average at 8%. Illinois made the most progress at 15%; Michigan and Wisconsin got started. At least 80% of the corn matured. Wisconsin reported some stalk rot and leaf blight.

In the western north central States, harvest reached 11%, also a 6-point increase for the week. Last year, harvest reached 21% and on the average 13%. From 53 to 96% of the corn reached maturity, slightly behind last year. Minnesota's corn dried rapidly with some moisture content as low as 20%. Stalk rot, ear droppage, and lodging occurred in some Iowa fields.

**SOYBEANS:** Soybeans in the eastern Corn Belt rated good. Matured beans ranged from 45 to 70%. Leaf shed ranged from 60% in Wisconsin to 90% in Illinois. Crop maturity lagged last year by only a few points. Wisconsin needed frost to kill plants in order to drop leaves and lower bean moisture.

In the western Corn Belt, mature beans ranged from a low 28% in Missouri to 84% in Iowa. Leaf shed ranged from 67% in Kansas to 90% in South

Dakota. In Minnesota, soybeans were dry, but wet stems and heavy dew slowed combining. In the Southeast, dry soils forced premature coloring and early leaf shed. Combining just got underway. In the south central States, harvest reached 10%, equalling last year and 1 point ahead of average. About 13 to 48% of the soybeans were mature.

**COTTON:** Cotton generally scored fair with some stands in poor condition in the Southeast. Drought stressed stands in South Carolina causing leaves to drop prematurely. Open bolls in the 11 southern States ranged from 55% in Oklahoma to 92% in South Carolina and Missouri. Cotton picking advanced to 18%, compared with 1977's 22% and the 14% average. Texas rains slowed cotton harvest in many areas. High Plains growers waited for a frost to defoliate plants.

Arizona producers defoliated and harvested fields. Growers applied frequent sprays to control insects. New Mexico bolls opened slowly; rains and wet fields slowed harvest. California defoliating increased.

**OTHER CROPS:** Grain sorghum harvest in the 7 major producing States reached 34%, lagging 1977's 39% but equal to the average. Harvest extended into South Dakota. In northern production areas, maturity ranged from 55 to 75%. Wet fields delayed Texas combining.

Maine's potatoes rated very good; 75% of the crop was harvested. Michigan producers dug 50% of their crop, equaling last year's average. Minnesota harvested 59%, lagging 1977's 67%. North Dakota's potato harvest moved along near normal. Idaho potato harvest reached 10% under favorable weather. California's summer potato harvest ended and the fall harvest began. High temperatures slowed the Washington harvest.

Rice harvests were essentially complete except in Arkansas, at 62%, and Mississippi, at 63%. California growers drained fields and suffered severe lodging. The Texas second crop harvest should begin soon.

**FRUITS AND NUTS:** Apple producers harvested fall varieties. Grape harvest expanded in northern areas. California growers moved some raisins to distillers; wine grapes had bunch rot problems. California growers picked a few late peaches and plums. Pacific Northwest producers picked winter pears.

Florida growers picked the first citrus for fresh pack but had not made any shipments. Cooler nighttime temperatures helped color break. Texas rains helped citrus size; some early fruit was harvested. California Navels sized well.

**VEGETABLES:** Summer vegetable harvests neared completion; fall harvests increased in northern production areas. Florida vegetable planting actively continued. Lower temperatures improved fruit set. Growers began harvesting a wide range of vegetable crops. Spraying and irrigating were active. Texas vegetable crops grew well following recent rains; some cabbage looper damage was evident. California harvested broccoli, cauliflower, celery, and lettuce; carrot and melon harvests slowed. Processing-tomato harvest declined.

**PASTURES AND LIVESTOCK:** Pastures rated fair to good in the north central States, the Northeast, and south central States. Some pastures in the Southeast were poor because of dry soils. In the West, ranges at lower elevations rated poor, and many areas need water for grass growth and cattle. Texas rains improved rangeland; however, some areas remained dry. Dry, warm conditions threatened new grass in California. Cattlemen continued to move herds from summer ranges.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Oct. 1, 1978

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 . . .	71	+ 1	.5	-.2	LA. Baton Rouge . . .	75	+ 1	1.1	+ .4	Youngstown . . .	56	-	1.0	+ .4
Mobile . . .	77	+ 2	.3	-.9	Lake Charles . . .	75	- 1	T	-.9	OKLA. Okla. City . . .	74	++	T	-.8
Montgomery . . .	73	+ 1	1.9	+ 1.0	New Orleans . . .	78	+ 3	1.7	+ .7	Tulsa . . .	63	++	T	- 1.0
ALASKA. Anchorage . . .	46	+ 3	.4	-.1	Shreveport . . .	73	- 1	T	-.7	OREG. Astoria . . .	70	++	T	-.6
Barrow . . .	28	+ 3	.5	+ .4	MAINE. Caribou . . .	48	- 2	.2	-.6	Burns . . .	59	++	T	-.1
Fairbanks . . .	41	+ 3	.5	+ .3	Portland . . .	53	- 2	T	-.7	Medford . . .	62	++	T	-.2
Juneau . . .	--	--	--	--	MD. Baltimore . . .	61	- 3	T	-.6	Pendleton . . .	62	++	T	-.2
Kodiak . . .	- 1	+ 5	-.2	- 1.3	MASS. Boston . . .	57	- 4	.7	0	Portland . . .	62	++	T	-.4
Nome . . .	41	+ 4	.1	-.3	Chatham . . .	55	0	0	-.1	Salem . . .	62	++	T	-.5
ARIZ. Flagstaff . . .	60	+ 6	T	-.4	MICH. Alpena . . .	51	- 2	1.0	+ .4	PA. Allentown . . .	57	- 1	1.4	+ .7
Phoenix . . .	88	+ 8	T	-.2	Detroit . . .	56	- 2	.2	-.3	Erie . . .	55	- 1	1.4	+ .6
Tucson . . .	82	+ 5	T	-.1	Flint . . .	55	- 2	.4	-.1	Harrisburg . . .	60	0	1.0	-.6
Winslow . . .	69	+ 4	T	-.1	Grand Rapids . . .	53	- 6	.4	-.3	Philadelphia . . .	61	0	1.1	-.5
Yuma . . .	89	+ 6	0	-.1	Houghton Lake . . .	50	- 3	.7	0	Pittsburgh . . .	57	- 1	1.3	-.3
ARK. Fort Smith . . .	71	+ 1	0	-.8	Lansing . . .	54	- 4	.3	0	Scranton . . .	54	- 6	T	-.7
Little Rock . . .	70	+ 1	0	-.8	Marquette . . .	53	- 4	.8	+ .1	R.I. Providence . . .	54	- 6	T	-.7
CALIF. Bakersfield . . .	83	+ 10	0	-.1	Muskegon . . .	54	- 4	.6	-.1	S.C. Charleston . . .	72	0	.3	-.7
Eureka . . .	58	+ 2	T	-.3	S. Ste. Marie . . .	48	- 4	2.5	+ 1.7	Columbia . . .	70	- 1	.8	-.4
Fresno . . .	79	+ 8	0	-.1	MINN. Duluth . . .	52	+ 1	.2	-.5	Greenville . . .	67	- 1	.8	0
Los Angeles . . .	84	+ 13	0	0	Internat Falls . . .	48	- 2	.2	-.4	S.D. Aberdeen . . .	59	+ 4	T	-.4
Red Bluff . . .	77	+ 5	0	-.1	Minneapolis . . .	59	+ 3	.1	-.4	Huron . . .	61	+ 5	T	-.3
San Diego . . .	79	+ 10	0	0	Rochester . . .	55	- 1	.5	-.1	Rapid City . . .	64	+ 8	T	-.3
San Francisco . . .	66	+ 2	0	-.1	St. Cloud . . .	54	0	.1	-.4	Sioux Falls . . .	60	+ 3	T	-.6
Stockton . . .	76	+ 7	0	-.1	MISS. Jackson . . .	72	0	2.5	+ 1.9	TENN. Chattanooga . . .	70	+ 2	.8	0
COLO. Denver . . .	64	+ 5	0	-.3	Meridian . . .	73	+ 0	.4	-.5	Knoxville . . .	72	+ 2	.4	-.2
Grand Junction . . .	65	+ 2	0	-.2	MO. Columbia . . .	65	0	.6	-.6	Memphis . . .	70	+ 2	.8	+.2
Pueblo . . .	65	+ 3	T	-.2	Kansas City . . .	65	0	.6	-.4	Nashville . . .	70	- 2	1.0	+.4
CONN. Bridgeport . . .	57	- 6	.1	-.5	St. Louis . . .	63	- 3	.2	-.4	TEX. Abilene . . .	67	+ 1	1.0	-.3
Hartford . . .	52	- 7	.1	-.6	Springfield . . .	64	- 1	.3	-.7	Amarillo . . .	74	- 2	.1	-.8
D.C. Washington . . .	65	- 2	T	-.6	MONT. Billings . . .	61	+ 6	T	-.3	Austin . . .	77	+ 1	2.1	+.9
FLA. Apalachicola . . .	76	0	1.7	+ .1	Glasgow . . .	57	+ 4	T	-.1	Beaumont . . .	79	+ 1	T	- 1.1
Daytona Beach . . .	79	+ 2	.7	-.9	Great Falls . . .	58	+ 5	T	-.2	Brownsville . . .	78	- 1	.2	-.8
Ft. Myers . . .	82	+ 2	1.1	- 1.7	Havre . . .	59	+ 8	T	-.2	Corpus Christi . . .	73	- 4	.5	-.2
Jacksonville . . .	75	- 1	1.6	0	Helena . . .	51	+ 2	T	-.2	Del Rio . . .	67	- 4	.9	+.7
Key West . . .	84	+ 2	T	- 1.7	Kalispell . . .	62	+ 2	T	-.3	El Paso . . .	74	0	.1	-.6
Lakeland . . .	--	--	--	--	Miles City . . .	51	+ 4	6.2	+ 3.3	Fort Worth . . .	77	- 1	T	- 1.1
Miami . . .	81	0	.5	- 1.7	Missoula . . .	54	+ 3	.1	-.1	Houston . . .	74	- 2	T	- 1.0
Orlando . . .	81	+ 3	.8	-.7	NEBR. Grand Island . . .	64	+ 4	T	-.5	Lubbock . . .	66	- 1	.6	0
Tallahassee . . .	76	+ 1	.9	-.4	Lincoln . . .	61	- 1	.1	-.5	Midland . . .	64	- 8	1.0	+.6
Tampa . . .	80	+ 1	.2	-.9	Norfolk . . .	64	+ 5	T	-.5	San Angelo . . .	68	- 5	.5	-.1
W. Palm Beach . . .	79	- 1	1.8	-.6	N. Platte . . .	63	+ 5	0	-.4	San Antonio . . .	73	- 3	.1	-.7
GA. Atlanta . . .	70	+ 1	.2	-.5	Omaha . . .	62	+ 1	.1	-.5	Victoria . . .	75	- 2	T	- 1.1
Augusta . . .	68	- 3	.1	-.6	Valentine . . .	63	+ 6	.1	-.2	Waco . . .	75	0	.1	-.6
Macon . . .	71	- 1	.1	-.6	NEV. Ely . . .	59	+ 8	0	0	Wichita Falls . . .	73	0	1.5	+.8
Savannah . . .	72	- 1	1.0	-.1	Las Vegas . . .	84	+ 8	0	0	UTAH. Blanding . . .	64	+ 5	0	-.3
HAWAII. Hilo . . .	76	+ 1	.3	- 1.5	Reno . . .	63	+ 6	0	-.1	Salt Lake City . . .	65	+ 5	0	-.2
Honolulu . . .	80	0	0	-.2	Winnemucca . . .	61	+ 6	0	-.1	VT. Burlington . . .	51	- 4	.3	-.3
Kahului . . .	79	+ 1	0	-.1	N. H. Concord . . .	51	- 5	T	-.7	VA. Lynchburg . . .	63	- 1	T	-.7
Lihue . . .	79	+ 1	T	-.5	N. J. Atlantic City . . .	56	- 7	.2	-.4	Norfolk . . .	66	- 2	1.0	+.2
IDAHO. Boise . . .	64	+ 5	0	-.1	Trenton . . .	58	- 1	.1	-.5	Richmond . . .	65	- 1	.9	+.2
Lewiston . . .	64	+ 5	T	-.2	N. MEX. Albuquerque . . .	67	- 3	1.0	+.6	Roanoke . . .	62	- 2	T	-.8
Pocatello . . .	61	+ 6	0	-.1	Roswell . . .	63	- 3	T	-.7	WASH. Colville . . .	54	0	T	-.2
ILL. Cairo . . .	69	+ 1	.2	-.5	N. Y. Albany . . .	51	- 7	T	-.7	Omak . . .	59	+ 2	.1	0
Chicago . . .	60	- 2	.2	-.5	Binghamton . . .	52	- 4	T	-.7	Quillayute . . .	59	+ 4	.9	-.9
Moline . . .	58	- 3	T	-.9	Buffalo . . .	55	- 3	.4	-.3	Seattle-Tacoma . . .	59	+ 2	.1	-.5
Peoria . . .	59	- 3	.5	-.3	New York . . .	60	- 4	.1	-.5	Spokane . . .	58	+ 3	T	-.2
Rockford . . .	57	- 2	.1	-.8	Rochester . . .	56	- 3	.1	-.5	Walla Walla . . .	65	+ 3	T	-.3
Springfield . . .	62	- 1	.3	-.5	Syracuse . . .	53	- 6	.1	-.5	Yakima . . .	60	+ 3	T	-.1
IND. Evansville . . .	63	- 2	.6	0	N. C. Asheville . . .	63	0	.4	+.4	W. VA. Beckley . . .	58	- 1	T	-.7
Ft. Wayne . . .	58	- 3	.2	-.4	Charlotte . . .	66	- 2	.9	+.2	Charleston . . .	62	- 2	.3	-.3
Indianapolis . . .	60	- 3	.2	-.5	Greensboro . . .	64	- 2	1.1	+ .3	Huntington . . .	64	0	.8	-.1
South Bend . . .	58	- 2	.2	-.5	Hatteras . . .	70	- 1	2.4	+ 1.2	Parkersburg . . .	62	- 2	.4	-.2
IOWA. Burlington . . .	62	0	.1	-.7	Raleigh . . .	65	- 2	1.2	+.4	WISC. Green Bay . . .	53	- 2	.6	-.1
Des Moines . . .	62	+ 1	.3	-.3	Wilmington . . .	71	0	.8	-.3	La Crosse . . .	54	- 4	.8	+.1
Dubuque . . .	55	- 3	T	-.9	N. DAK. Bismarck . . .	54	+ 1	T	-.2	Madison . . .	53	- 3	T	-.7
Sioux City . . .	61	+ 1	.1	-.6	Fargo . . .	56	+ 2	T	-.4	Milwaukee . . .	57	0	.1	-.5
KANS. Concordia . . .	64	+ 1	T	-.6	Williston . . .	56	+ 4	T	-.2	WYO. Casper . . .	59	+ 5	0	-.2
Dodge City . . .	67	+ 2	1.3	+.9	OHIO. Akron-Canton . . .	62	- 2	1.2	+.6	Cheyenne . . .	58	+ 4	0	-.2
Goodland . . .	65	+ 5	.1	-.2	Cincinnati . . .	60	0	1.2	+.6	Lander . . .	60	+ 6	0	-.3
Topeka . . .	63	- 1	.2	-.5	Cleveland . . .	60	- 1	.8	+.3	Sheridan . . .	58	+ 4	T	-.3
Wichita . . .	68	+ 2	.1	-.7	Columbus . . .	60	- 2	.2	-.3	P.R. San Juan . . .	84	+ 3	.5	-.9
KY. Lexington . . .	63	- 2	1.8	+ 1.3	Dayton . . .	60	- 2	.2	-.3					
Louisville . . .	66	+ 1	.5	-.1	Toledo . . .	56	- 4	.2	-.3					

