

WEEKLY WEATHER AND CROP BULLETIN

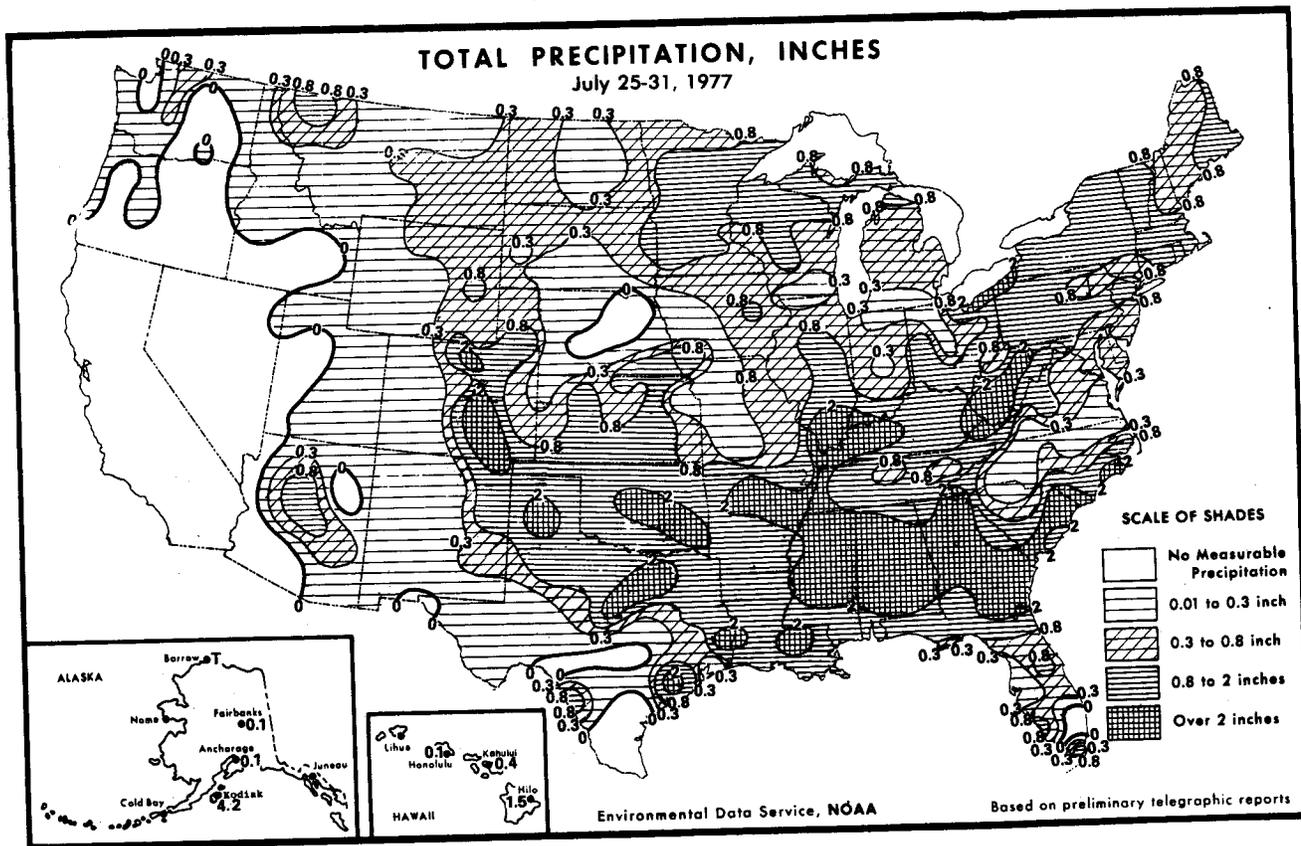
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National Weather Summary July 25 - 31

HIGHLIGHTS: Portions of Alabama, Georgia, and South Carolina had heavy rain, but hopes for a good soaking further north in the middle Atlantic States vanished when much of the precipitation stayed west of the Appalachians. The eastern slope of the central Rocky Mountains and central Arizona received 1 to 2.25 inches of rain. The fire danger in the West continued; little or no moisture was recorded.

Temperatures were normal in most of the Nation except from the Southwest to the southern West Coast where readings were 6 to 10° above expected. The mercury dipped 4 to 7° below normal from the middle Atlantic States to New England.

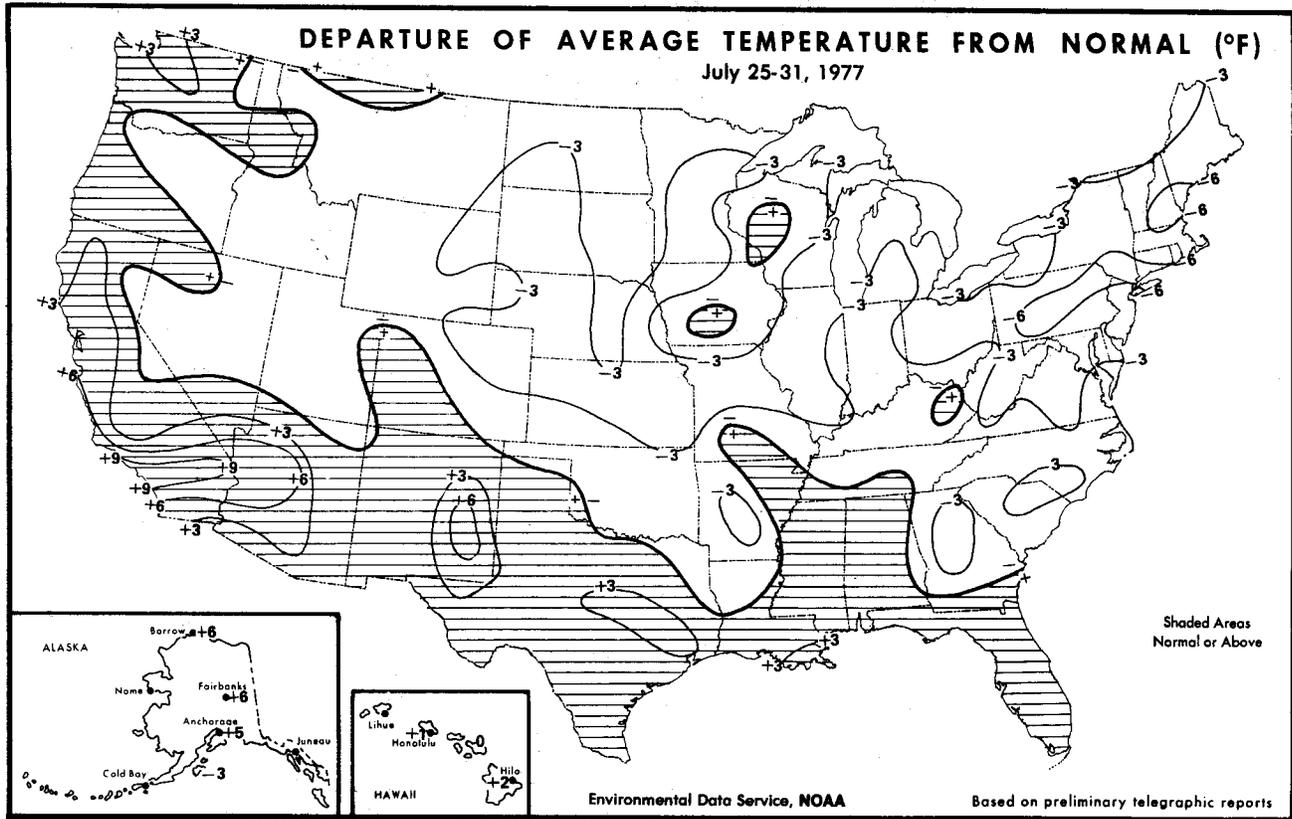
On Monday a band of showers extended from the northern Atlantic Coast across the Appalachians and middle Mississippi Valley to the central Plains and Rockies. The heaviest rain hit Colorado and Wyoming while precipitation moved into flood-plagued Johnstown, Pa., once again; some flash flooding

occurred, but without the devastation of the previous week.

Evening thunderstorms dumped rain on the southern Ohio Valley, western Carolinas, central Gulf Coast States, northern Georgia, Florida, Arkansas, Oklahoma, and Kansas. It was hot from the Southwest to the southern Plains; Oklahoma City set a record of 106° for the day.

A large high pressure area centered over Wisconsin brought a cool Tuesday to the Midwest eastward to the Atlantic Coast and as far south as Florida; Madison, Wis., shivered through a record low of 46°. By contrast, Dallas/Fort Worth tied a record for the day--it was a new high, 105°.

Showers lined up from Kansas to the lower Mississippi Valley and from Alabama to the Carolinas. Heavy thunderstorms, some severe, rumbled over parts of Texas, Louisiana, Oklahoma, Arkansas, and Mississippi. Four inches of rain soaked an area near Baton Rouge. Storms also were



scattered across the northern Plains to Minnesota as well as New Mexico and Florida.

The large high pressure area over Wisconsin brought a cool Wednesday to many stations eastward to the Atlantic Coast. More than 20 record low temperatures were set or equalled.

Morning rain was heaviest in the Black Hills of South Dakota where three inches fell. Later, 5.50 inches soaked eastern Oklahoma and 4.75 inches covered parts of South Carolina. Heavy rains fell in portions of southwestern Arkansas and west central Colorado. One-inch hail hit Blue Mound in East Texas.

Thursday's early precipitation came down in the form of showers over the upper Great Lakes, the western sections of Nebraska and Washington, and the Gulf Coast States into Tennessee and Alabama. Thunderstorms built up over that latter area and moved into Georgia and South Carolina. The lower half of Mississippi received heavy rain. Toward evening, rain fell over the northern half of the Plains and from Texas through the South Atlantic States. Golf ball-size hail peppered parts of Nebraska. Showers dotted eastern Washington and spread through Idaho to Montana while thunderstorms developed over New Mexico.

Record low readings were notched as far west as St. Louis, 59°; Atlantic City in the east, 50°; and northward to Portland, Maine, 45°.

