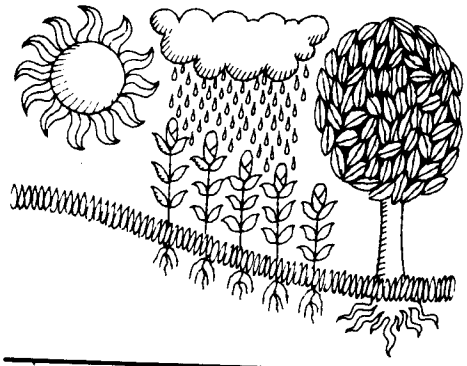

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Weather Service, NOAA

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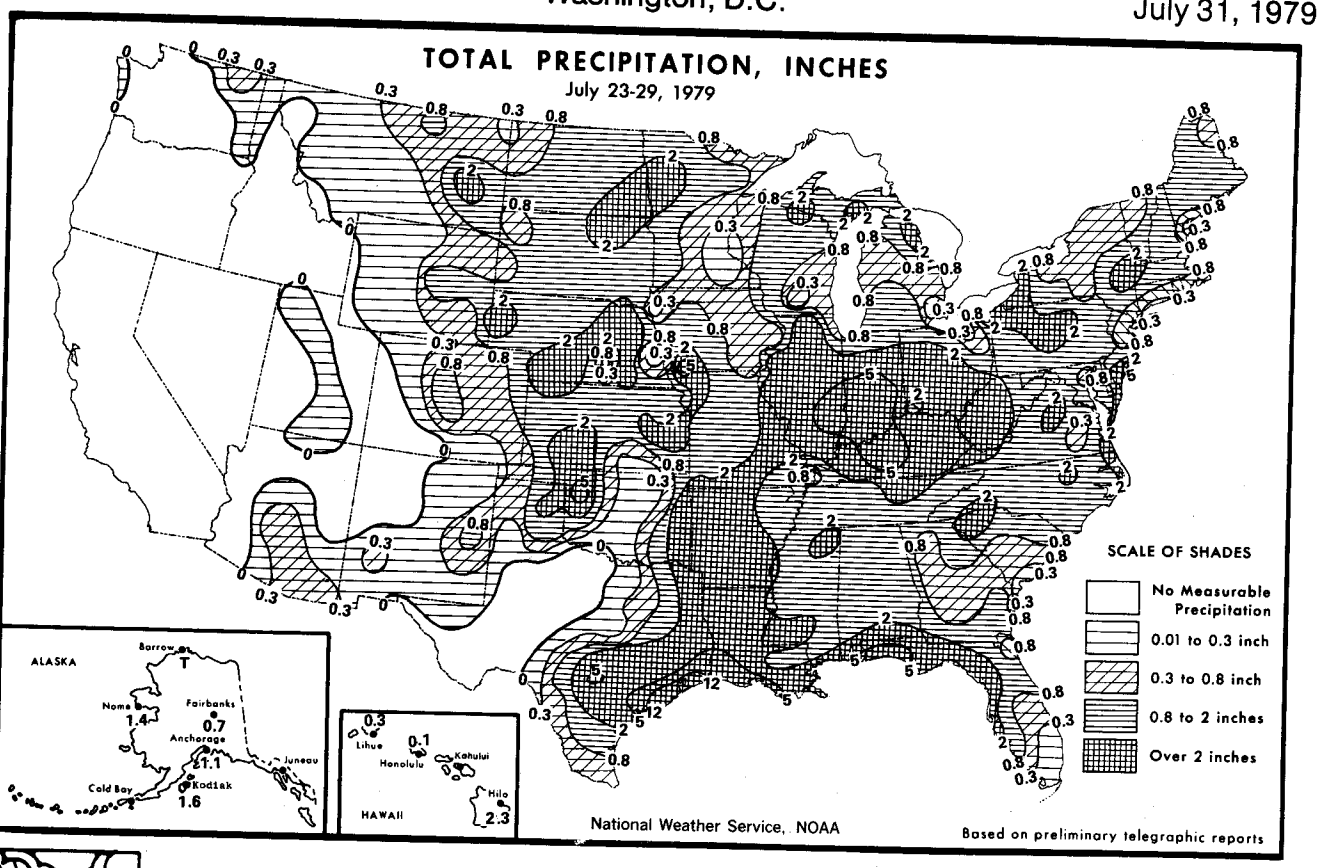