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 ESCS State offices in cooperation with the National Weather Service.

**ALABAMA:** Temperatures 2° above normal. Rainfall occurred most areas.

Soil moisture short. Fieldwork: 5.1 days suitable. Cotton 18% harvested, 23% 1977, 7% average. Corn 64% harvested, 65% 1977, 40% average. Soybeans fair condition; 37% harvested, 30% 1977, 34% average. Peanuts 42% combined, 26% 1977, 54% average. Wheat seedings 27% complete. Pastures fair condition.

**ALASKA:** Temperatures near normal; lows near or below freezing. Precipitation below normal.

Sunshine helped small grain combining and hay baling Matanuska Valley, showers limited activities in Tanana Valley. Potato digging virtually completed. Soil moisture mostly adequate to surplus. Livestock going into winter in good condition.

**ARIZONA:** Temperatures 3 to 6° above normal. Limited precipitation Mogollon Rim, White Mountains.

Defoliation, cotton harvest continued large scale central, west. Insects very active, controls applied regular basis. Sorghum harvest active, all later plantings nearing maturity. Corn for grain harvest underway southeast. Sugarbeet harvest expected shortly. Alfalfa growth, swathing still underway. Lettuce harvest underway Cochise County. Lettuce central, west good stand; weeding, thinning active. Melons fall harvest good progress. Preparations, planting mixed vegetables well advanced. Lemon harvest increasing volume Yuma area. Early variety oranges, some tangerine-types showing color break. Groves good condition, new crop prospects good, especially lemons. Ranges higher location spotty rain, soil moisture, stock tanks short. Lower elevations very dry; supplemental feeding, water hauling required. Cattle, calves mostly fair to good condition.

**ARKANSAS:** Highest normal 73°, lowest normal 66°; highest mean 75°, lowest mean 63°; highest temperature 89°, lowest temperature 42°. Most precipitation 0.11 in.

Crop harvesting increased. Fall pastures and small grain seedings active. Soil moisture short to adequate. Fieldwork: 6.3 days available. Soybeans fair condition; harvest 3%, 4% last year and average. Cotton condition fair; open bolls 76%; harvest 12%, 24% last season, 13% average. Rice fair to good condition; 62% harvested, 61% last year, 55% average. Corn harvest 37%, 79% 1977, 63% average. Sorghum 84% harvested, 74% 1977, 76% average. Wheat plantings 21%, 15% 1977, 17% average. Oat seeding 43%, 14% 1977, 22% average. Apples good quality. Pecans good to excellent condition. Pastures average condition; west central and southwest below average condition. Fall seeding and fertilizer applications active. Hay harvest active, quality fair to good. Beef cattle gains improved.

**CALIFORNIA:** Temperatures as much as 15° above seasonal normal; most areas reported 100° or slightly higher temperatures more than one day. Largest departure above normal was south coast. Overnight temperatures cooled markedly in dry air. No precipitation.

Harvest field corn begun Sacramento Valley. Silage corn cutting nearing peak. Digging sugarbeets. Kidney bean harvest picking up. Cotton defoliation activity increasing. Draining rice fields; severe lodging exists, harvest continues

slow. Alfalfa hay cut, baled. Land preparation fall planting. Grain sorghum maturing rapidly. Planting oats. Seed alfalfa over 50% complete. Soybeans making excellent growth. Apples, few late peaches, plums picked. Fig salvage operations continued. Raisins picked up, some movement to distillers. Table varieties picked. Bunch rot problems in wine grapes. Navel oranges sized well. Almond harvest peaked. Walnut harvest full swing. Broccoli, cauliflower, celery, lettuce continue active. Carrots slow. Cantaloups, honeydew slowing Westside. Summer potatoes slowing, fall potatoes beginning. Sweetpotato full swing. Fresh market tomatoes, bell peppers continue. Processing tomatoes winding down. Hot weather caused drop milk, egg production. Dry, warm conditions threaten new grass. Calving continues San Joaquin Valley, beginning Sacramento Valley. Movement from summer ranges continues. Sheep grazing grain, alfalfa fields continues.

**COLORADO:** Warm and dry except for light rain in southeast 24th and 25th. Temperatures above seasonal norms.

Winter wheat seeded 88%, 88% 1977, 86% average, emerged 60%, 71% 1977, 60% average. Summer potatoes harvested 81%. Corn mature 65%, 91% 1977, 81% average; cut for silage 94%, 95% 1977, 86% average; cut for grain 5%, 27% 1977, 7% average. Dry beans cut 94%, 100% 1977, 87% average; threshed 80%, 81% 1977, 52% average. Sorghum ripe 44%, 74% 1977; harvested 2%, 8% 1977, 2% average. Ranges and pastures poor condition; livestock good condition.

**FLORIDA:** Periods of cloudiness, increased precipitation north, central areas. Precipitation averaged 0.50 to 1.50 in. with isolated amounts to near 4.00 in. few upper east coast areas. South remained warm, humid with slightly above normal temperatures, near normal precipitation.