Daybreak Friday revealed thunderstorms scattered from western New York over the southern Ohio Valley into the central Gulf Coast States. Early morning brought locally heavy rain to southern Indiana. Thunderstorms increased over the Gulf Coast region and from Arkansas eastward to South Carolina and northward to lower Michigan. Heavy rain drenched dry areas of Alabama and Georgia. The upper Ohio Valley received more than one inch of rain. A tornado was spotted in Mississippi. Toward evening, thunderstorms moved over the Dakotas, northern

Appalachians, upper Ohio Valley, and along the Atlantic Coast from Maine to South Carolina. Others dotted portions of the lower half of the Rockies, northern Texas, and Louisiana.

The Southwest continued to roast; one reading in Palm Springs, Calif., showed 117°.

Saturday morning thunderstorms began ahead of a warm front in the eastern Dakotas and Minnesota. Another group formed along a cold front that reached from Iowa to central Kansas. Earlier, one to two inches of rain had fallen in northwestern Pennsylvania. As the day progressed, thunderstorms intensified over the lower Mississippi Valley across the southern Gulf Coast region into Florida and southern Georgia.

By afternoon, a complex frontal system triggered severe storms including hail and tornadoes over the central Plains and upper Mississippi Valley. Six twisters were reported in Wisconsin. Nighttime thunderstorms stretched over Kansas, northern Oklahoma, and Arkansas. Less intense activity extended across the Texas Panhandle into New Mexico and Arizona; Payson, in central Arizona, measured 1.40 inches of rain.

Sunday dawned showing a band of thunderstorms from the northeastern Great Lakes through the lower Ohio Valley into the central Plains. Later thunderstorms were dispersed from the Gulf and Atlantic Coasts westward to Texas and northward to the Ohio River. Hail was reported in southwestern Kansas, southeastern Colorado, and the Texas Panhandle. A tornado touched down just north of Buffalo, N.Y. Evening showers and thunderstorms dampened an area through the Appalachians to upstate New York and along the Gulf Coast from Florida to southeastern Louisiana.

The Southwest told of another hot day; going outside was a gamble at Las Vegas where 115° equalled the 1938 record for the day.

National Agricultural Summary

July 25-31

HIGHLIGHTS: Extremely high temperatures broke, falling below normal levels in most of the Nation reducing the demand on soil moisture and the stress on both row crops and livestock. Rains finally came to some of the driest parts of the U. S., notably the Southeast, but some crops in this area received too little, too late. Small grain harvesting was confined to the northern States mostly from Minnesota westward to the Pacific Northwest. Corn rated fair to good with the exception of the southeastern quarter of the Nation where it was poor. Some corn reached the dent stage in the important north central States. Cotton rated poor in portions of the Atlantic Coast States, but elsewhere got higher marks, mostly fair to good. Soybeans rated fair to good; again some southeastern fields rated poor. Soil moisture was short to adequate in most of the country, but rated short from Virginia southward to the Florida Panhandle and in several western north central States and the West.

SMALL GRAINS: Most of the 1977 winter wheat crop was harvested by the end of July. Winter wheat combining was mostly in the northern Mountain States and the Pacific Northwest. Montana farmers harvested 25% of the winter wheat compared with 10% in 1976 and the 5% average.

Spring wheat harvest ranged from 5% complete in Montana to 68% in South Dakota. Minnesota growers reached 42% and North Dakota growers 10%. Combining was well ahead of the average pace.

Oats harvest in the major production area was almost complete in southern portions, 33% complete in Wisconsin, 63% in Minnesota, 89% in South Dakota and 20% in North Dakota where damp weather delayed operations.

CORN: Farmers harvested corn for grain in several southern States including Texas and Florida. Corn originally earmarked for grain was salvaged as forage in the scorched southeastern States.

In the Corn Belt, the crop rated fair to good, and in some areas excellent. Several localities needed moisture including western Ohio, parts of the Dakotas and Michigan. Development remained as much as two to three weeks ahead of both last year and the average. Most corn silking was well advanced. The dough stage ranged from 20% in Ohio to 70% in Illinois. Some of the Wisconsin ears began denting; 30% of Missouri's corn and 28% of the Illinois crop were dented. The Corn Belt crop only began denting at this time last year.

In the south central States, the dent stage ranged from 24 to 49%. Corn rated only poor to fair in States bordering the Gulf Coast, but elsewhere rated fair to good.

SOYBEANS: Soybeans rated fair to good in the north central States. Setting pods ranged from 20% in Michigan, 30% in Kansas to 61% in South Dakota and 75% in Minnesota. Development was ahead of 1976's podding by about 10 points although some States were as much as 20 points ahead. The lower temperatures relieved the stress on most of the soybeans, but dry areas persisted in parts of the north central States.

In the south central States, pod set was not as far advanced mostly falling around 30% or less. Soybeans in this area rated fair to good.

Poor to fair with heavy insect populations described the South Atlantic States soybeans.

Most of this area suffered from dry soils, however, recent rains improved prospects.

COTTON: Cotton rated fair to good across the 11 southern States except poor to fair in South Carolina, Georgia, and Florida. Bolls began opening in South Carolina; recent rains should help the crop. Boll set was almost complete except in Oklahoma; percentages ranged from 77 to 98% complete. Somewhat lower temperatures also took some of the stress from the cotton. Excessive vegetative growth concerned Arkansas farmers. Some Oklahoma cotton shed squares during the recent hot weather. Some Texas cotton shed bolls in the high temperatures. Cotton harvest was restricted to Texas where about 1% was picked. Arizona cotton rated good while bolls matured and farmers sprayed pesticides. Cotton bloomed in California.

OTHER CROPS: The sorghum harvest extended from the Blacklands of central Texas to South Texas and was almost complete in the lower Rio Grande Valley and the Coastal Bend. The Texas harvest advanced to 39% complete, ahead of 1976's 26% and the 34% average. In other major States, heading ranged from 30% in Kansas to 76% in Missouri, significantly ahead of most recent years.

Rice was in good condition. Arkansas rice headed two weeks early; harvest should begin by mid-August. Louisiana farmers harvested 10% of the crop. Texas growers reached 42% complete, surpassing both 1976's 28% and the 23% average. California rice developed well. The Mississippi crop was 28% headed.

Maine potatoes reached full bloom. Idaho potatoes were in good condition with 80% closing middles, 10 points ahead of 1976. The Pacific Northwest crop was good and farmers began digging.

FRUITS AND NUTS: Peach picking ranged from 79 to 96% complete in southern areas to just getting started in northern sections of the Nation. Apple picking extended throughout the country. California growers harvested apples, grapes, Valencia oranges, lemons, peaches, nectarines, plums, and pears. The Florida Valencia harvest was in its last days. Citrus groves rated excellent with adequate topsoil moisture, but needing more rain to raise the water table. Some late bloom continued.

VEGETABLES: Texas and Florida vegetable growers prepared fields for the fall and winter crops. Some light volume moved to market from southern areas. In northern areas, growers harvested a wide variety of vegetables including sweet corn, tomatoes, cucumbers, snap beans, and celery. California producers sent melons, celery, peppers, cauliflower, broccoli, and sweet corn to fresh market and picked tomatoes for processing in the Sacramento and San Joaquin Valleys.