National Weather Summary

July 23 - 29

HIGHLIGHTS: Heavy rains highlighted the week; Claudette's track from southeastern Texas through the Ohio Valley left severe flooding in its wake. Heavy thunderstorms over the northern half of the Plains accounted for another area of hard rains. The middle Atlantic States recorded large amounts. Dry conditions and hot temperatures continued in the West.

On Monday, heavy rains carried over from the weekend on Kansas and South Carolina. Two to 3.5 inches fell on some stations in both States.

Meantime, Tropical Storm Claudette was downgraded to a depression but moved within 165 miles of the Texas coast triggering high tides, winds, and heavy rain along the Gulf Coast; the Mississippi coast gathered 3 to 4 inches of rain.

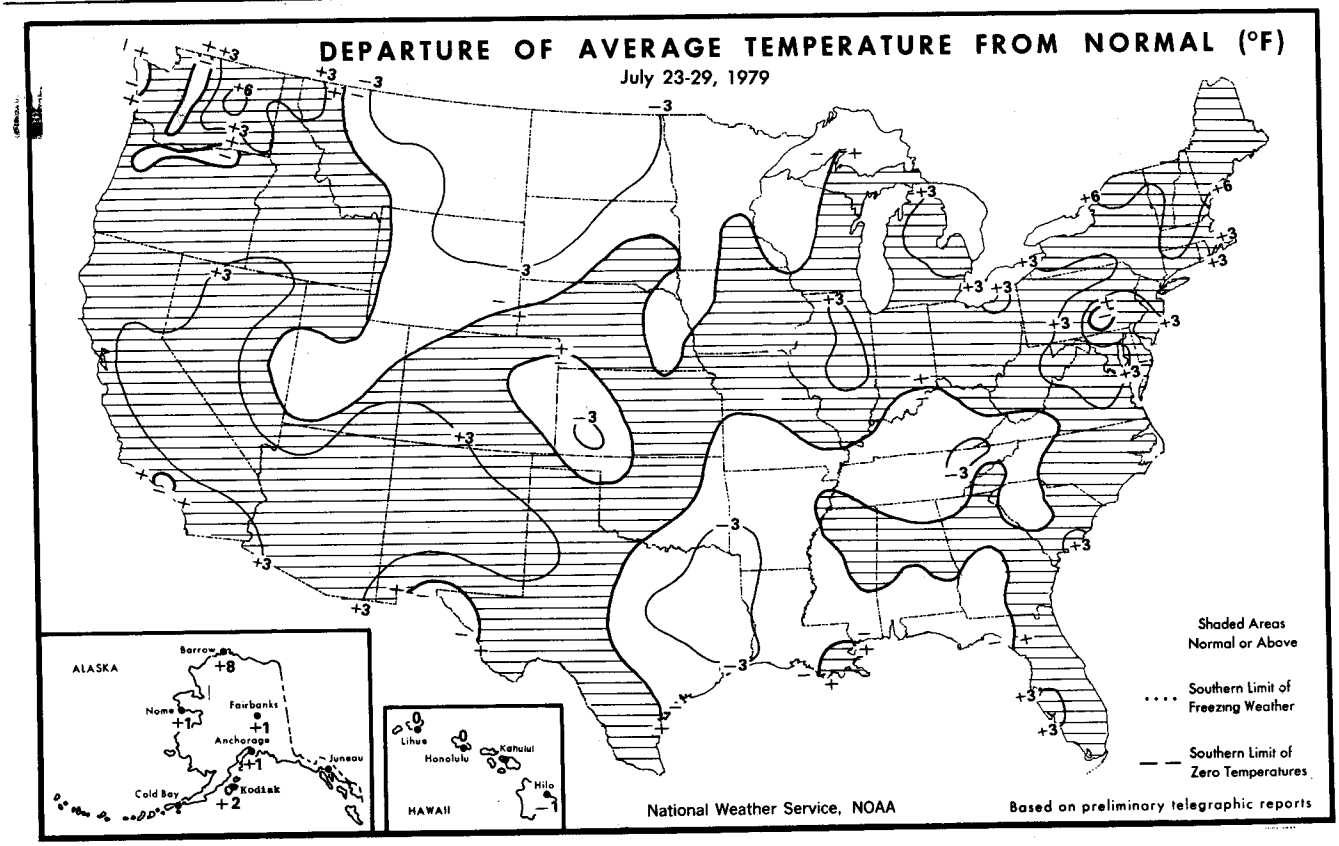
Storms also rumbled over the Dakotas and Minnesota; one to 2 inches dampened several locales in those States.