Soil moisture adequate south and central, short north and scattered areas of the west. Peanut harvest full swing, soybean harvest beginning, corn and hay harvest nearing completion. Sugarcane good condition, cutting for seed continues. Pecan prospects declining due to dry weather. Land preparation and planting of small grains underway. Pastures Panhandle, northern Peninsula mostly poor to fair; good to excellent elsewhere. Liming, fertilizing continue active. Cattle, calves generally good condition. First harvest of citrus for fresh packing began last week of September, but shipments not yet underway. Cooler nighttime temperatures aided color break. Vegetable plantings continue very active. Cooler weather very beneficial as fruit set improved. Harvest increasing sweet corn, eggplant, pole beans, squash, okra, cucumbers, Gadsden County tomatoes. Light harvest snap beans, tomatoes underway Pompano area. Spray programs active, irrigation steady. Plastic mulch being laid in preparation strawberry transplanting early October.

**GEORGIA:** Temperatures 1 to 3° above normal except near normal east; averages from mid-60's mountains and low 70's north to upper 70's southwest. Rainfall generally light; less than 0.25 in. with isolated spots in excess of 1.00 in. extreme north-east and lower coast.

Soil moisture very short. Soybean growth and small grain planting slowed by dry soils. Corn poor to fair; 77% harvested, 73% last year, 44% average. Peanuts fair to good; 81% dug, 72% threshed, last year 50% dug, 39% threshed, average 72% dug, 60% threshed. Soybeans poor to fair, down slightly from last week; 3% combined, 1% last year and average, moisture stress continues. Cotton fair, down slightly from last week; 78% open, 68% last year. Apples fair to good, up slightly from last week; 88% picked, 77% last year. Pecans fair to good; 1% harvested, same last year and average. Hay crops poor to fair, down from last week. Small grain seeding: Wheat 7%, rye 7%, other small grain 6%; last year 11%, 14%, 15%, respectively.

HAWAII: Weather favorable. Rainfall light; mainly windward areas.

Irrigation heavy leeward sections. Diseases continue semi-head lettuce, Oahu. Vegetable supplies heavy. Sugar harvesting steady. Pine-apple harvesting slow, fall planting in progress. Pastures generally good.

IDAHO: Temperatures 3 to 9° above normal. Extremes: 92 and 30°. Precipitation limited to north and ranged from 0.02 to 0.11 in.

Harvests active as favorable weather prevailed. Winter wheat 95% harvested, complete last year. Spring wheat 90% harvested, last year complete, normal 95%. Barley 90% harvested. Potato harvest 10% complete. Apples 10% picked. Range feed adequate most areas but drying due to recent frosts.

ILLINOIS: Temperatures 1 to 3° below normal. Precipitation light north and south; 0.25 to 0.50 in central.

Corn 15% harvested, 1977 17%, average 14%. Soybeans 90% shedding leaves, 1977 95%, average 94%; combining 35% complete, 1977 20%, average 39%. Winter wheat acreage 16% seeded, 1977 11%, average 18%. Grain sorghum harvest beginning south. Pasture conditions good to fair. Fieldwork: 6.8 days suitable. Soil moisture short to adequate.

INDIANA: Showers light, about 0.50 in. south, and 0.10 to 0.20 in. elsewhere. Slightly below normal temperatures ranged from high 30's to low 80's. Sunshine 81% of possible. September rainfall only 0.50 to 1.00 in.

Fieldwork averaged 7 days. Topsoil and subsoil moisture short to mostly adequate. Corn 10% harvested, 1977 10%, average 5%; 80% mature, average 75%. Soybeans 15% harvested, 1977 10%, average 15%; 45% mature, 1977 60%, average 65%. Wheat land 55% plowed, 1977 50%, average 75%. Wheat 20% seeded, 1977 10%, average 25%. Fall potatoes 45% harvested. Tobacco 90% harvested, 1977 90%, average 70%.

IOWA: Mild, dry. First 32° readings reported on 28th.

Fieldwork: 6.3 days suitable. Topsoil and subsoil moisture adequate. Corn very good condition; harvested 12%, 20% 1977, 9% normal. Stalk rot, ear droppage and lodging occurring in corn. Soybeans good condition; leaves shedding 89%, 100% 1977, 92% normal; mature 84%, 100% 1977, 87% normal; harvested 21%, 25% 1977, 21% normal. Pasture good condition, improved. Livestock good condition, market movement steady.

KANSAS: Beneficial rain southwest early week; spotty showers east end of week. Averages range

less than 0.10 in. northwest to 0.50 in. southeast and 1.15 in. southwest.

Harvesting and wheat seeding pace increased. Wheat seeded 45%, last year 65%, average 50%. Corn mature 85%, last year 90%, average 80%; harvested 30%, last year 30%, average 20%. Sorghum grain mature 55%, last year 60%, average 40%; harvested 15%, last year 15%, average 10%. Soybeans harvested 5%, last year 5%, average 5%; 67% soybean acreage shedding leaves. New alfalfa seeding completed 90%, same last year and average. Fourth cutting alfalfa 65% completed, last year 60%, average 50%. Fieldwork: 5.5 days suitable.

KENTUCKY: Dry and beautiful; welcome showers at end of week---0.50 to 0.75 in. Temperatures just a little above normal.

Soil moisture short. Tobacco still in field 12%, harvesting 10 days to 2 weeks later than normal despite ideal weather. Houseburn in 19% of housed burley, 75% light, 25% moderate. Percent and severity of houseburn less than 1977. Corn harvest 26% complete, last year 32%, average 20%. Corn yields highly variable especially in west depending on planting date and showers. Soybeans 7% harvested, last year 8%; 35% shedding leaves, 35% turning yellow and 23% leaves entirely green. Fall wheat seeding 14% complete.

LOUISIANA: Temperatures 1 to 2° above normal. Extremes: 90 and 56°. Scattered light showers.

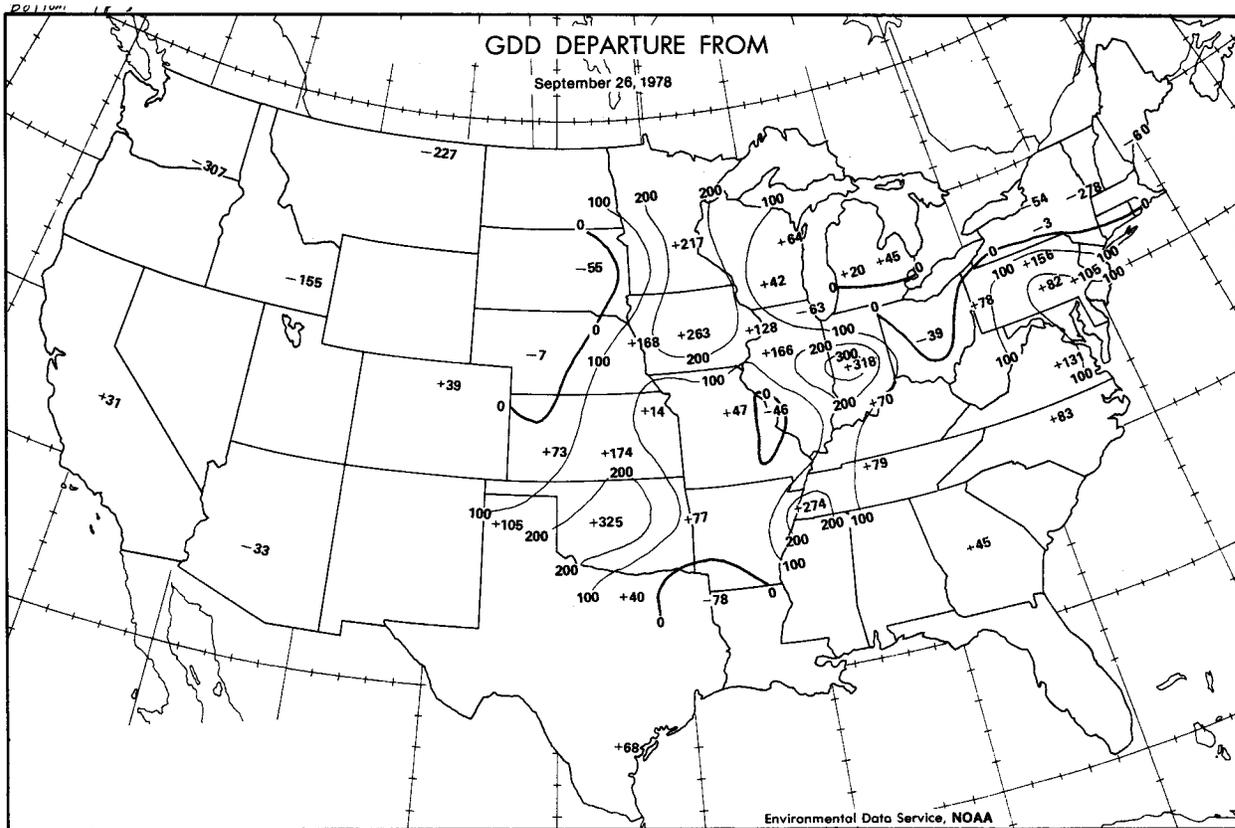
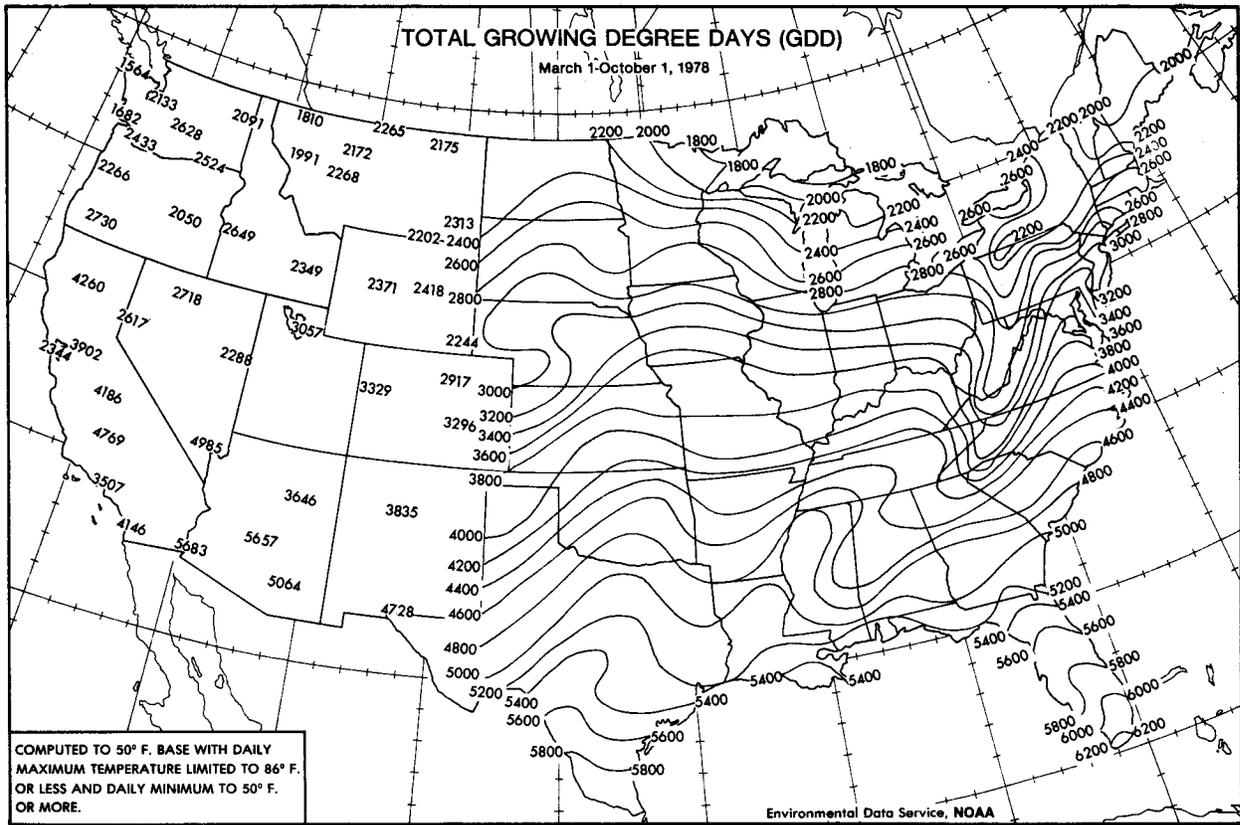
Fieldwork: 4.3 days suitable. Soil moisture adequate to surplus. Cotton fair; 77% bolls open, 73% last year, 56% average; 14% harvested, 13% last year, 7% average. Rice 93% harvested, 91% last year, 90% average. Soybeans fair to good; 70% leaves turning, 57% last year; 11% harvested, 14% last year, 11% average. Corn 91% harvested, 83% last year, 75% average. Sorghum 96% ripe, 94% last year; 70% harvested, 69% last year, 62% average. Sweetpotato 63% dug, 56% last year, 55% average. Sugarcane fair to good; 45% planted, 23% last year. Wheat and oats 37% planted. Pasture, hay fair to good. Cattle good.