PASTURES AND LIVESTOCK: Grasslands rated poor to fair in the Southeast, the western north central States, and the West; elsewhere ratings were only fair except the good readings in Kansas, Texas, and Florida. Most areas needed moisture and substantial amounts of it. Southeastern cattle producers culled herds closely to conserve feed.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., July 31, 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 . . .	81	+ 1	4.4	+3.2	La. Baton Rouge . . .	84	+ 2	2.3	+ .8	Youngstown . . .	67	- 4	1.4	+ .6
Mobile . . .	84	+ 2	1.6	- .3	Lake Charles . . .	83	0	1.7	+ .3	OKLA. Okla. City . . .	82	- 0	2.3	+1.8
Montgomery . . .	82	+ 1	4.3	+ 3.3	New Orleans . . .	85	+ 3	.8	- .6	Tulsa . . .	81	- 2	1.2	+ .5
ALASKA. Anchorage . . .	63	+ 5	.1	- .4	Shreveport . . .	83	- 1	1.7	+1.1	OREG. Astoria . . .	63	+ 2	T	- .2
Barrow . . .	45	+ 6	T	- .2	MAINE. Caribou . . .	62	- 3	.8	- .1	Burns . . .	69	0	0	- .1
Fairbanks . . .	66	+ 6	.1	- .4	Portland . . .	63	- 6	.5	- .1	Medford . . .	75	+ 2	0	- .1
Juneau . . .	45	+ 6	T	- .2	MD. Baltimore . . .	73	- 4	4	- .6	Pendleton . . .	74	0	0	0
Kodiak . . .	52	- 3	4.2	+3.4	MASS. Boston . . .	70	- 4	1.2	+ .5	Portland . . .	70	- 2	.1	0
Nome . . .	---	---	---	---	Chatham . . .	66	---	1.2	---	Salem . . .	68	+ 1	0	- .1
ARIZ. Flagstaff . . .	69	+ 8	1.4	+ .7	MICH. Alpena . . .	63	- 3	.7	+ .1	PA. Allentown . . .	70	- 4	.9	- .1
Phoenix . . .	97	+ 5	T	- .2	Detroit . . .	70	- 3	- .1	- .6	Erie . . .	68	- 1	2.2	+1.4
Tucson . . .	89	+ 3	.2	- .4	Flint . . .	66	- 4	- .6	- .1	Harrisburg . . .	70	- 6	.9	+ .1
Winslow . . .	81	+ 2	0	- .4	Grand Rapids . . .	69	- 3	.4	- .2	Philadelphia . . .	67	- 4	.6	- .4
Yuma . . .	97	+ 2	T	- .1	Houghton Lake . . .	64	- 3	.6	0	Pittsburgh . . .	73	- 5	.8	0
ARK. Fort Smith . . .	81	- 2	1.1	+ .4	Lansing . . .	69	- 2	.6	0	Scranton . . .	65	- 7	.7	- .2
Little Rock . . .	78	- 4	1.9	+1.2	Marquette . . .	64	- 3	.5	- .1	R.I. Providence . . .	69	- 4	1.5	+ .8
CALIF. Bakersfield . . .	86	+ 2	0	0	Muskegon . . .	68	- 3	.4	- .1	S.C. Charleston . . .	80	- 1	1.8	0
Eureka . . .	57	0	T	- .1	S. Ste. Marie . . .	60	- 5	1.5	+ .9	Columbia . . .	78	- 3	.6	- .7
Fresno . . .	81	0	0	0	MINN. Duluth . . .	63	- 4	1.7	+ .9	Greenville . . .	77	- 2	.1	- .8
Los Angeles . . .	84	+10	0	0	Internatl Falls . . .	64	- 2	.4	- .4	S.D. Aberdeen . . .	71	- 2	.4	- .1
Red Bluff . . .	87	+ 4	0	0	Minneapolis . . .	71	- 2	.6	- .2	Huron . . .	73	- 2	.4	0
San Diego . . .	76	+ 5	0	0	Rochester . . .	68	- 3	.2	- .6	Rapid City . . .	71	- 3	.2	- .2
San Francisco . . .	68	+ 5	0	0	St. Cloud . . .	67	- 4	1.6	+ .9	Sioux Falls . . .	73	- 1	.5	- .1
Stockton . . .	82	+ 5	0	0	MISS. Jackson . . .	82	0	2.7	+1.7	TENN. Chattanooga . . .	79	0	.8	- .3
COLO. Denver . . .	71	- 3	.6	+ .2	Meridian . . .	83	+ 1	4.9	+3.8	Knoxville . . .	78	- 1	.7	- .3
Grand Junction . . .	81	+ 2	T	- .2	MO. Columbia . . .	75	- 3	.5	- .3	Memphis . . .	82	0	2.2	+1.4
Pueblo . . .	75	- 2	2.2	+1.7	Kansas City . . .	75	- 5	- .1	- .8	Nashville . . .	79	- 1	.7	- .1
CONN. Bridgeport . . .	68	- 7	.4	- .4	St. Louis . . .	76	- 3	.8	+ .1	TEX. Abilene . . .	85	0	.8	+ .3
Hartford . . .	69	- 4	1.7	+ .9	Springfield . . .	79	0	T	- .7	Amarillo . . .	80	+ 1	2.0	+1.3
D.C. Washington . . .	75	- 4	.4	- .6	MONT. Billings . . .	72	- 1	.2	+ .1	Austin . . .	86	+ 1	T	- .4
FLA. Apalachicola . . .	82	0	.1	-1.7	Glasgow . . .	70	- 2	T	- .3	Beaumont . . .	86	+ 3	T	-1.3
Daytona Beach . . .	83	+ 2	.7	- .8	Great Falls . . .	69	- 2	.1	- .1	Brownsville . . .	86	+ 1	0	- .3
Ft. Myers . . .	83	0	1.6	- .2	Havre . . .	72	+ 1	T	- .2	Corpus Christi . . .	86	+ 1	0	- .4
Jacksonville . . .	84	+ 3	1.3	- .4	Helena . . .	69	0	.1	0	Dallas . . .	---	---	---	---
Key West . . .	85	0	T	- .8	Kalispell . . .	65	0	1.4	+1.2	Del Rio . . .	88	+ 1	T	- .1
Lakeland . . .	84	+ 2	.2	-1.6	Miles City . . .	74	- 2	.7	+ .5	El Paso . . .	83	+ 1	T	- .4
Miami . . .	85	+ 2	T	-1.4	Missoula . . .	68	0	.3	+ .2	Fort Worth . . .	87	+ 1	2.1	+1.7
Orlando . . .	84	+ 2	1.5	- .2	NEBR. Grand Island . . .	75	- 2	0	- .6	Galveston . . .	84	0	T	-1.0
Tallahassee . . .	82	+ 1	1.2	- .7	Lincoln . . .	75	- 3	.4	- .3	Houston . . .	83	- 1	1.3	+ .4
Tampa . . .	84	+ 2	T	-1.9	Norfolk . . .	73	- 3	T	- .6	Lubbock . . .	81	+ 1	.9	+ .4
W. Palm Beach . . .	83	+ 1	T	-1.3	N. Platte . . .	70	- 5	T	- .6	Midland . . .	85	+ 2	T	- .4
GA. Atlanta . . .	75	- 3	3.1	+2.0	Omaha . . .	74	- 2	T	- .8	San Angelo . . .	87	+ 2	.2	0
Augusta . . .	79	- 2	.9	- .2	Valentine . . .	71	- 4	T	- .5	San Antonio . . .	86	+ 1	T	- .4
Macon . . .	78	- 4	2.8	+1.8	NEV. Ely . . .	67	- 2	T	- .1	Victoria . . .	86	+ 1	T	- .6
Savannah . . .	81	0	2.8	+1.1	Las Vegas . . .	95	+ 5	0	- .1	Waco . . .	91	+ 5	.2	- .1
HAWAII. Hilo . . .	78	+ 2	1.5	-1.0	Reno . . .	69	- 1	0	0	Wichita Falls . . .	93	+ 6	.9	+ .5
Honolulu . . .	81	+ 1	.1	- .1	Winneucca . . .	74	+ 2	0	0	UTAH. Blanding . . .	73	- 1	.1	- .2
Kahului . . .	79	0	.4	+ .3	N.H. Concord . . .	63	- 7	.7	0	Salt Lake City . . .	77	- 1	T	- .2
Lihue . . .	---	---	---	---	N.J. Atlantic City . . .	70	- 5	.7	- .4	VT. Burlington . . .	67	- 3	1.0	+ .2
IDAHO. Boise . . .	74	- 2	T	0	Trenton . . .	72	- 4	.7	- .4	VA. Lynchburg . . .	73	- 3	.9	- .1
Lewiston . . .	77	+ 2	T	- .1	N.MEX. Albuquerque . . .	80	+ 1	.1	- .3	Norfolk . . .	77	- 1	2	-1.2
Pocatello . . .	72	- 1	T	- .1	Roswell . . .	86	+ 6	.4	0	Richmond . . .	75	- 3	.3	-1.0
ILL. Cairo . . .	78	- 3	2.8	+2.1	N.Y. Albany . . .	67	- 5	.9	+ .2	Roanoke . . .	74	- 2	.3	- .6
Chicago . . .	72	- 3	.4	- .4	Binghamton . . .	65	- 4	1.3	+ .5	WASH. Colville . . .	69	0	.2	+ .1
Moline . . .	72	- 3	.6	- .3	Buffalo . . .	69	- 1	1.4	+ .7	Omak . . .	73	+ 2	0	- .1
Peoria . . .	72	- 4	.8	0	New York . . .	73	- 4	1.0	0	Quillayute . . .	61	+ 1	T	- .5
Rockford . . .	70	- 3	.3	- .6	Rochester . . .	69	- 2	1.1	+ .4	Seattle-Tacoma . . .	68	+ 3	0	- .1
Springfield . . .	73	- 3	.5	- .2	Syracuse . . .	67	- 5	1.4	+ .7	Spokane . . .	70	- 1	T	- .1
IND. Evansville . . .	75	- 3	2.3	+1.5	N.C. Asheville . . .	72	- 2	.1	-1.0	Walla Walla . . .	77	0	0	- .1
Ft. Wayne . . .	70	- 3	.4	- .4	Charlotte . . .	77	- 2	.2	- .8	Yakima . . .	73	+ 2	T	0
Indianapolis . . .	73	- 2	.1	- .6	Greensboro . . .	75	- 2	.5	- .5	W.Va. Beckley . . .	66	- 4	2.3	+1.4
South Bend . . .	71	- 2	T	- .8	Hatteras . . .	78	0	1.0	- .4	Charleston . . .	72	- 3	2.3	+1.2
IOWA. Burlington . . .	74	- 2	.7	- .1	Raleigh . . .	76	- 2	.2	-1.0	Huntington . . .	75	0	.9	0
Des Moines . . .	76	0	.1	- .6	Wilmingtong . . .	78	- 3	2.0	+ .1	Parkersburg . . .	74	- 1	.4	- .5
Dubuque . . .	70	- 2	.1	- .8	N.DAK. Bismarck . . .	68	- 4	T	- .4	WIS. Green Bay . . .	68	- 2	.7	+ .1
Sioux City . . .	72	- 4	T	- .6	Fargo . . .	70	- 2	.5	- .2	La Crosse . . .	75	+ 2	.7	0
KANS. Concordia . . .	76	- 3	.5	- .1	Williston . . .	69	- 2	.5	+ .1	Madison . . .	67	- 4	.1	- .7
Dodge City . . .	78	- 2	1.3	+ .6	OHIO. Akron-Canton . . .	69	- 3	.7	- .1	Milwaukee . . .	68	- 3	.3	- .4
Goodland . . .	70	- 7	.2	- .4	Cincinnati . . .	74	- 2	.8	0	WYO. Casper . . .	70	- 3	.2	0
Topeka . . .	75	- 4	T	- .9	Cleveland . . .	69	- 3	2.1	+1.3	Cheyenne . . .	66	- 4	.4	0
Wichita . . .	79	- 3	1.2	+ .3	Columbus . . .	71	- 3	.2	- .7	Lander . . .	70	- 2	T	- .1
KY. Lexington . . .	74	- 2	1.5	+ .5	Dayton . . .	71	- 4	.0	+ .3	Sheridan . . .	70	- 2	.4	+ .3
Louisville . . .	76	- 1	1.6	+ .8	Toledo . . .	69	- 3	T	- .7	P.R. San Juan . . .	80	- 1	.7	- .8

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: Showers provided wettest week in three months. Temperatures near normal.

Fieldwork: 4.0 days suitable. Soil moisture short, but improved. Cotton fair to good; 89% setting bolls, 56% 1976. Corn poor condition; 28% mature. Soybeans fair; 50% blooming, 41% 1976, 50% average. Peanuts fair; 85% pegging, 92% 1976, 98% average. Pastures and hay poor.

ALASKA: Tanana Valley, Matanuska Valley, and Kenai Peninsula very warm with little rain. Kodiak Island cool and wet.

Dry, windy weather depleted soil moisture but hastened crop development. Weekend showers Kenai and Matanuska alleviated crop stress. Small grains continue to fill and ripen at fast pace. Abundant supplies of radishes, squash, lettuce and other greens harvested. Early cabbage harvest starting.

ARIZONA: High temperatures; moist, unstable air. Widely scattered thundershowers east. Heavy rainfall central mountains, southeast. Temperatures 2 to 6° above normal.