Temperatures warmed in the Great Lakes Region, where Alpena, northeastern Michigan, posted a record high 91°.

The remains of Claudette dumped very heavy rains on East Texas on Tuesday; nearly 8 inches drenched Port Arthur causing major floods. Other sections of eastern Texas and southwestern Louisiana reported heavy rain and high tides.

A cold front stretched from the Great Lakes through the Mississippi Valley to the Plains; thunderstorms dropped 6 inches of rain on Bedford, southwestern Iowa, and more than 2 inches fell on Cottonwood Falls, eastern Kansas, Moline, western Illinois, and Findlay, northwestern Ohio.

Tornadoes touched down in New Mexico, Texas, Kansas, Iowa, and Indiana; to the east, the Raleigh, N.C. area, notched about 2.5 inches of rain.



Alpena, Mich., at 93°, scored another record high reading. By contrast, Columbus, Ohio, failed to reach 90°, marking the first time in 101 years the mercury had yet to hit that temperature this far into summer.

The remnants of Claudette continued to haunt the Gulf Coast while moving inland on Wednesday. Port Arthur's total rainfall ran past 15 inches, and Beaumont's amount surged past 10 inches. Some portions of southwestern Louisiana registered up to 5.5 inches.

The cold front edged eastward spawning heavy thunderstorms over the Midwest and East; more than 2 inches soaked Louisville, Ky.

Thunderstorms cropped up over the Rockies and northern Plains; one to 2 inches fell over eastern Montana, while one-inch-plus rains soaked parts of the Dakotas and Colorado.

On Thursday, heavy rains dotted a vast area from Texas to the East Coast.

Claudette continued causing problems in Texas; Alvin, Tex., just south of Houston, received a 24-hour rainfall of 25.5 inches.

Intense storms progressed through the Ohio Valley; the lower half of Indiana and northern Kentucky were especially hard hit. Six to eight inches of rain deluged many points and flooded several areas. Further east, Albany, N.Y., measured more than 2 inches.

The Nation's cold spot was Alamosa, south central Colorado, where the record-equaling low reading hit 41°.

Though weakening on her inland trek, Claudette's persistent heavy rains reached North Texas, then drifted northeastward on Friday. A sampling of rain totals showed 4.5 inches at Tyler, northeastern Texas, more than 3 inches at Austin, Tex., 2.7 inches at Fort Smith, western Arkansas, and 2.4 inches at Monett, southwestern Missouri.

Thunderstorms and hail battered portions of Nebraska, where Maxwell, in the south central part of the State, noted 4.5 inches of rain in an hour and one-half.

Rain lessened, but flooding continued, through the southern sections of Illinois and Indiana as well as Kentucky.

By day's end, storms ranged over the Atlantic Coastal States; Cape Hatteras, N.C., collected 2.3 inches of rain.

What little was left of Claudette carried unwelcome rains to the thoroughly soaked southern half of Indiana and Kentucky on Saturday. Four to 6 inches covered sections of Indiana, sending waterways over their banks once again.

Arkansas and Illinois also reported heavy rains; Leola, south central Arkansas, tallied nearly 4 inches, and Belleville, southwestern Illinois, managed 3 inches.

Other storms rolled over the Rockies, Appalachians, and East Coast; several tornadoes whirled through Wyoming.

Storms produced wind gusts of 50 mph at Havre, northern Montana, where the mercury plummeted from 92° to 67° in one hour.