MARYLAND & DELAWARE: Temperatures 4° below normal. Highs in low 70's, lows in upper 40's. Precipitation light, mostly less than 0.25 in.

Fieldwork: 7 days suitable. Topsoil moisture short, subsoil supplies short to adequate. Pastures supplying below average to average amounts of feed. Corn for silage 90% harvested, 90% 1977, 84% average. Corn for grain 35% harvested, 62% 1977, 42% average. Soybeans 70% yellowed, 60% 1977; 40% shed leaves, 28% 1977, 32% average. Tobacco 95% harvested, 96% 1977. Curing weather very good. Fall apple harvest reaching peak. Seeding small grains active.

MICHIGAN: Temperatures dipping into 30's and upper 20's during midweek nights, with pockets of frost statewide. Daytime highs in 70's. Above normal precipitation over Upper and northern Lower, near normal central Lower, slightly below southern Lower.

Fieldwork: 5 days suitable. Soil moisture mostly adequate. Pasture feed supplies adequate. Grain corn harvest less than 5%, same last year and normal. Corn silage 60% chopped, 50% last fall, 60% normal. Winter wheat 40% planted, 25% last year, 50% normal. Dry beans 75% harvested, 20% last year, 65% normal. Soybeans less than 5% harvested, close to last year and normal. Potatoes 50% dug, same as last year and normal. Sugarbeet digging just getting started. Third cut hay 80% complete, 55% last year, 60% normal. Apples: 75% McIntosh picked, 20% Jonathans and Delicious.



Cabbage and carrots 80% harvested. Celery harvest 90% complete.

MINNESOTA: Temperatures 5 to 7° above normal west central and near normal elsewhere. Extremes: 86 and 30°. Precipitation 0.40 to 0.60 in. below normal except extreme northwest and normal to 0.50 in. above normal southeast. Precipitation less than 0.30 in. except 0.30 to 1.17 in. southeast and 0.30 to 0.55 in. extreme northwest.

Soybean, sunflower combining well underway; corn picking gaining momentum. Corn drying rapidly, some fields 20% moisture. Soybeans dry but wet stems, heavy dews slowing harvest pace. Topsoil moisture mostly adequate. Fieldwork resumed in north and east. Corn 88% mature, 1977 99%, normal 88%; picked 8%, 1977 25%, normal 13%. Soybeans 83% mature, 1977 90%, normal 88%; combined 27%, 1977 20%, normal 36%. Sunflowers 33% combined, 1977 33%, normal 25%. Flax 83% combined, 1977 81%, normal 86%. Sugarbeets 14% lifted, 1977 8%, normal 10%. Potatoes 59% dug, 1977 67%, normal 63%. Seeded: Winter wheat 91%, 1977 89%, normal 91%; rye 87%, 1977 86%, normal 88%.

MISSISSIPPI: Temperatures slightly subnormal north; 2° above normal elsewhere. Extremes: 48 and 95°. Showers mid and late week.

Soil moisture short north central and east; mostly adequate elsewhere. Fieldwork: 4.6 days suitable. Harvest progress good despite showers. Soybeans 66% shedding, 76% 1977; 33% mature, 39% 1977, 23% average; 12% harvested, 13% 1977, 8% average. Cotton 94% open bolls, 96% 1977, 59% average; 20% harvested, 29% 1977, 10% average. Corn 64% harvested, 53% 1977, 32% average. Rice 63% harvested, 69% 1977, 41% average. Sorghum 70% harvested, 62% 1977, 54% average. Hay crops 90% harvested, 85% 1977, 85% average. Winter wheat 33% planted, 33% 1977. Soybeans fair to good condition. Cotton fair condition. Pastures and pecans mostly fair condition.

MISSOURI: Temperatures 1 to 2° above normal with considerable sunshine all areas.

Fieldwork: 6.1 days suitable. Soybeans 77% turning color, last year 82%; 28% mature, last year and normal 45%; 7% harvested, last year 8%, normal 10%. Corn 94% dented, last year and normal 100%; 53% mature, last year 89%, normal 91%; 23% harvested, last year 35%, normal 26%. Grain sorghum 68% mature, last year 81%, normal 69%; 30% harvested, last year 40%, normal 19%. Winter wheat seeding 17% complete, last year 11%. Plowing for spring planted crops 6% complete, last year 7%. Cotton 92% with open bolls, last year 99%, normal 42%. Cotton 16% harvested, last year 13%, normal 9%. Pastures mostly fair to good. Soil moisture mostly short to adequate.

MONTANA: Temperatures began unseasonably warm with considerable cooling late week. Nights cool with general freezing west and southwest. Temperatures 2 to 5° above normal; precipitation light with no significant amounts.

Soil moisture adequate. Fieldwork: 5.5 days suitable. Harvest progress: Spring wheat 90%, normal 95%; oats 90%, normal 95%; barley 85%, normal 95%; potatoes 25%; normal 20%; dry beans 55%, normal 55%; corn silage 55%, normal 75%; second cutting alfalfa 85%, normal 95%. Winter wheat seeded 70%, normal 80%, germination good. Cattle moved to winter ranges 25%, sheep moved 30%, normal 45% for both.

NEBRASKA: Temperatures 1 to 8° above normal. Precipitation up to 0.10 in. southeast.

Corn mature 85%; year ago 90%; normal 90%; harvested 5%; year ago 15%; normal 15%. Sorghum ripe 75%; year ago 75%; normal 80%; harvested 10%; year ago 25%; normal 20%. Soybean leaves shedding 80%; year ago 80%; normal 80%; harvested 10%; year ago 15%; normal 15%. Wheat seeded 85%; year ago 85%; normal 85%. Fieldwork: 6.7 days suitable.

NEVADA: Warm and dry; temperatures 6 to 10° above normal. Extremes: 103 and 27°. No precipitation.

Dry weather favored alfalfa seed and last cuttings alfalfa hay. Potato digging gaining momentum. Livestock moving off summer ranges.

NEW ENGLAND: Maximum and minimum temperatures generally within 5 to 10° of normal. Quite dry with a few widely scattered light showers in north on 25th and over most areas 27th and 28th. Significant rainfall occurred 1st when amounts of generally 0.10 to 0.20 in. measured.

Potato harvest 75% complete. Tuber quality very good. Corn silage harvest 60% completed. Some late hay cuttings being made. McIntosh apples being picked. Harvest weather excellent for all crops. Cranberry harvest going well. Excellent color, average size. Most areas have received killing frosts.

NEW JERSEY: Cold with frost in central and north 27th, 29th, and 30th. Temperatures 6° below normal. Extremes: 26 and 78°. Rainfall averaged 0.09 in. north, 0.27 in. central and 0.23 in. south.

Fieldwork: 7 days suitable. Showers beneficial, some areas in south still dry. Fall vegetables harvest increasing. Harvest of summer vegetable crops nearing completion. Irish potato harvest continues as soil conditions permit. Sweetpotato harvest becoming general. Apple harvest active. Cranberry harvest general, color still not good on some bogs. Harvest of corn for grain increasing slowly. Corn silage making continues active. Soybeans maturing. Grain and cover crop seeding continues. Pasture growth good.

NEW MEXICO: Cool and wet beginning with heavy rains southeast and light to moderate elsewhere except northwest plateau. Drying and warming beginning 27th continuing through weekend.

Early week rains southeast continued restricting field activity. Weather not favorable for maturing cotton; opening slowly, very little harvested due wet fields. Rains stopped most alfalfa harvest. Some grain sorghum being cut for both silage and grain. Corn silage harvest winding down, a little grain cut. Most winter grains planted and up. Lettuce, chile, and apple harvests underway. Peanut harvest will probably start this week. Livestock good. Many ranges received moisture, but need warm weather to help winter pastures.