Cotton good progress; spraying active. Bolls maturing increasing rate. Early planted sorghum virtually mature; later plantings all stages. Corn southeast tassled stage. Safflower harvest active central, complete west. Alfalfa fourth cutting well advanced central, west. Cantaloup, watermelon harvests virtually complete. Land preparations well advanced fall, winter vegetables. New crop citrus sizing well; lemon ring picking early August. Showers helped ranges green. Range conditions mostly poor desert, fair higher elevations. Stock water supplies short. Supplemental feeding necessary some areas. Livestock mostly fair to good condition.

ARKANSAS: Temperature average 83°. Extremes: 102 and 61°. Most precipitation 3.34 in.; least, trace.

Soil moisture adequate. Fieldwork: 4.2 days suitable. Soybeans good; early varieties blooming, some setting pods. Herbicides applied some late, planted fields. Cotton good; bollworm activity increasing, excessive vegetative growth some fields. Rice good, heading two weeks ahead normal; some early harvest possible middle August. Late planted corn good. Some silage cut. Sorghum good. Grapes excellent. Pastures providing adequate feed.

CALIFORNIA: Above normal temperatures along coastal areas and southeast interior and slightly below normal in central valley and mountains. No precipitation.

Alfalfa hay all stages harvest. Cotton blooming. Safflower maturing, harvest begun. Small grain harvest nearly finished. Rice developing well. Milo heading. Corn dough stage few areas. Dry bean prospects good. Almond hull split continues; growers preparing orchards for harvest. Apple, avocado, table grape, Valencia orange, lemon, peach, nectarine, plum, pear harvests continue. Date palms setting fruit. Prunes sizing well. Size problem extra early clingstone peaches. Maturity lagging mid-season freestone peaches. Broccoli, cantaloup, sweet corn supplies heavy. Cauliflower, celery, pepper moderate. Processing tomato beginning Sacramento Valley, continues San Joaquin. Rangeland extremely dry. Water supplies critical many areas. Trees showing stress going into premature fall leaf drop. Water hauling,

supplemental feeding continues. High mountain range fair to good condition.

COLORADO: Heaviest rains this year drenched east; flash flood watches posted for mountains and eastern plains. Minor flooding but no widespread damage or injuries. Rains of 1.00 to 2.00 in. fell east early week; on western slope amounts 0.50 in. or less. Drier air midweek with a few locally heavy showers. Dry last half. Temperatures near normal west; 1 to 3° below normal east.

Winter wheat harvested 95%, 91% 1976, 88% average. Winter barley harvest 89% complete. Corn condition very good; average height 72 in., 86% tasseled, 72% silked. Alfalfa 2d cutting 47%, 3d cutting 13%. Most irrigated crops in good condition. Dryland crops west fair to poor. Vegetable and fruit harvest continuing. Range and pasture conditions fair to poor west, good east. Livestock good to very good condition. Soil moisture short west, short to adequate east.

FLORIDA: Scattered thundershowers, more numerous weekend. Rainfall averaged 1.00 to 2.00 in. with temperatures near normal.

Soil moisture adequate south, coastal areas, mostly short elsewhere. Corn harvest active, yields low. Tobacco harvest half way, yields fair from irrigated land, poor non-irrigated. Peanuts good condition but insects a problem. Soybeans fair to poor condition, insects also a problem. Sugarcane good condition. Cotton fair to poor condition. Pasture conditions mostly good central, southern Peninsula. Poor northern Peninsula, Panhandle where rainfall continues spotty. Cattle condition remains poor in dry areas of northern Peninsula, Panhandle; mostly good elsewhere. Citrus grove condition excellent. Surface moisture adequate but more rain needed to raise water table. Varying amounts of late bloom continue. Valencia harvest in last few days. Land preparation fall vegetable crops continue active. Several fields eggplant set north central area off to good start. Growers preparing seed beds, laying plastic mulch. Small amount summer activity continues, cucumbers, squash, okra.

GEORGIA: Temperatures near or slightly below normal. Hot, 100° weather early in period followed by much cooler readings in 60's and 70's north and central on 27th and 28th. Dry early period, then increasing shower activity end of week. Amounts highly variable, but averaged 1.00 to 2.50 in., except only 0.25 to 0.75 in. mountains, east central and extreme southwest. Beneficial showers over weekend.

Crop conditions improved only slightly. Soil moisture extremely varied, very short to adequate, mostly short. Fieldwork: 5 days suitable. Insects very prominent. Corn condition rated poor; extensive cuttings for silage or hay. Tobacco fair, 46% harvested, 87% last year, average 77%. Cotton rated poor to mostly fair, 98% setting bolls, last year 93%. Soybeans improved slightly, poor to mostly fair; insect damage heavy. Peanuts still poor to mostly fair; 99% blooming, 96% pegging, equal to last year. Pastures improved slightly, mostly poor to fair. Cattle still poor to mostly fair; forced selling continues. Hogs improved, still fair to good. Peaches fair; 96% harvested, last year 97%.

Apples fair to good; 17% harvested, last year 4%. Watermelons poor to fair; 90% harvested, last year 89%.

HAWAII: Showers beneficial in dry Kihei area, Maui. Showers generally light other Island, mainly higher elevation.

Heavy irrigation continuing all major producing areas. Vegetable supplies moderate to heavy. Papaya supplies heavy. Pineapple harvesting full swing. Sugar harvesting steady. Pastures fair to good.

IDAHO: Precipitation early week caused above normal cumulation most areas. Heaviest amounts fell south. Temperatures 1 to 5° below normal south but above normal north.

Crops progressed rapidly, generally more advanced than last year. Winter wheat 100% turned, 50% ripe and 15% harvested; 95%, 30% and 5% respectively in 1976. Barley 90% turned, 35% ripe and 10% harvested; 60%, 15%, and 5% in 1976. Potatoes mostly good condition, 80% closing middles, 70% 1976.

ILLINOIS: Temperatures 2 to 4° below normal. Precipitation light to moderate; less than 0.10 in. northwest, more than 0.75 in. elsewhere.

Corn good; 70% in dough, 32% 1976, 32% average; 28% reached dent, 5% 1976, 5% average. Soybeans good; 89% bloomed, 80% 1976, 71% average; 67% set pods, 46% 1976, 40% average. Wheat plowing 45% completed, 23% 1976, 17% average. Oats 99% combined, 86% 1976, 87% average. Third crop alfalfa hay 25% cut, 7% 1976, 3% average; mostly good to fair. Pasture mostly fair. Soil moisture short to adequate. Fieldwork: 6.0 days suitable.

INDIANA: Cool temperatures slowed evaporation losses of soil moisture. Rainfall extremely variable; from none north central to an average of 1.70 in. southwest. Most other localities 0.20 to 0.70 in.

Fieldwork: 6 days suitable. Topsoil and subsoil moisture mostly short to adequate. Corn fair to mostly good condition; 90% silk, 1976 85%, average 70%; 40% dough, 10% dented. Soybeans fair to mostly good. Soybeans 40% podded; 80% bloomed. Oats 95% combined; 1976 85%, average 75%. Wheat land 10% plowed, 1976 15%, average 15%. Alfalfa hay 90% cut 2d time; 1976 90%, average 75%. Apples 15% picked. Peaches 20% picked. Pastures fair.

IOWA: Temperatures subnormal. Spotty showers provided moderate amounts in some central to southeast localities; most other localities were with light showers.

Soil moisture short to adequate. Fieldwork: 6.0 days suitable. Corn acreage 96% silked, last year 88%, 80% average; 64% in milk stage; 30% dough stage, last year 2%, 11% average. Soybean acreage 92% blooming, with 68% setting pods; last year 84% was blooming, 76% average and last year 60% had set pods, 41% average. Alfalfa 2d cutting complete same as last year, 75% average. Clover hay 2d cutting 58% complete, 86% last year, 79% average. Corn and soybeans good to fair with infestations of grasshoppers and rootworm beetle growing worse. Clover and alfalfa hays fair to good. Pasture very poor to fair but improving northeast. Livestock improved with cooler weather. Feeding of hay and silage common.

KANSAS: Temperatures 72° northwest to 79° south central; 2 to 5° below normal. Precipitation averaged 0.10 in. east central to 1.70 in. northwest. Average of 1.10 in. southwest.

Cool temperatures, rain many areas should aid crops. Northeast received little rain. Sorghum 30% headed, 15% last year, 20% average. Greenbugs, chinch bugs heavy infestations east. Corn 90% tasseled, last year 80%, average 75%. Corn dough stage 40%, last year 10%; average 25%. Soybeans 45% blooming, last year 20% blooming. Soybeans setting pods 30%, last year 10%, average 25%. Second cutting alfalfa completed, third cutting alfalfa 45%, last year 35%, average 30%. Pastures ranges good condition, dry weather could cause rapid deterioration. Livestock benefited from cooler temperatures; grazing native pastures and wheat stubble.

KENTUCKY: Slightly below normal temperatures and general rainfall. High's in 80's and low's in 60's.

Fieldwork: 4.5 days suitable. Soil moisture mostly adequate to short. Farmers spraying and topping tobacco, spraying corn and soybeans, cultivating late row crops and "rolling" hay. Corn 35% in dough or beyond, 40% milk and 25% pre-milk. About 63% soybeans blooming or podding, 39% last year and average. About 62% of burley tobacco reached bloom stage with nearly 33% already topped. Dark types making similar progress with 65% bloomed out and 39% topped. About 75% of burley already treated with chemical sucker control. Nearly 50% third cutting alfalfa completed. Most crops developing well.

LOUISIANA: Temperatures 2° below normal to 3° above. Extremes: 69 and 99°. Showers throughout week.

Soil moisture short to adequate. Fieldwork: 4.6 days suitable. Main activities: Haying, application of pesticides and harvesting rice. Rice good; 74% headed, 29% ripe, 10% harvested. Cotton fair to good; 94% setting bolls. Corn fair; 90% dough stage. Sorghum fair to good; 87% headed. Soybean fair to good; 74% blooming. Sugarcane mostly good. Sweetpotatoes fair to good. Hay and pasture fair. Cattle mostly fair to good.