On Sunday, rain slackened but continued in the Ohio Valley; Bristow, southern Indiana, reported heavy rain, while parts of central Ohio pushed 2-day rainfall amounts to 4 inches---local flooding continued.

The Deep South and middle Atlantic States received one to 2 inches of rain; Norfolk, Va., contended with street flooding after a heavy downpour.

The northern half of the Plains also notched one to 2 inches of rain; several tornadoes were sighted. Parts of Arizona and New England noted showers, but totals remained under an inch. Dry conditions persisted on the western slopes of New England's mountains.

National Agricultural Summary

July 23 - 29

HIGHLIGHTS: Precipitation spread from the Great Plains eastward relieving dry soil stress to crops in some areas. Heavy rains and severe storms damaged crops along the Gulf Coast and lodged small grains in the northern Plains. Farmers had difficulty cutting and curing hay. Pastures in the East benefited from the precipitation and rated mostly good. In the West, most rangeland deteriorated because of dry conditions, above-normal temperatures, and virtually no precipitation. Soil moisture was adequate to surplus in the eastern two-thirds of the Nation, except for some shortages in Missouri, Pennsylvania, and the Lake States. Most of the Mountain and Pacific Coast States had short soil moisture supplies. Across the South, most farmers had only one to 3 days available for fieldwork. North central States farmers had from 2 to 6 days available, and in the West, 5 to 6 days. Corn Belt farmers began plowing land for winter wheat seedings. Winter wheat harvest advanced to 81%, continuing to lag behind 1978's 85% and the 90% average. Oats combining stood at 15%, short of the 20% last year and the 29% average. Barley harvest reached only 3%. Cotton boll set was almost complete in the Southeast and well advanced from the Delta westward. Corn tasseling and silking advanced rapidly under good weather conditions in the Corn Belt. Soybean pod set ranged from just starting to 30%. Sorghum heading advanced into Nebraska with harvest centered in Texas. Heavy rains halted rice combining in the Mississippi Delta and damaged some of the Texas crop. Deciduous fruit harvests declined in southern areas but increased in northern production areas. Vegetable harvests continued across the northern areas of the Nation; southern vegetable producers prepared land for late summer and fall seeding. Agricultural fuel supplies improved slightly from the previous week. LP gas rated 9% tight and 87% adequate; diesel fuel supplies rated 33% tight and 64% adequate; and gasoline scored 29% tight and 69% adequate.

SMALL GRAINS: Winter wheat harvest stood at 81%, short of last year's 85% and the 90% average. Harvesting was virtually complete in the Corn Belt and as far north as Nebraska on the Great Plains. The northern Plains and the Pacific Northwest were the two major areas with significant acreage yet to harvest. Oats harvest advanced to 15% complete, lagging last year's 20% and only half of the 29% average. Harvesting was on schedule in the western half of the Corn Belt, but other major oats producing States lagged last year or had not yet begun combining. North Dakota and Minnesota began swathing small grains; however, rains lodged some stands. Barley harvest reached 3% complete with most major producing States far behind recent years or not yet started.

CORN: Corn rated good throughout most of the Nation. Harvesting continued across the South, ranging from 5% in Texas to 2% in South Carolina and 7% in Georgia. Tasseling and silking were well advanced throughout the Corn Belt, generally lagging last year in the western part of the region and exceeding last year in the East. Only the Pacific Northwest reported some dry stress of the corn crop.

SOYBEANS: Soybeans generally rated good, although northern areas reported variable conditions. In the eastern north central States, bloom ranged from 50 to 71%; pod set ranged from 15 to 30%. Development in this area stayed on schedule. In the western north central States, bloom ranged from 30 to 79%; pod set ranged from 15 to 31%, generally falling short of recent years' development. In the south central States, bloom ranged from 34 to 46% and pod set 12 to 24%, falling short of development, compared with last year and average.

COTTON: Cotton rated fair to good with boll set almost complete in the Southeast, 55 to 85% in the Delta, 35 to 38% on the southern Plains, and 33% in California. Harvesting got underway in the lower Rio Grande Valley; picking stood at 1%, compared with 2% last year and 1% average in Texas.