NEW YORK: Temperatures, rainfall below normal. Frost in many areas. Corn silage 45% harvested, 25% 1977. Grain corn harvest started. Third cutting alfalfa 60% in. Onion harvest nearly done Orange, Oswego Counties. Lettuce harvest nearly finished. Celery harvest continues. Tomato, sweet corn harvest finishing up. L.I. cauliflower harvest underway. Good progress in potato harvesting. Soft variety apple harvest ending, hard varieties starting; good quality on apples. Grape harvest 25% complete, good quality. Harvest of ripe Concord just starting.

NORTH CAROLINA: Temperatures near normal. Precipitation light first of week; widespread weekend.

Fieldwork: 6.4 days suitable. Soil moisture very short to short. Condition of soybeans, cotton, peanuts, and pasture fair to good; corn, sorghum, sweetpotatoes and apples fair to mostly good. Harvested: Burley tobacco 85%, 1977 90%; peanuts dug 18%, 1977 27%, average 27%; peanuts threshed 11%, 1977 20%, average 18%; sweetpotatoes 51%, 1977 38%, average 33%; corn for grain 65%, 1977 73%, average 63%; corn for silage 87%, 1977 90%; cotton 5%, 1977 9%, average 4%; apples 70%, 1977 50%, average 58%. Planted: Wheat just underway.

**NORTH DAKOTA:** Dry weather prevailed. Precipitation spotty and occurred mainly as sprinkles. Largest amount 0.07 in. north central. Week began warm with afternoon temperatures in 70's and lower 80's, but by 27th frost widespread. Temperatures averaged 2 to 5° above normal and extremes ranged from 29 to 85°.

Small grain harvest virtually completed as good harvesting conditions prevailed. Row crop harvest well underway with sunflower harvest ahead of normal and last year. Potato harvest moving along smoothly and near normal schedule. Farmers concerned about storage of sunflowers and continuing blackbird problem.

**OHIO:** Temperatures 3° below normal. Rainfall weekend; amounts variable with totals under 0.50 in.

Main activities: Chopping silage, shelling seed corn, fall plowing, fall seeding small grain, combining corn and soybeans, potato digging and picking apples. Cool weather colored apples and increased brix count of grapes. Corn mature 80%, 85% 1977, 80% average; harvested 10%, 10% 1977, 10% average. Soybeans mature 70%, 70% 1977, 65% average; harvested 15%, 15% 1977, 15% average. Apples harvested 40%, 40% 1977. Wheat planted 30%, 25% 1977, 30% average. Fieldwork: 7 days favorable. Pasture condition poor to good. Soil moisture short to adequate.

**OKLAHOMA:** Temperatures 1 to 4° below normal north and 1 to 2° below normal south. Rainfall averaged from 0.20 in. south central to 0.46 in. southwest.

Topsoil and subsoil moisture supplies short east, adequate west. Wheat seeding 30% complete, 58% 1977, 44% normal. Planting conditions good at present. Sorghum rated fair with 7% harvested, 12% 1977, 15% normal. High nitrate levels reported in forage sorghums. Cotton rated fair to poor with 55% open bolls 1978 and 1977, 38% normal. Peanuts fair to poor with 36% mature, 59% 1977, 52% normal. Peanut harvest begun in south. Soybeans rated poor with 48% mature, 56% 1977, 32% normal. Livestock rated good to fair. Fieldwork: 5.7 days suitable.

**OREGON:** Rainfall light over interior and ranged from 0.25 to 1.00 in. along coast. Warming trend brought temperatures to 5° above normal. Extremes: mid-80's, mid-40's west; high 80's low 30's east.

Soil moisture adequate. Grain harvest resumed. Spring grain nearly complete west and at various stages of completion east. Seedbed preparation and seeding statewide. Red clover harvest continues. Third and fourth cutting hay being made. Winter pear harvest in final stages, apples are underway. Fall sprays going on berries. Vegetable harvests continue for sweet corn, carrots, beets, potatoes and onions.

**PENNSYLVANIA:** Cool and dry; temperatures 2 to 6° below normal. Frost and freezing several mornings. Extremes: 82 and 24°. Few scattered showers and thunderstorms 27th and weekend brought 0.20 to 1.40 in. extreme west.

Fieldwork: 6 days suitable. Soil moisture adequate. Activities: Filling silos; fall plowing; making hay; planting wheat, barley, alfalfa; digging potatoes; cutting tobacco; harvesting apples, grapes, cabbage, tomatoes. Soybeans 17% harvested, last year 38%. Tobacco all cut, same as last year. Potatoes 72% dug, last year 65%. Corn 32% mature, last year 40%. Ensilage corn 45% cut, last year 54%. Plowing 73%, same as 1977. Barley 74% sown, last year 60%. Wheat 49% sown, last year 38%. Alfalfa third cut 80%, fourth cut 31%, last year fourth cut 40%. Clo-tim second cut 94%. Feed from pastures average.

**PUERTO RICO:** Island rainfall 2.21 in. or 0.38 in. above normal. Temperatures about 81° on coasts and 76° interior. Extremes: 95 and 60°.

**SOUTH CAROLINA:** About normal temperatures, coolest near weekend. General rainfall 29th and 30th, mostly less than 0.50 in.

Soil moisture short to very short. Fieldwork: 6 days suitable. Corn 85% harvested, 90% last year, 70% average; dry weather speeding harvest. Cotton defoliating rapidly due to dry stress, some top bolls lost; 92% open bolls, 94% last year, 72% average; 17% harvested, 16% last year, 7% average; dry weather aiding harvest. Soybeans fair condition, some leaves prematurely turning color, shedding due recent dry conditions; 24% shedding leaves, 19% last year and average; 4% mature, 8% last year; harvest begun. Apples 84% harvested, 86% last year, 81% average; only winter varieties remain. Peanuts stressed by recent dry weather, 30% harvested, 44% last year, 45% average; some stopped digging because too dry. Fall vegetable conditions fair, cucumber harvest underway along coast.

**SOUTH DAKOTA:** Temperatures above normal. Extremes: 30 and 94°. Rainfall very light and spotty.

Early fall seedings up and good. Later seedings need moisture. Row crop harvest beginning. Topsoil moisture adequate east. Fieldwork: 6.2 days suitable. Winter wheat 95% seeded, 1977 100%, normal 99%. Rye 95% seeded, 1977 100%, normal 100%. Corn 96% mature, 1977 100%, normal 100%; 5% harvested 1977 8%, normal 11%. Soybeans 90% shedding leaves, 1977 94%, normal 100%; 7% harvested, 1977 11%, normal 22%. Grain sorghum 10% harvested, 1977 8%, normal 20%. Sunflowers 6% harvested, 1977 7%.

**TENNESSEE:** Rain over weekend; amounts generally less than 1.00 in. Temperatures 1 to 3° above normal.

Fieldwork: 5.8 days suitable. Soil moisture short. Pastures poor. Cattle on supplemental feed. Corn 90% mature, 1977 88%, average 83%; 34% harvested, 1977 30%, average 21%. Cotton open bolls 80%, 1977 83%, average 44%; harvested 23%, 1977 29%, average 11%. Soybeans 13% mature, 1977 17%, average 11%; harvested 2%, 1977 3%, average 2%. Burley tobacco harvested 94%, 1977 98%, average 95%; burley stripped 12%, 1977 23%, average 9%. Fall plowing completed 57%, 1977 66%, average 66%. Wheat seeded 25%, 1977 38%, average 31%. Oats seeded 42%, 1977 59%, average 55%.

**TEXAS:** Scattered thundershowers, rain; rainfall above normal in west, southwest, western areas of north central; below normal in east, south central, southeast. Normals range from 0.25 to 0.50 in. across northwest half; 1.00 in. lower Rio Grande Valley; 0.50 to 1.00 in. across remainder. Temperatures 1 to 9° below normal across eastern third and Panhandle; near normal in Trans-Pecos; north central, lower coastal regions.

Rains slowed field operations; cotton, corn, grain sorghum, peanut harvests delayed. Small grain land preparations and planting active as weather permitted. Cotton harvest slowed by recent rains; many producers waiting for dry fields before resuming harvest; 20% harvested, 23% last year, average 18%. Very small percentage of crop on southern High Plains defoliated, stripped; most producers waiting on first frost before beginning harvest operations. Grain sorghum harvest delayed due to wet fields on High Plains; crop 71% harvested, 73% last year, 68% average. Fields on northern High Plains making good progress; some early planted fields ready for harvest. Corn harvest on High Plains slowed by wet conditions. Some high moisture corn harvested for feedlot use. Corn lodging, resulting from wind and rain, caused harvest problems; 57% harvested, 76% last year, 61% average. Peanut harvest 26% complete, 33% last year, 47% average. Harvest operations getting underway in Cross-Timbers and Blacklands; rain needed to make digging easier. Soybeans fair to good progress; few early fields along upper Gulf Coast and on High Plains harvested. Most fields approaching maturity with leaves turning color. Rice second crop good progress; most crop headed; harvest operations could begin as early as next week along upper Gulf Coast. Sunflower harvest delayed by rains High Plains; harvest 12% complete, 43% 1977, 42% average. Wheat seeding good progress, some delays caused by rain and wet fields; seeding 39% complete, behind last year's 57%, and 64% average. Recent rains helped establish stands in fields dry-sown. Most emerged stands showing good growth, promise good fall grazing. Oats seeding rapid progress; 54% planted, 39% 1977, 49% average.

Because of recent moisture, citrus sizing well, some early oranges harvested. Cantaloups being harvested; some rotting in fields due to excess moisture. Carrots, lettuce, bell peppers, cabbage making good growth; some cabbage looper damage evident. Pecans splitting shucks Edwards Plateau southward. Central, east where moisture scarce, nut size small. Pastures and ranges improved due to recent rains, although parts of Cross-Timbers, Blacklands, East still dry. Livestock generally fair to good condition. Mosquitoes, flies, ticks causing problems for cattle on Edwards Plateau, Gulf Coast, South.

UTAH: Temperatures ranged from 1 to 8° above normal. Some snow remains at highest elevations. Light precipitation at some southern stations.

Winter wheat seeding 60% complete. Third crop alfalfa hay 73% harvested. Corn silage 50% chopped. Potato digging nearing 30%. Movement of livestock to fall and winter range in progress.

VIRGINIA: Temperatures near normal. Extremes: 93 and 34°. Precipitation early in period, south-east wettest averaging 1.17 in.

Topsoil moisture mostly short. Fieldwork: 5.9 days suitable. Harvest progress: Corn 42%, 57% 1977, 37% average; peanuts dug 15%, 17% 1977, 16% average; peanuts combined 6%, 9% 1977, 8% average; apples 46%, 52% 1977; Eastern Shore sweet-potatoes 28%. Seeding progress: Wheat 4%, 10% 1977, 11% average; barley 13%, 27% 1977, 26% average; winter oats 17%, 35% 1977, 30% average.