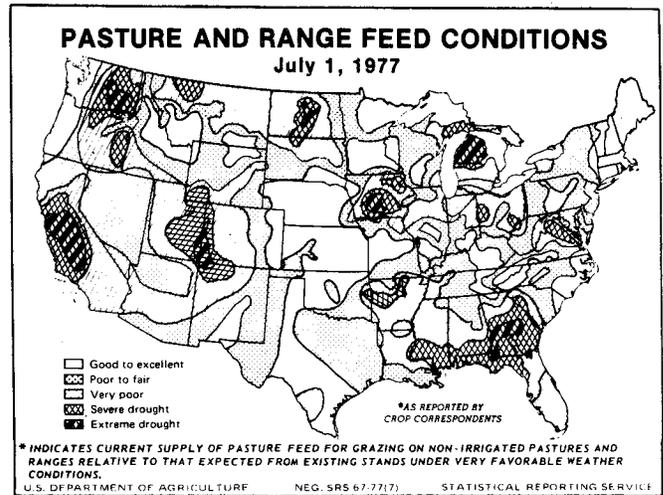
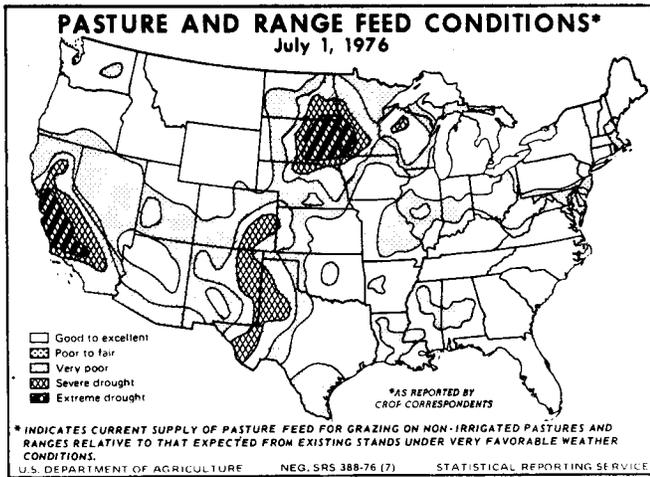
MARYLAND & DELAWARE: Temperatures 4° below normal. Highs, mid-80's; lows, upper 50's. Precipitation widespread. Most areas received 0.50 in., western areas 1.00 to 2.00 in.

Corn 80% silked, showing signs of moisture stress in east. Soybeans 25% bloomed, 35% 1976. Third cutting alfalfa 40%, second cutting clover and clover mixtures 65%. Tobacco growth good. Peaches ripening about 1 week earlier than normal.

MICHIGAN: Temperatures ranged 1 to 5° below normal. Extremes: 91 and 35°. Some frost 27th north Lower. Precipitation 0.25 in. central Lower to 1.15 in. northeast Lower.

Soil moisture low. Pasture and 2d cut hay short. Fieldwork: 6 days suitable. Corn 70% silked, 10% dough. Tart cherry and wheat harvests finishing. Oat harvest 25%. Dry beans 60% blooming, 15% pods set. Soybeans 50% blooming, 20% pods set. Potatoes 5% dug, 7% last year, 3% normal. Harvest of peaches, summer apples, sweet corn, celery, cucumbers, and tomatoes continues.

MINNESOTA: Temperatures near normal west and 3° below normal east. Extremes: 93 and 47°. Precipitation averaged 0.30 to 0.60 in. below normal much of south and extreme north; 0.50 to 1.00 in. above normal across most of central. Totals ranged from less than 0.25 in. portions of south to more than 1.50 in. central to northeast and locally in the south.



Recent rains, cooler temperatures relieved stress conditions most areas. Northwest and parts of west central remain dry; crops under stress there. Row crops mostly good to excellent condition. Some corn in dough stage, few fields denting. Small grain harvest made good progress, nearing completion in south. Flax harvest beginning in south. Most sunflowers blooming. Corn 80% in milk or beyond, 1976 23%, normal 11%. Soybeans 75% setting pods, 1976 38%, normal 36%. Combined: Spring wheat 42%, 1976 34%, normal 12%; oats 63%, 1976 56%, normal 27%; barley 62%, 1976 42%, normal 22%; winter wheat 81%, 1976 80%, normal 44%; rye 76%, 1976 86%, normal 54%; flax 75% turning ripe, 1976 58%, normal 40%.

MISSISSIPPI: Temperatures near normal. Extremes: 100 and 66°.

Soil moisture adequate. Fieldwork: 4.0 days suitable. Soybeans 72% blooming, 58% 1976, 43% average; 33% podding, 13% 1976. Cotton 98% blooming, 76% 1976; 89% setting bolls, 34% 1976, 72% average. Rice 28% headed, 28% 1976. Corn 97% silked, 94% 1976, 82% average; 81% in dough stage, 69% 1976; 49% dented, 27% 1976. Sorghums 61% headed, 57% 1976. Hay crops 52% harvested, 59% 1976, 55% average. Peaches 84% harvested, 85% 1976, 83% average. Cucumbers 97% harvested, 93% 1976. Watermelons 64% harvested, 67% 1976, 56% average. Corn silage 37% harvested. Soybeans and cotton in good to fair condition. Rice in good condition. Corn and pastures in fair condition.

MISSOURI: Temperatures normal to just below normal. Scattered thundershowers 25th and 29th. Amounts generally less than 0.10 in. with a few around 0.50 in.

Fieldwork: 5.7 days suitable. Soil moisture short. Corn fair to good; 68% in dough stage or beyond and 30% dented, 3 weeks ahead of last year and 2 weeks ahead of normal. Soybeans fair to good; 66% blooming or beyond and 34% setting pods; last year 55% blooming, normal 53%. Grain sorghum 76% headed, 38% last year, 44% normal. 35% 3d cutting alfalfa harvested, 18% last year, 16% normal. 87% cotton setting bolls, 38% last year, 72% normal. Pasture condition poor to good.

MONTANA: Cool first, turning hot about midweek, returning to near normal temperatures remainder of week. Precipitation above normal west. Spotty showers elsewhere, with amounts mostly below normal. Frequent windy periods.

About 30% all spring grains headed but still green. Nearly 40% spring wheat and barley turning color. About 35% oats turning. Soil moisture short, affecting late spring grain crops, pastures and ranges. Irrigation water depleted many areas. Winter wheat harvest full swing; 25% winter wheat combined, last year 10%, normal 5%. Spring wheat harvest 5%, last year and normal under 5%. Barley harvest 5% complete, last year none, normal under 5%. Oats 10% combined, last year and normal under 5%. Second cutting alfalfa 25% complete, last year and normal under 5%. Livestock condition fair to good. Poor pastures resulting in lighter calves. Grasshopper damage light to moderate.

NEBRASKA: Precipitation averaged 0.50 in. with 1.00 in. or more common southeast. Temperatures averaged 2 to 5° below normal.

Topsoil and subsoil moisture short to adequate. Corn 35% dough; 2 weeks ahead normal. Sorghum 70% headed, 50% year ago, 45% normal. Soybeans 55%

podded, 40% year ago, 45% normal. Third cutting alfalfa 15% completed.

NEVADA: Mostly dry and hot. Precipitation light and scattered. Temperatures averaged above normal most areas. Extremes: 114 to 30°.

Wild hay harvest continues. Ranges showing affect hot, dry weather.

NEW ENGLAND: Temperatures fluctuated widely from cool to hot. Cool temperatures up to 20° below normal but warmer temperatures occurred over northern sections on 29th and on all other sections on 30th.

Rainfall 0.50 to 2.00 in. Maine potatoes in full bloom and making good progress. Vegetable crops look good. Peaches, early variety apples, blueberries and raspberries harvested. Field corn growth good due to added moisture. Most farmers doing second cut hay.

NEW JERSEY: Record cool temperatures and below normal rainfall. Temperatures 4 to 8° below normal. Extremes: 43 and 93°. Rainfall averaged 0.36 in. north, 0.91 in. central and 0.84 in. south.

Soil moisture extremely low. Irrigating continues on most vegetable farms. Cooler temperatures most welcome for crop development. Wide variety of summer vegetables available in moderate to good volume. Planting vegetables for fall harvest progressing on schedule. Summer apple harvest general; peach harvest increasing. Oat combining nearing completion. Most corn, soybeans, pasture and hay crops need good soaking rain.

NEW MEXICO: Scattered showers most sections first with some totals above 1.00 in. northern mountains and northeast.

Cotton, irrigated grain sorghum, corn, good. Dryland grain sorghum fair. Second cutting alfalfa 80% completed north, 3d cutting 70% completed south. Ranges poor to fair; livestock fair to good.

NEW YORK: Showers and thunderstorms brought from 0.50 to 2.25 in. rain. Temperatures in 50's and 60's, 1 to 6° below normal. Extremes: 29 and 91°.

Many areas short on moisture. Ears forming well on early corn. Early oat harvesting started. Wheat harvest 50% complete. Second cutting alfalfa 40%. Early cabbage, sweet corn harvesting underway. Early onion harvest beginning. Grape condition fair to good. Early varieties of apples and peaches being picked.

NORTH CAROLINA: Temperatures 2° below normal. Dry weather continues.

Fieldwork: 5.9 days suitable. Soil moisture very short. Pastures mostly poor; hay poor to fair; corn poor to good; tobacco, soybeans, cotton, sweetpotatoes fair; peanuts, Irish potatoes and apples fair to good. Flue-cured tobacco 26% harvested, 1976 38%, average 33%; hay 73%, 1976 66%; peaches 79%, 1976 89%, average 71%.

NORTH DAKOTA: Temperatures near normal. Extremes: 45 to 99°. Showers common but amounts generally light. Rainfall averaged 0.10 to 0.75 in.

Harvest and development of small grains slowed by damp weather. Percent combining complete: Hard red spring wheat 10%, durum 3%, oats 20%, barley 30%. Row crops good condition but need rain for continued normal development. Pastures mostly poor to fair with rain needed to promote regrowth.

OHIO: Temperatures near normal. Extremes: 90 and 46°. Precipitation spotty, 2.12 in. to trace.

Fieldwork: 6 days suitable. Main activities: Combining oats, hay baling, vegetable harvesting, plowing winter wheat ground (9%), early peach picking, tobacco topping (10% complete), caring of livestock. Oats 80% harvested, 75% 1976, 60% normal. Second cutting alfalfa 85% complete, 80% 1976, 70% normal. Second cutting clo-tim 65% complete, 55% 1976, 45% average. Potato harvest 15% complete. Soybeans 65% setting pods, 70% 1976, 55% average. Corn 75% silked, 75% 1976, 65% normal; 20% dough stage, 15% 1976, 5% average. Corn and soybeans fair to good, critical need of rain west. Soil moisture short to adequate.