OTHER CROPS: Grain sorghum heading gradually spread further into Nebraska. Heading ranged from 15% in Kansas and Nebraska to 35% in Oklahoma and 67% in Texas. Only Texas farmers harvested grain sorghum. However, rains delayed progress there, and combining stood at 30%, lagging the 53% last year and the 38% average.

Rice heading advanced into all the Delta States; heading reached 6% in Arkansas, 16% in Mississippi, 64% in Louisiana, and 100% in Texas. California rice stood at 13% headed. Texas rice harvest reached 8% complete, far behind 1978's 27% and the 29% average. Rains stopped the Texas harvest and damaged some of the crop, although no assessment was made. Louisiana harvest stood at 7%, compared with 12% last year.

FRUITS & NUTS: Growers harvested tart cherries from the Pacific Northwest across the northern part of the Nation into New York; harvests ranged from 50% in New York to 60% in Michigan. Sweet cherry harvest stood at 85% in Michigan. Growers harvested early apples and peaches in northern areas. In the South, peach harvest ranged from 72% in Mississippi to 70% in North Carolina and 92% in Georgia. In the West, producers harvested apricots, plums, and berries in addition to peaches, apples, grapes, and pears. California growers will soon harvest early almonds. Pecans rated good throughout the South.

Florida citrus groves rated excellent; growers irrigated some trees to combat the hot, drying weather. Fruit and foliage growth rated good to excellent.

Texas growers irrigated groves and sprayed for insect control.

VEGETABLES: Northern growers harvested increasing supplies of various summer vegetables including tomatoes, snap beans, sweet corn, cabbage, cucumbers, peas, beets, and greens. The melon harvest continued to advance northward. Rains rotted some crops because wet field conditions prevented timely harvest. In the Pacific Northwest, irrigation water supplies ran low, and some farmers stopped applying water. In the South, farmers continued to prepare fields for late summer and fall plantings.

PASTURES & LIVESTOCK: Grasslands in the eastern two-thirds of the Nation rated mostly good to excellent. In the West, dry soils stressed rangeland, particularly at low elevations. Fire hazard increased because of the dry soils and no precipitation. Farmers in the eastern part of the Nation had a difficult time curing hay because of the frequent heavy rains. Cattle were in good condition. Grasshoppers continued to cause problems from the Great Plains westward in spite of spray programs.