Soybeans yellowing east, southeast; early varieties shedding leaves; combining 1% done east and south-east. Other activities: Corn stalk chopping, ensiling corn and milo, sorghum grain harvesting, baling late hay.

WASHINGTON: West: Temperatures 4° above normal. Precipitation near normal to 1.20 in. above normal.

Vegetable harvest continues. Sweet corn and carrots show good quantity and quality. Celery and lettuce have disease problems. Field corn for silage harvest continues. Range and pastures good.

East: Temperatures 3 to 6° above normal. Precipitation 0.20 to 0.30 in. below normal.

Apple picking full swing. Potato digging slowed by high temperatures. Grape and sugarbeet harvests continue. Hops and mint finished. Final grain harvest should be complete next week if weather holds. Fall seeding continues. Pastures excellent.

WEST VIRGINIA: Temperatures below normal. Rainfall well below normal.

Fieldwork: 5.3 days suitable. Soil moisture short to adequate. Major activities: Silo filling, haying and clipping pasture. 2d cutting hay 92%, 91% 1977; 3d cutting 64%, 65% 1977. Corn development 24% dough, 46% mature, 30% harvested. Potatoes 85% dug, 82% 1977. Wheat planted 36%, 29% 1977. Barley sown 36%, 39% 1977. Crops and livestock good condition.

WISCONSIN: Temperatures 3° subnormal. Highs mostly 60's except 70's 26th. Lows 30's and 40's except upper 20's north 28th. Extremes: 83 and 28°. Scattered showers and thunderstorms 25th, 26th, and 29th. Rainfall 0.50 to 1.00 in. most areas but lighter northwest.

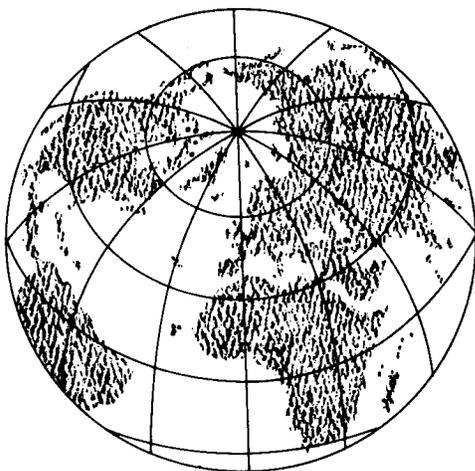
Fall harvesting increased as fields became firmer. Fieldwork: 5 days suitable. Silo filling 40% done, 1977 70%, normal 67%. Corn for grain 3% harvested, 1977 8%, normal 1%. Stalk rot and leaf blight prevalent some areas. Soybeans 60% shedding leaves, 1977 70%, normal 67%. Frost needed to increase leaf drop and lower moisture content of soybeans. Fall plowing 10% done, 1977 13%, normal 15%. Winter wheat seeding being completed where not done earlier. Little green chopping and baling of third and fourth crop hay. Pasture conditions good. Most tobacco harvested. Potato harvest continuing where fields not too wet. Late sweet corn and other vegetable crops being harvested. Cranberry and apple harvests continuing. Soil moisture adequate to surplus.

WYOMING: Precipitation well below normal. Temperatures averaged 5° above normal. Maximums mostly in upper 70's and 80's. Minimums dropped into 20's and 30's.

Topsoil moisture adequate. Corn for grain 37% mature, 18% harvested; 82% corn for silage cut. 89% dry beans windrowed, 64% combined. Sugarbeet harvest started. Potato harvest progressing normally, 49% dug. Winter wheat prospects fair to good, 92% of crop planted, 67% emerged. Winter grazing prospects mostly good. Ranchers expect to winter about same number of livestock this year as last year.

## World Weather and Crop Update

September 24 - October 1



**USSR.** In Belorussia and the Southwest Ukraine, rain persisted leaving from 15 to 30 mm of moisture with heavier accumulations in northern regions. Rainfall was light in the southern and eastern Ukraine. Around Kiev, a delayed potato harvest due to frost and rain was reported. The Volga Plateau collected 30 to 60 mm of rain in the north and 10 to 25 mm in the south. Northern regions of the New Lands gathered variable amounts of rain (10 to 30 mm) with smaller amounts in southern regions. By September's end, grain harvesting was reported complete in the central Chernozem, Volga, and western Siberia. Nearly all grain was cut in Altai, Omsk, and Novisibrisk Oblasts. Only regions in marginal grain growing areas---Baltic Republics, Pskov Oblast, and Yaraslave---experienced rainy and cold harvest conditions.

**ASIA.** Southern and southeastern coastal provinces of China accumulated considerable rain (30 to 50 mm) with some areas chalking up more than 170 mm. Generally dry weather held inland of these provinces and in western and northern provinces. India received rain in the West Bengal area with

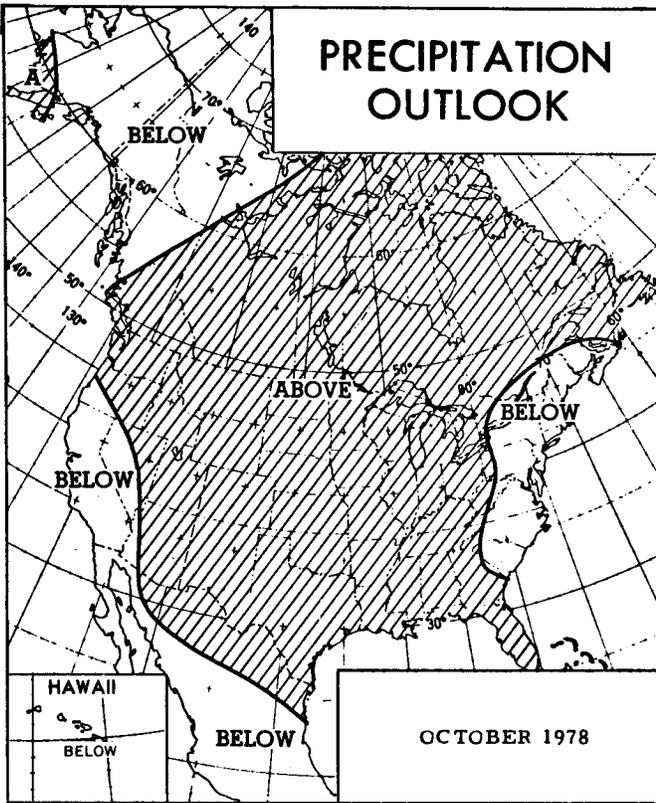
amounts ranging from 100 to 150 mm. Isolated stations around Calcutta reported extreme accumulations of more than 475 mm, with extreme flooding and damage in rice regions. In southern India, 70 to 120 mm of rain soaked an extensive area.

**AUSTRALIA.** Rainfall dampened most of Australia with Queensland getting variable amounts ranging from 0 to 35 mm, while much of New South Wales had from 25 to 35 mm. Victoria stayed generally drier (5 to 15 mm), and South Australia gathered 5 to 20 mm. West Australia had 10 to 15 mm with some locally heavier accumulations.

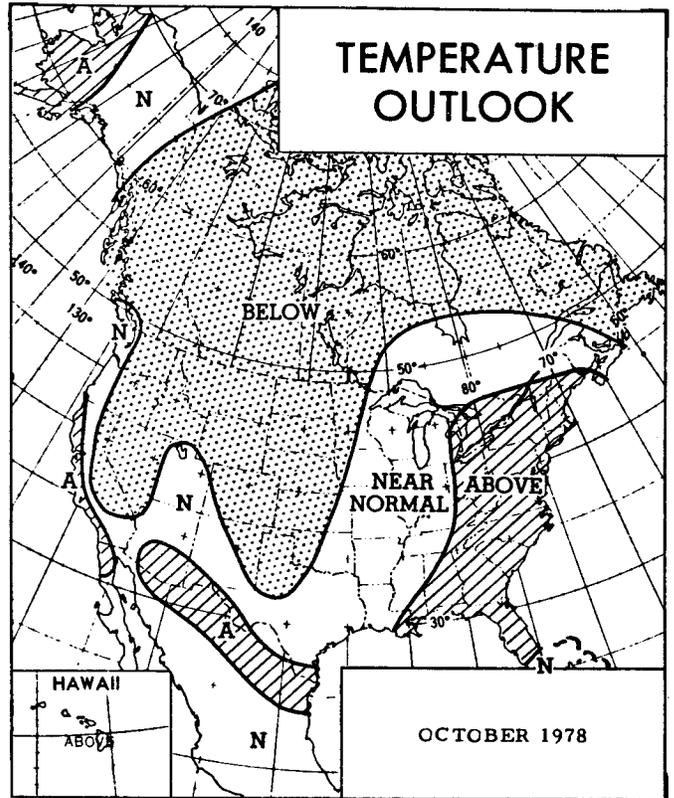
**AFRICA.** The rainbelt in Central Africa shifted slightly to the south last week, and rainfall decreased in northern portions. Senegal felt variable rainfall with stations generally reporting 15 to 50 mm with one calling in over 100 mm. The Guinea Coast received some needed rain last week with amounts ranging from 20 to 40 mm.

**EUROPE.** Weather patterns across Europe generally brought moisture to northern regions and, except for isolated pockets of rain, drier conditions in Mediterranean countries. Northern portions of the United Kingdom received from 30 to 50 mm; the southern UK had generally under 20 mm. Precipitation in West Germany ranged from 30 to 50 mm in the north and 10 to 20 mm in the south; France, Spain, and Italy had only light amounts with isolated areas receiving from 20 to 40 mm. Northern and southern regions of East Germany measured 25 to 30 mm of rain with a band of lower accumulations through central areas (10 to 20 mm). Extreme northern Turkey noted widely scattered heavy showers (70 mm), but the rest of the country generally experienced isolated showers with light accumulations.

**AMERICAS.** Most agricultural areas of southern Brazil had little rain (under 10 mm) with occasional amounts of 20 to 30 mm. Southern wheat areas of Argentina received 30 to 70 mm of rain which provided needed moisture to the winter wheat crop. Isolated showers across the prairie provinces of Canada left small amounts of moisture in Alberta and Saskatchewan with larger amounts in Manitoba (10 to 20 mm) and Ontario (20 to 50 mm).