OKLAHOMA: Temperatures 2 to 3° below normal north to 3° above south. Precipitation range 0.65 in. south central to 3.06 in. east central. Most areas exceeded 1.00 in.

Rainfall and a break in extreme high temperatures helped crop conditions. Cotton started to shed some squares and late planted sorghums showed stress. Wheat ground tillage resumed and some fertilizer applications made. Corn in good to fair condition, with 88% tasseled, compared 85% year ago, 83% average. Sorghums now 40% headed, behind average of 53% but ahead 38% year ago. Cotton in fair to good condition, with 90% acreage squaring, earlier than 79% average and 77% year ago. Peanuts late, with 60% acreage blooming, behind 72% average, 87% year ago. Soybeans in good condition and early, with 50% now blooming, 10% setting pods compared with 36% and 6% average, and 23% blooming year earlier. Pastures and ranges providing ample grazing and with rains will have new growth for late summer and fall grazing.

OREGON: Temperatures near normal to a little above along coast and northwest interior, elsewhere 5 to 10° above. Light rain fell along coast and northwest interior, scattered thundershowers east. Rainfall range up to 0.25 in. Extremes: low 90's, mid-40's west; low 100's, mid-30's east and south.

Grain harvest continued east and south, starting west. Grasshoppers increasing east. Potatoes looking good, harvest started Hermiston. Peppermint doing well. Peach harvest starting. Snap bean harvest continues. Corn and other vegetables look good. Livestock continue good shape west and poor to fair east. Increasing amount of stock water hauled east. Outlook for fall and winter pasture looks bleak.

PENNSYLVANIA: Cool with rain. Extremes: 36 and 90°. Temperatures 4 to 8° below normal. Showers and thunderstorms produced rainfall totals from 2.00 to 3.00 in. northwest; 0.75 in. or less east and parts of southwest.

Fieldwork: 5 days suitable. Soil moisture adequate. Activities: Haymaking, grain harvesting, spraying potatoes and tomatoes, peach, plum, potato harvesting, orchard mowing. Corn 70 in., last year 68 in. Barley 83% harvested, last year 90% harvested. Wheat 60% harvested, last year 68% harvested. Oats 26% harvested, last year 35% harvested. Alfalfa second cut 71%, last year 60%. Feed from pastures mostly average.

PUERTO RICO: Rainfall 1.02 in. or 0.43 in. below normal. Temperatures about 81° on coasts and 76° interior. Extremes: 95 and 52°.

Drought continues despite increased shower activity but some relief to agricultural drought except southern coast. More rains needed for complete recuperation of all crops.

SOUTH CAROLINA: Temperatures below normal. Extremes: 97 and 59°. General rain; heaviest amount 4.75 in.

Crops still need rain. Rainfall generally not sufficient to meet plant's needs but will help greatly. Insect activity heavy. Tobacco condition fair. Leaf quality lower than last year most areas. Late planted crop needs more rainfall. Corn poor condition; being harvested as hay, ensilage. Rain will not help crop much since 66% now mature. Cotton poor to fair condition; some bolls opening. Earworm active most areas. Recent rains will help greatly. Soybean condition poor to fair; some plants setting pods. Peach condition fair; 82% now harvested. Pastures poor condition. Beef cattle herds liquidated in record numbers.

SOUTH DAKOTA: Cool. Extremes: 46 and 101°. Rainfall statewide.

Topsoil moisture short. Grasshoppers infesting corn and grains. Winter wheat harvested 96%, 1976 97%, normal 83%. Spring wheat harvested 68%, 1976 78%, normal 40%. Oats harvested 89%, 1976 90%, normal 58%. Barley harvested 87%, 1976 89%, normal 64%. Rye harvested 97%, 1976 99%, normal 81%. Flax harvested 8%, 1976 25%, normal 0%. Sorghum headed 54%, 1976 21%, normal 23%. Corn silked 83%, 1976 44%, normal 48%. Soybeans podded 61%, 1976 20%, normal 26%. 2d cutting alfalfa 80% harvested, 1976 69%, normal 51%. Livestock good but pasture fair.

TENNESSEE: Precipitation 1.00 to 2.00 in. west and mid, 0.50 in. east. Temperatures normal.

Fieldwork: 4.4 days suitable. Pastures short. Cattle condition fair. Most crops improved. Soil moisture short but greatly improved. Soybeans blooming 75%, 50% 1976, 52% normal. Soybeans setting pods 27%, 15% 1976, 14% normal. Cotton setting bolls 77%, 48% 1976, 58% normal. Corn in dough stage 62%, 38% 1976, 45% normal. Corn dented 24%, 6% 1976, 14% normal.

TEXAS: Temperatures 4 to 6° above normal to near normal. Average rainfall 1.00 to 2.00 in. northern Panhandle, north; 1.00 in. east, upper Gulf Coast; elsewhere 0.10 in. or less.

Scattered showers, thunderstorms helped crops some areas; more needed, especially dryland crops. Corn harvest underway all areas except plains. Corn on high plains good development. Cotton harvest gaining momentum lower Valley; just starting other areas as far north as lower Blacklands. Cotton on plains continues fruiting well; dryland stands need moisture, shedding small bolls stressed areas. Rice harvest progress good despite scattered showers. Sorghum harvest full swing from Blacklands to south Texas; nearing completion Coastal Bend, lower Valley. Many dryland stands on plains, Cross-Timbers stressed. Peanut stands making good progress but rain needed for continued growth many areas. Few early fields harvested south, south central. Soybeans setting pods; progress good where moisture adequate. Sorghum harvested 38%, 26% 1976, 34% average. Rice harvested 42%, 28% 1976, 23% average. Corn harvested 2%, 8% 1976, 9% average. Cotton harvested 1%, 0% 1976, 1% average. Fall vegetable land preparation and planting underway. Scattered rainfall helped some areas, more rain needed. Harvests green peppers, cucumbers, melons, onions, lettuce, tomatoes active. Scattered showers, thunderstorms did little to improve grazing conditions. Pastures receiving heavier rains helped but grasses many localities remain dry; some range fires. Adequate grazing available many areas; but little regrowth. Ranchers drier areas feeding livestock; culling. Livestock fair to good condition; weight losses reported some areas.

UTAH: Scattered shower activity early week; generally fair remainder. Temperatures near normal but ranging from 3° below to 5° above.

Nonirrigated crop and range land soil moisture slightly improved. Winter wheat harvest 25 to 35% completed. Spring planted small grains about half ripe, with harvest progress about 20%. Second crop alfalfa hay harvest about 50% finished, other hay 67% harvested. Tart cherry harvest about 75% completed; apricot harvest 67% completed.

VIRGINIA: Rainfall averaged 0.50 in. Temperatures 5° below normal. Extremes: 95 and 47°.

Topsoil moisture short. Pasture area livestock watering supplies short. Irrigation water supply critical in south central tobacco areas. Household and farm service water supplies mostly adequate. Corn mostly poor, good in southwest. Soybeans fair; blooming active southeast. Peanuts good; pegging active. Flue-cured tobacco 5% harvested, 15% 1976, 9% normal. Sun-cured 1% harvested. Fire-cured harvest starting. Hay poor; grasshoppers severely damaged south central clover. Forage from pastures poor to very poor. Fieldwork: 5.7 days suitable.

WASHINGTON: West: Precipitation 1.00 in. below east Cascades foothills and 0.30 in. above Cascade mountains west; sound area normal. Temperatures near normal except 4° above Cascade mountains west.

Lettuce, cauliflower, cabbage, carrots, and green beans being harvested. Second crop hay up. Soil moisture declined, may have adverse effects on non-irrigated crops.

East: Precipitation averaged 0.20 in. above normal to normal. Temperatures 2 to 5° above normal.

Apricots, peaches, nectarines being harvested. Pears and apples growing well. Some early potato digging underway. Mint harvest continues. Second cutting hay starting. Cattlemen will feed hay early due to drought. Hay supplies low in east.

WEST VIRGINIA: Temperatures below normal. Rainfall above normal except northeast.

Fieldwork: 5.6 days suitable. Soil moisture mostly adequate. 1st haying 93% complete; 2d haying 37%, 19% 1976, 29% average. Small grains mostly fair to good. Harvest: Wheat 88%, 93% 1976, 80% average; barley 88%, 98% 1976, 89% average; oats 63%, 58% 1976, 41% average. Corn good to fair. Potatoes 14% dug, 10% 1976, 9% average. Pastures fair to good. Face flies bothering livestock.

WISCONSIN: Temperatures averaged 2° below normal. Temperatures rose to upper 80's and lower 90's 30th. Most areas had some rainfall, with heaviest amounts of 0.50 in. or more north and west but less than 0.50 in. south. Severe storms and tornadoes 30th; most damage west.

Corn crop mostly very good to excellent; 90% silked, 1976 60%, normal 50%. Crop settings large ears, early corn beginning to dent. Oats 33% harvested, 1976 30%, normal 15%. Some harvesting problems were oats lodged and weed growth prolific. Heavy straw where moisture adequate in spring. Second crop hay 75% harvested, 1976 45%, normal 30%. Some good second crop yields. Third crop growth coming fast, a few started cutting. Storage space for hay filling up. Pasture conditions near normal where good rains in July. Soybeans have good growth. Tobacco being topped; crop looks good. Harvesting continues for early apples, potatoes, sweet corn, snap beans, cherries. Soil moisture short to adequate.

WYOMING: Temperatures below normal. Precipitation above normal.

Soil moisture generally short. Rain boosted crop prospects and range grasses; but delayed grain and hay harvest. Winter wheat 59% harvested.

Spring wheat 16% harvested; oats 8%; barley 19%. Alfalfa first cutting finished, second cutting 23%. Row crops generally good condition. Corn 49% tasseled. Dry beans and potatoes 81% and 44% in bloom respectively.