Weather Data for the Week Ending July 29, 1979

States and Stations	Temperature °F						Precipitation					Relative Humidity, percent		Number of Days			
	Average maximum	Average minimum	Extreme high	Extreme low	Average	Departure from normal	Weekly total, in.	Departure from normal	Greatest in 24-hour, in.	Total, in., since June 4	Pct. normal since June 4	Average maximum	Average minimum	Temperature °F 90 and above	Temperature °F 32 and below	Precipitation .01 inch or more	Precipitation .50 inch or more
ALA.Birmingham.	88	76	92	73	82	+ 2	1.2	0	0.6	10.5	122	93	68	2	0	5	1
Mobile.	86	74	92	73	80	- 2	3.3	+1.3	1.6	12.5	89	94	67	2	0	4	2
Montgomery.	87	73	91	70	80	- 1	1.9	+ .8	1.1	5.5	65	90	56	1	0	3	1
ALASKA.Anchorage.	65	54	71	48	59	+ 1	1.1	+ .6	0.9	5.0	167	89	67	0	0	3	1
Barrow.	56	39	61	32	47	+ 8	T	- .2	T	.1	8	91	62	0	1	1	0
Fairbanks	72	51	82	46	61	+ 1	.7	+ .2	0.2	2.3	72	70	57	0	0	3	0
Kodiak.	63	52	68	48	57	+ 2	1.6	+ .8	1.4	4.7	66	96	75	0	0	3	1
Nome.	55	50	62	49	52	+ 1	1.4	+ .7	0.6	2.5	78	84	76	0	0	6	2
ARIZ.Flagstaff.	86	51	88	47	69	+ 3	.2	- .4	0.2	0.9	32	67	21	0	0	0	0
Phoenix	111	83	113	78	97	+ 5	.3	+ .1	0.3	0.3	38	39	16	7	0	1	0
Tucson.	103	77	106	72	90	+ 4	.5	- .1	0.4	2.3	96	41	18	7	0	1	0
Winslow	100	63	102	59	82	+ 3	T	- .3	T	0.3	21	42	14	7	0	0	0
Yuma.	111	84	115	80	97	+ 2	0	- .1	0.0	0.3	150	47	22	7	0	0	0
ARK.Fort Smith.	88	72	92	68	80	- 3	4.0	+3.3	3.8	7.7	115	92	52	3	0	2	1
Little Rock	88	73	93	71	81	- 1	2.5	+1.7	1.0	5.5	85	98	61	4	0	6	2
CALIF.Bakersfield	101	73	105	70	88	+ 4	0	0	0.0	0.0	100	51	21	7	0	0	0
Eureka.	61	52	64	49	57	0	0	0	0.0	0.4	57	97	73	0	0	0	0
Fresno.	103	70	107	65	86	+ 5	0	0	0.0	0.1	100	62	20	7	0	0	0
Los Angeles	82	63	85	61	73	- 1	0	0	0.0	0.0	100	91	64	0	0	0	0
Red Bluff	100	70	105	67	85	+ 2	0	0	0.0	0.0	0	60	19	5	0	0	0
San Diego	77	68	78	65	72	+ 1	0	0	0.0	0.1	50	84	62	0	0	0	0
San Francisco	73	54	82	51	63	0	T	0	T	0.1	50	94	50	0	0	0	0
Stockton.	98	66	106	62	82	+ 5	0	0	0.0	0.2	200	62	23	6	0	0	0
COLO.Denver	91	59	95	55	75	+ 1	.4	0	0.4	3.1	94	72	20	6	0	1	0
Grand Junction.	96	67	100	63	81	+ 2	T	- .1	T	0.8	100	46	18	5	0	0	0
Pueblo.	95	63	99	58	79	+ 2	.8	+ .3	--	4.5	150	87	24	7	0	0	0
CONN.Bridgeport	84	72	86	70	79	+ 4	.1	- .7	0.1	3.3	60	93	66	0	0	2	0
Hartford.	90	69	93	64	79	+ 6	.5	- .3	0.3	2.3	36	91	46	3	0	2	0
D.C.Washington.	88	75	90	72	82	+ 3	1.3	+ .3	0.6	4.8	70	91	65	2	0	6	1
FLA.Apalachicola.	87	73	92	70	80	- 2	2.6	+ .8	--	9.5	77	92	61	3	0	6	0
Daytona Beach	88	75	92	72	81	0	1.3	- .2	--	14.0	112	95	63	2	0	0	0
Ft. Myers	95	78	97	76	86	+ 3	1.0	- .9	--	13.6	81	88	51	7	0	0	0
Jacksonville.	92	73	95	71	82	+ 1	.4	-1.3	0.2	8.8	69	94	57	5	0	4	0