Average Monthly Weather Outlook

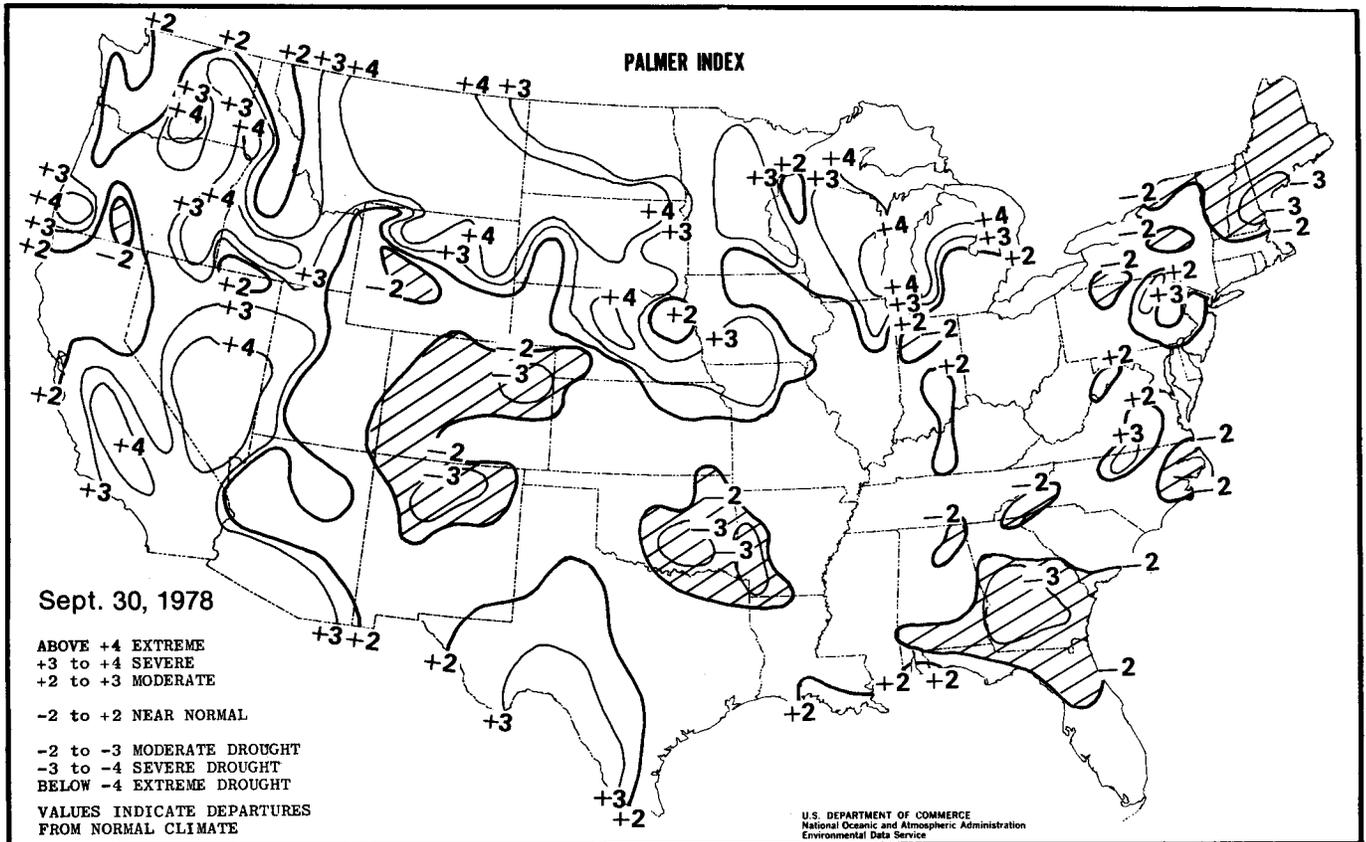


Heating Degree Days (Base 65° F.)

September 1978

ALA. Birmingham . . . . .	0	MAINE, Caribou . . . . .	434	OKLA. Okla. City . . . . .	2
Mobile . . . . .	0	Portland . . . . .	230	Tulsa . . . . .	0
Montgomery . . . . .	0	MD. Baltimore . . . . .	33	OREG. Astoria . . . . .	202
ALASKA, Anchorage . . . . .	400	MASS. Boston . . . . .	150	Burns U. . . . .	310
Barrow . . . . .	936	Chatham . . . . .	159	Medford . . . . .	180
Fairbanks . . . . .	--	MICH. Alpena . . . . .	212	Pendleton . . . . .	145
Juneau . . . . .	425	Detroit . . . . .	73	Portland . . . . .	134
Nome . . . . .	543	Flint . . . . .	89	Salem . . . . .	129
ARIZ. Flagstaff . . . . .	227	Grand Rapids . . . . .	124	PA. Allentown . . . . .	94
Phoenix . . . . .	0	Houghton Lake . . . . .	220	Erie . . . . .	125
Tucson . . . . .	0	Lansing . . . . .	105	Harrisburg . . . . .	48
Winslow . . . . .	37	Marquette U . . . . .	220	Philadelphia . . . . .	41
Yuma . . . . .	0	S. Ste. Marie . . . . .	282	Pittsburgh . . . . .	80
ARK. Fort Smith . . . . .	0	MINN. Duluth . . . . .	262	Scranton . . . . .	153
Little Rock . . . . .	0	Internatl Falls . . . . .	299	R. I. Providence . . . . .	180
CALIF. Bakersfield . . . . .	0	Minneapolis . . . . .	89	S. C. Charleston . . . . .	0
Eureka U. . . . .	216	Rochester . . . . .	142	Columbia . . . . .	0
Fresno . . . . .	6	St. Cloud . . . . .	175	Greenville . . . . .	6
Los Angeles U . . . . .	0	MISS. Jackson . . . . .	0	S. DAK. Aberdeen . . . . .	142
Red Bluff . . . . .	1	Meridian . . . . .	0	Huron . . . . .	132
Stockton . . . . .	3	Vicksburg U . . . . .	--	Rapid City . . . . .	168
San Diego . . . . .	0	MO. Columbia . . . . .	21	Sioux Falls . . . . .	104
San Francisco . . . . .	32	Kansas City . . . . .	28	TENN. Chattanooga . . . . .	0
COLO. Denver . . . . .	96	St. Louis . . . . .	24	Knoxville . . . . .	0
Grand Junction . . . . .	95	Springfield . . . . .	19	Memphis . . . . .	0
Pueblo . . . . .	59	MONT. Billings . . . . .	204	Nashville . . . . .	1
CONN. Bridgeport . . . . .	92	Glasgow . . . . .	233	TEX. Abilene . . . . .	5
Hartford . . . . .	209	Great Falls . . . . .	236	Amarillo . . . . .	33
D. C. Washington . . . . .	9	Havre . . . . .	217	Austin . . . . .	0
FLA. Apalachicola . . . . .	0	Helena . . . . .	244	Beaumont . . . . .	0
Ft. Myers . . . . .	0	Kalispell . . . . .	331	Brownsville . . . . .	0
Jacksonville . . . . .	0	Miles City . . . . .	166	Corpus Christi . . . . .	0
Key West . . . . .	0	Missoula . . . . .	308	Dallas . . . . .	--
Lakeland U. . . . .	--	NEBR. Grand Island . . . . .	64	Del Rio . . . . .	1
Miami . . . . .	0	Lincoln . . . . .	62	El Paso . . . . .	16
Orlando . . . . .	0	Norfolk . . . . .	49	Fort Worth . . . . .	0
Daytona Beach . . . . .	0	North Platte . . . . .	99	Galveston U. . . . .	0
Tallahassee . . . . .	0	Omaha . . . . .	52	Houston . . . . .	0
Tampa . . . . .	0	Valentine . . . . .	109	Lubbock . . . . .	31
GA. Atlanta . . . . .	0	NEV. Ely . . . . .	336	Midland . . . . .	36
Augusta . . . . .	0	Las Vegas . . . . .	1	San Angelo . . . . .	3
Macon . . . . .	0	Reno . . . . .	234	San Antonio . . . . .	0
Savannah . . . . .	0	Winnemucca . . . . .	241	Victoria . . . . .	0
IDAHO, Boise . . . . .	173	N. H. Concord . . . . .	275	Waco . . . . .	0
Lewiston . . . . .	139	N. J. Atlantic City . . . . .	116	Wichita Falls . . . . .	1
Pocatello . . . . .	241	Trenton U . . . . .	79	UTAH, Milford . . . . .	206
ILL. Cairo U. . . . .	0	N. MEX. Albuquerque . . . . .	20	Salt Lake City . . . . .	144
Chicago . . . . .	50	Roswell . . . . .	55	VT. Burlington . . . . .	295
Moline . . . . .	59	N. Y. Albany . . . . .	256	VA. Lynchburg . . . . .	25
Peoria . . . . .	49	Binghamton . . . . .	208	Norfolk . . . . .	3
Rockford . . . . .	66	Buffalo . . . . .	154	Richmond . . . . .	16
Springfield . . . . .	36	New York . . . . .	72	Roanoke . . . . .	29
IND. Evansville . . . . .	10	Rochester . . . . .	136	WASH. Colville . . . . .	296
Fort Wayne . . . . .	55	Syracuse . . . . .	184	Omak . . . . .	--
Indianapolis . . . . .	36	N. C. Asheville . . . . .	12	Quillayute . . . . .	266
South Bend . . . . .	57	Charlotte . . . . .	7	Seattle-Tacoma . . . . .	180
IOWA, Burlington . . . . .	52	Greensboro . . . . .	16	Spokane . . . . .	252
Des Moines . . . . .	48	Hatteras R. . . . .	0	Walla Walla U. . . . .	83
Dubuque . . . . .	90	Raleigh . . . . .	7	Yakima . . . . .	184
Sioux City . . . . .	63	Wilmington . . . . .	0	W. VA. Beckley . . . . .	58
KANS. Concordia . . . . .	41	N. DAK. Bismarck . . . . .	217	Charleston . . . . .	18
Dodge City . . . . .	41	Fargo . . . . .	179	Huntington . . . . .	15
Goodland . . . . .	63	Williston U . . . . .	213	Parkersburg U. . . . .	25
Topeka . . . . .	34	OHIO, Akron-Canton . . . . .	58	WIS. Green Bay . . . . .	152
Wichita . . . . .	18	Cincinnati U. . . . .	21	Madison . . . . .	130
KY. Lexington . . . . .	20	Cleveland . . . . .	43	Milwaukee . . . . .	76
Louisville . . . . .	4	Columbus . . . . .	38	WYO. Casper . . . . .	212
LA. Baton Rouge . . . . .	0	Dayton . . . . .	47	Cheyenne . . . . .	200
Lake Charles . . . . .	0	Toledo . . . . .	74	Lander . . . . .	226
New Orleans . . . . .	0	Youngstown . . . . .	82	Sheridan . . . . .	232
Shreveport . . . . .	0				