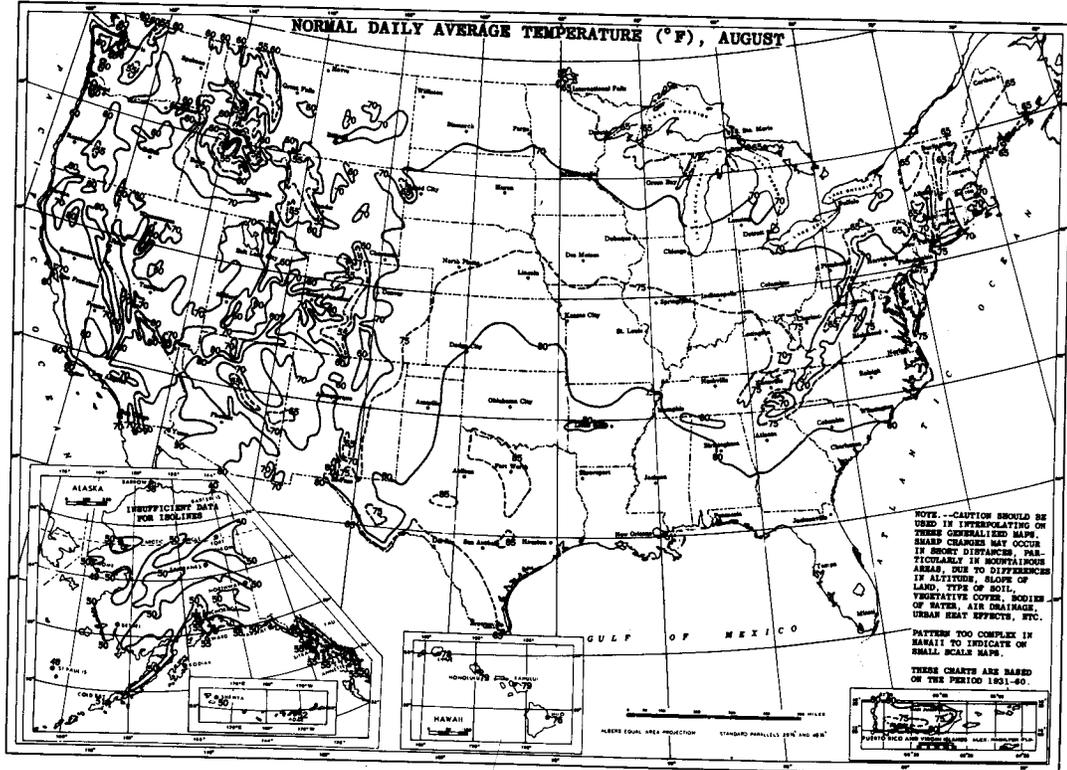
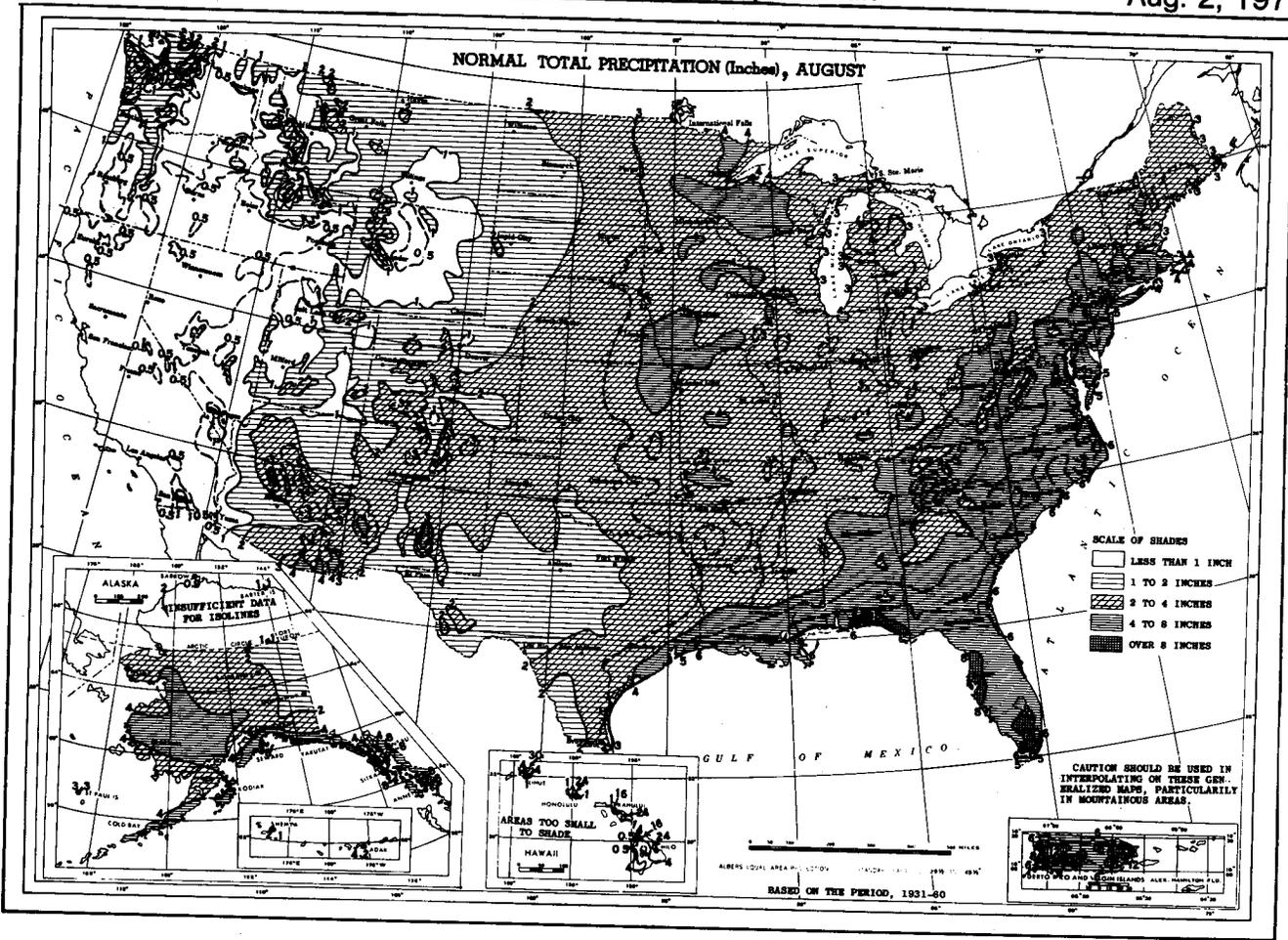
USSR. Generally drier harvesting weather prevailed for July's second week in the European USSR, allowing more rapid harvesting of winter grains. Some locally heavy rains, however, were reported in Belorussia, southwestern Ukraine, and North Caucasus which probably hampered grain threshing. Latest official Soviet statistics indicated 31 million hectares of grain cut by July 25. This was approximately one-fourth of the acreage sown. Threshing progress advanced to 65 percent of the area cut versus only 54 percent the previous week. Threshing, as a percentage of grain cut, remained below the average of the past several years. Rainfall did occur in some of the spring wheat regions in North Kazakhstan and western Siberia. However, there remain areas of dryness where stress conditions continued, particularly in the Lower Volga, Ural, and West Kazakhstan regions.

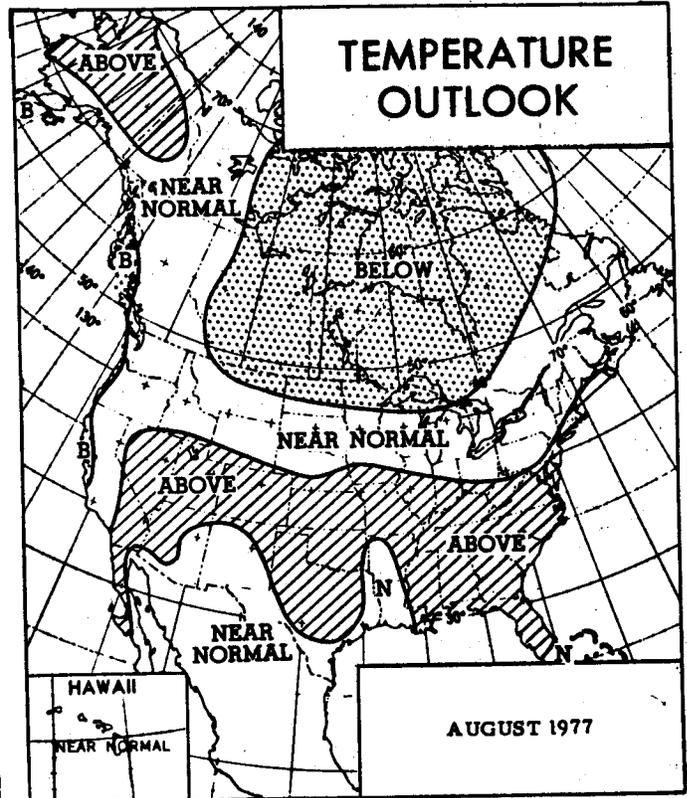
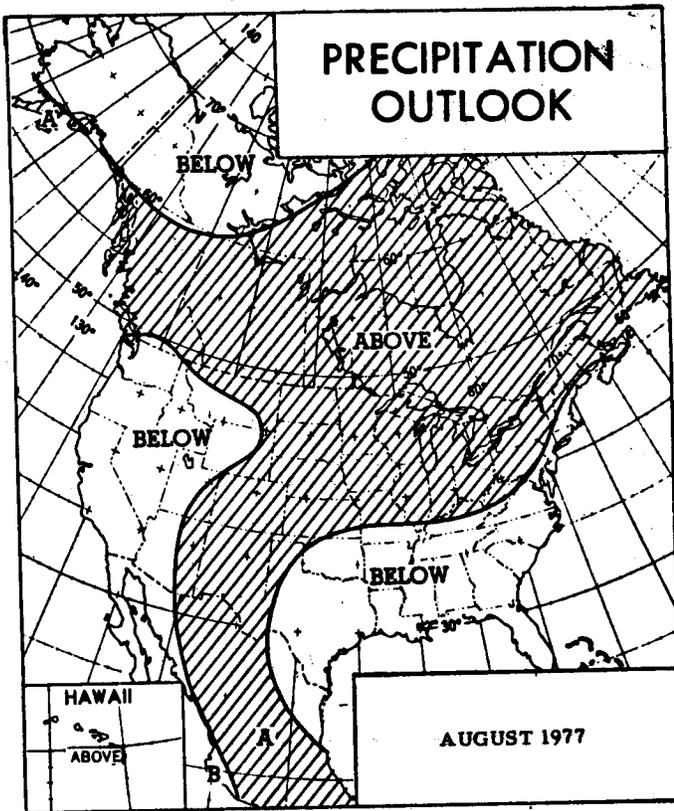
ASIA. Heavy rains were common across much of the People's Republic of China; more than two inches occurred in many parts of the country. Very heavy rains continued in the North China Plain, the primary winter wheat belt and a major producing area for corn, cotton, and soybeans. This area was already suffering from waterlogged fields and delayed harvesting of winter grains. As much as six inches fell in some areas; this could have a definite impact on the final yield and quality of the grain. Monsoonal behavior continued strong in India. A strong storm system produced showers over the winter wheat region of southeastern Australia early last week, but intensely dry high pressure predominated the next several days. Southwestern Australia experienced only light showers.