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



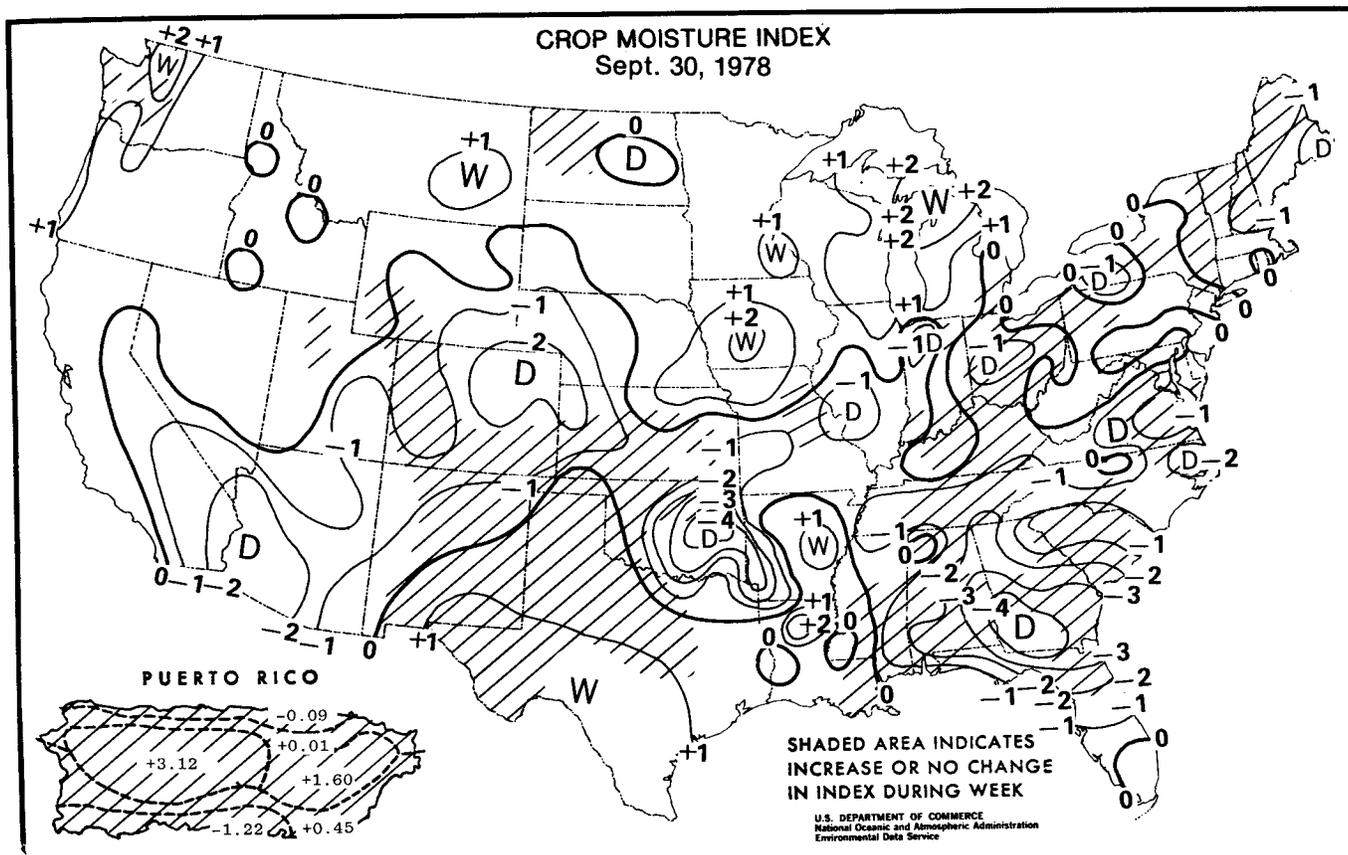
The Palmer Index

The Palmer Index is an index of meteorological drought, which may be defined as a prolonged and abnormal moisture deficiency. The general concept is one of supply and demand. Supply is represented by precipitation and stored soil moisture. Demand is the combination of potential evapotranspiration, the amount needed to recharge the soil moisture, and the runoff needed to keep the rivers, lakes, and reservoirs at a normal level. The results of this water balance accounting produce a positive or negative anomaly which is then weighted by a climate factor. The final product is an index that expresses the abnormality for that particular place for the period of time being computed. This manipulation allows the index to have a reasonably comparable local significance in space and time, that is, a certain index value obtained for a division in New York would have the same local significance as a like value in the more arid areas of western Kansas. This monthly increment is added to a portion of the previous month's index to include the duration of the anomaly in the final index.

The Palmer Index was designed as a climatological indicator of the scope and severity of past droughts. Using the Palmer Index on a real-time basis presents difficulties. A day or so of normal or better rainfall is certainly welcome in an area that has experienced a long drought, but one cannot know whether it indicates the end of the drought or just a brief respite. In order to

make the program have some real-time value, a system of computing a "probability" that a weather spell has ended was devised. This is not entirely satisfactory, but does allow one to assign a definite index value at times when there may be some doubt as to whether it should be positive (wet) or negative (dry).

Another aspect of using the Palmer Index is that one must remember that the demand part of the computations includes three parameters---potential evapotranspiration, recharge of soil moisture, and runoff, any one of which may produce a negative index. For instance if only enough rain fell to satisfy most of the expected evapotranspiration, but not enough to supply the expected recharge and runoff, then a negative index would result. If such a situation continued then one might find that agriculture was progressing at a near normal pace but the Palmer Index would be indicating a worsening drought. In this situation the drought would cause shallow wells and springs to go dry and the levels of rivers, lakes and reservoirs to fall below normal and, if this odd situation continued long enough, would cause serious economic stress to the livestock industry and eventually to other industries and cities. Then if rainfall fell below the minimum needed for agriculture, crops would suffer drastic and rapid decline because there would be no reserve water in the soil. Such a situation, to some extent, occurred during the Northeast drought in the 1960's when New York City almost ran out of water.



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.

UNSHADED AREAS: INDEX DECREASED	
ABOVE 3.0	SOME DRYING BUT STILL EXCESSIVELY WET
2.0 to 3.0	MORE DRY WEATHER NEEDED, WORK DELAYED
1.0 to 2.0	FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
0 to 1.0	FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 to -1.0	TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1.0 to -2.0	ABNORMALLY DRY, PROSPECTS DETERIORATING
-2.0 to -3.0	TOO DRY, YIELD PROSPECTS REDUCED
-3.0 to -4.0	POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
BELOW -4.0	EXTREMELY DRY, MOST CROPS RUINED

SHADED AREAS: INDEX INCREASED OR DID NOT CHANGE	
ABOVE 3.0	EXCESSIVELY WET, SOME FIELDS FLOODED
2.0 to 3.0	TOO WET, SOME STANDING WATER
1.0 to 2.0	PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
0 to 1.0	MOISTURE ADEQUATE FOR PRESENT NEEDS
0 to -1.0	PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1.0 to -2.0	SOME IMPROVEMENT BUT STILL TOO DRY
-2.0 to -3.0	DROUGHT EASED BUT STILL SERIOUS
-3.0 to -4.0	DROUGHT CONTINUES, RAIN URGENTLY NEEDED
BELOW -4.0	NOT ENOUGH RAIN, STILL EXTREMELY DRY

IMMEDIATE - U. S. Weather Report

This Report Will be Treated in All Respects as Letter Mail

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U.S. DEPARTMENT OF COMMERCE

COM 210



FIRST CLASS MAIL

**HARVESTING PROGRESS**

PERCENT OF ACREAGE HARVESTED  
AS OF OCTOBER 1

**soybeans**

	1978	1977	AVG.
ALA	37	30	34
ARK	3	4	4
GA	3	1	1
ILL	35	20	39
IND	15	10	15
IOWA	21	25	21
KANS	5	5	5
KY	7	8	9
LA	11	14	11
MICH	17	17	17
MINN	27	20	36
MISS	12	13	8
MO	7	8	10
NEBR	10	15	15
NC	0	0	0
OHIO	15	15	15
SC	17	0	0
TENN	2	3	2
TEX	17	0	0
U.S.	16	13	17

THESE 19 STATES PRODUCED 96%  
OF THE 1977 U.S. SOYBEAN CROP.

**cotton**

	1978	1977	AVG.
ALA	18	23	7
ARK	12	24	13
GA	18	17	7
LA	14	13	7
MISS	20	29	10
MO	16	13	9
NC	5	9	4
OKLA	0	0	0
SC	17	16	7
TENN	23	29	11
TEX	20	23	18
11 STATES	18	22	14

THESE 11 STATES PRODUCED 72%  
OF THE 1977 U.S. COTTON CROP.

**corn**

	1978	1977	AVG.
GA	77	73	44
ILL	15	17	14
IND	10	10	5
IOWA	12	20	9
KANS	30	30	20
KY	26	32	20
MICH	17	17	17
MINN	8	25	13
MO	23	35	26
NEBR	5	15	15
NC	65	73	63
OHIO	10	10	10
PA	NA	NA	NA
S DAK	5	8	11
TEX	57	76	61
WISC	3	8	1
U.S.	15	21	14

THESE 16 STATES PRODUCED 94%  
OF THE 1977 U.S. CORN CROP.

**sorghum**

	1978	1977	AVG.
COLO	2	8	2
KANS	15	15	10
MO	30	40	19
NEBR	10	25	20
OKLA	7	12	15
S DAK	10	8	20
TEX	71	73	68
7 STATES	34	39	34

THESE 7 STATES PRODUCED 93%  
OF THE 1977 U.S. SORGHUM CROP.

**SEEDING PROGRESS**

PERCENT OF ACREAGE PLANTED  
AS OF OCTOBER 1

**winter wheat**

	1978	1977	AVG.
COLO	88	88	86
ILL	16	11	18
IND	20	10	25
KANS	45	65	50
MO	17	11	NA
MONT	70	85	80
NEBR	85	85	85
OHIO	30	25	30
OKLA	30	58	44
S DAK	95	100	99
TEX	39	57	64

11 STATES 48 63 58

THESE 11 STATES PRODUCED 75%  
OF THE 1977 U.S. WINTER  
WHEAT CROP.

NA NOT AVAILABLE  
1/ LESS THAN 5%