SOUTH AMERICA. Temperatures remained well above the freezing mark the last week of July in the coffee regions of Brazil. Some light showers occurred in the area, but nothing of consequence. Some thundershowers fell in northern Argentina at midweek, but the main grain areas remained dry. Heavy rains drenched Chile on the 24th and 25th as a strong low pressure system moved onshore.

NORTH AMERICA. Temperatures finally cooled across the northern half of the United States, but moisture was also light, particularly in the Corn Belt. Despite the continued dryness, the crop was reported to be in good condition. Heavy rains across the Southeast helped the extremely dry situation in Alabama and Georgia. This moisture will assist the recovery of pastures and hay, but may be too late to assist corn and soybeans. Much of Alabama received over four inches. However, the Carolinas and points northward received less than 0.50 inch in most areas.

World Weather and Crop Update





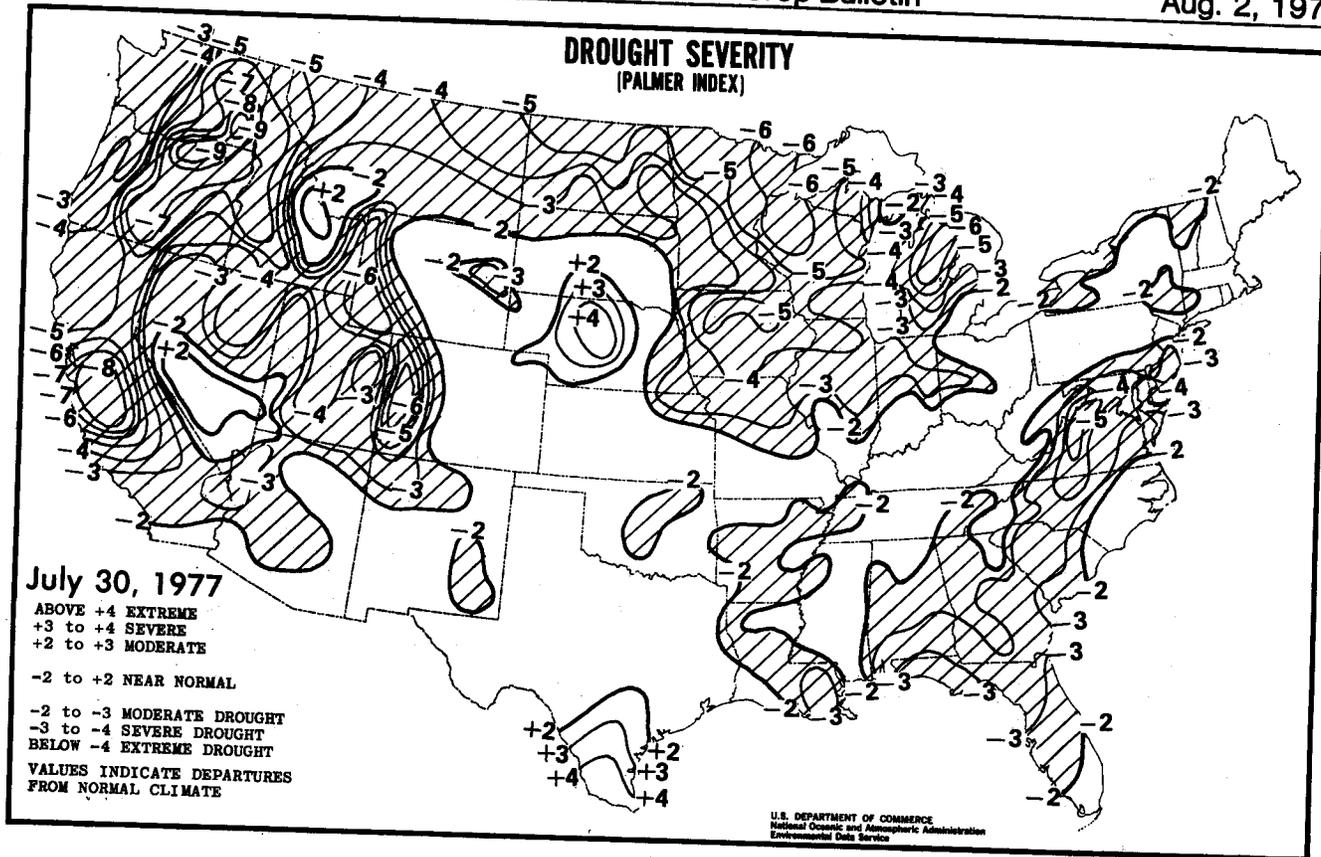
Average Monthly Weather Outlook

The latest Average Monthly Outlook for August weather indicates that favorable weather is expected for agriculture in the Corn Belt and Great Plains region. However, the dry situation in the Southeast is expected to intensify.

Near normal temperatures and above normal moisture would help corn and soybean producers. The crops are well advanced and the moisture would be critical to the filling period. Above normal

moisture across the central Great Plains would give row crops and late planted crops a real boost.

Continued below normal moisture and above normal temperatures in the Southeast will cause further deterioration of the crops. Row crops have already been seriously affected and the dry conditions will prevent any recovery of pastures for livestock and crops.



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.

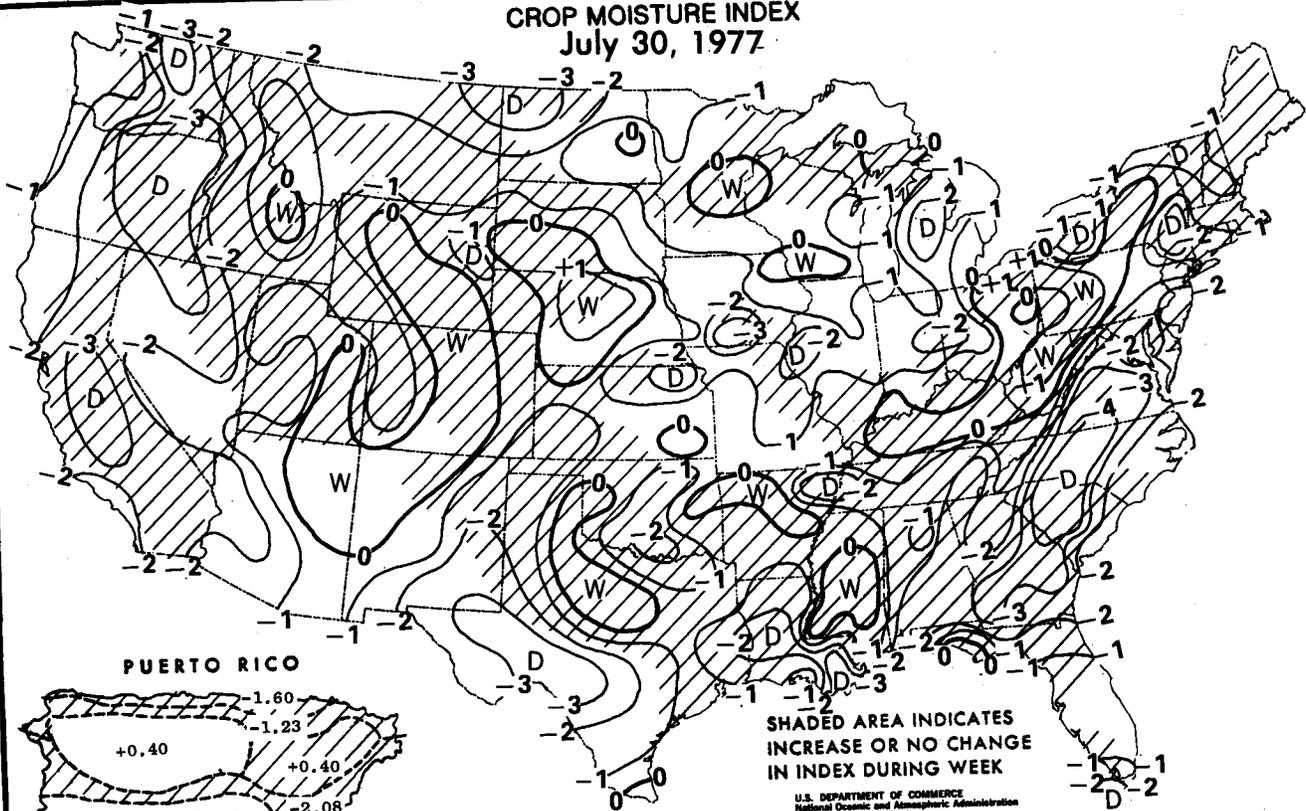
Negative Palmer Index values imply negative abnormalities of either evapotranspiration, the amount of moisture stored in or added to the soil, or of runoff, or a combination of all these types of moisture shortages. In other words, negative PI values simply indicate that the weather has been abnormally 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.

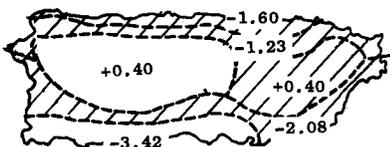
In brief summary, Palmer Index values are based on all aspects of the moisture situation, but the Crop Moisture values refer only to the crop moisture situation. In addition, the PI values are highly dependent upon antecedent moisture conditions, whereas CMI values are much more responsive to weekly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

**CROP MOISTURE INDEX
July 30, 1977**



PUERTO RICO



SHADED AREA INDICATES INCREASE OR NO CHANGE IN INDEX DURING WEEK

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

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 DRYING 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 AREA:		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

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