Key West.	90	80	92	76	85	0	.2	- .6	0.1	6.1	76	85	63	7	0	1	0
Miami	88	78	90	74	83	0	T	-1.4	T	8.5	57	83	58	1	0	1	0
Orlando	92	74	95	73	83	+ 1	.6	-1.2	0.6	11.1	77	95	55	7	0	2	1
Pensacola	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tallahassee	89	70	93	67	80	- 1	3.7	+1.8	2.6	17.6	121	97	64	4	0	3	2
Tampa	91	77	92	75	84	+ 2	2.5	+ .6	2.5	7.8	56	92	60	5	0	1	1
W.Palm Beach.	89	76	90	74	83	+ 1	.2	-1.1	0.1	8.4	61	91	57	2	0	2	0
GA.Atlanta.	87	72	91	71	79	+ 1	.6	- .5	0.3	5.0	63	94	59	3	0	3	0
Augusta	90	72	93	70	81	0	.3	- .9	0.2	7.5	91	92	54	4	0	3	0
Macon	90	73	94	71	81	- 1	.4	- .6	0.2	7.7	99	95	56	4	0	4	0
Savannah.	91	74	94	72	83	+ 2	.2	-1.6	0.1	16.1	127	91	55	6	0	4	0
HAWAII.Hilo	80	69	84	68	75	- 1	2.3	- .1	--	16.7	112	87	69	0	0	0	0
Honolulu.	85	75	88	73	80	0	.1	0	--	0.5	63	74	51	0	0	0	0
Kahului	87	--	88	--	79	0	.1	0	--	0.0	0	--	52	0	0	0	0
Lihue	84	75	84	73	79	0	.3	- .2	--	3.1	94	79	61	0	0	0	0
IDAHO.Boise	93	59	97	49	76	0	0	0	0.0	0.2	18	48	13	5	0	0	0
Lewiston.	94	62	98	58	78	+ 3	T	- .1	T	0.9	41	40	17	6	0	0	0
Pocatello	92	58	95	53	74	+ 1	T	- .1	T	1.5	94	75	19	5	0	0	0
ILL.Cairo	86	76	91	74	81	0	.7	0	0.4	1.1	16	--	--	0	0	0	0
Chicago	84	68	89	65	76	+ 1	.7	- .2	0.5	4.5	59	91	48	0	0	3	0
Moline.	87	68	91	66	77	+ 2	.7	- .3	0.3	6.8	81	94	59	1	0	5	0
Peoria.	86	68	90	65	77	+ 1	2.6	+1.8	1.8	6.5	93	91	59	1	0	5	2
Rockford.	85	57	89	--	76	+ 3	2.1	+1.2	--	8.1	99	96	58	0	1	0	2
Springfield.	87	71	92	69	79	+ 3	2.6	+1.8	1.4	5.0	68	95	64	1	0	6	2
IND.Evansville.	85	70	91	69	78	0	4.3	+3.5	1.6	9.9	148	88	60	1	0	6	3
Ft. Wayne	82	66	87	63	74	+ 1	2.6	+1.8	2.0	7.6	107	98	65	0	0	3	2
Indianapolis.	83	69	88	63	77	+ 2	5.1	+4.3	2.9	15.9	218	98	74	0	0	6	2
South Bend.	85	65	90	60	75	+ 2	1.0	+ .2	0.6	6.0	88	85	54	1	0	3	1
IOWA.Burlington	85	68	88	65	77	+ 1	2.9	+2.1	2.0	4.5	57	--	--	0	0	3	2
Des Moines.	85	68	88	66	76	0	1.0	+ .4	0.8	8.8	119	89	57	0	0	3	1
Dubuque	82	65	84	64	74	+ 2	.9	0	--	10.5	117	93	64	0	0	0	0
Sioux City.	84	67	87	64	75	- 1	.3	- .4	0.1	5.0	68	92	57	0	0	3	0
KANS.Concordia.	91	68	97	63	79	0	1.2	+ .6	0.8	7.6	101	88	46	4	0	4	1
Dodge City.	89	66	96	63	77	- 3	3.4	+2.7	2.8	6.1	102	90	46	3	0	2	2
Goodland.	90	63	96	60	76	- 1	2.0	+1.4	0.4	8.3	160	95	39	4	0	2	0
Topeka.	88	72	91	69	80	+ 2	1.5	+ .6	1.3	11.5	122	92	67	4	0	5	1
Wichita	93	72	101	69	82	+ 1	.2	- .7	0.1	8.4	101	88	44	6	0	3	0
KY.Lexington.	82	69	87	67	76	- 1	2.5	+1.5	0.9	7.2	86	90	67	0	0	6	2
Louisville.	82	71	88	68	76	- 1	7.8	+7.0	3.2	13.2	183	97	72	0	0	7	3
LA.Baton Rouge.	87	75	92	74	81	- 1	1.9	+ .4	--	8.8	93	97	67	3	0	0	0
Lake Charles.	85	75	89	71	80	- 3	9.2	+7.8	6.4	15.5	146	95	73	0	0	3	3
New Orleans	90	78	92	74	84	+ 2	3.3	+1.8	1.5	10.6	98	85	64	0	0	6	2
Shreveport.	86	74	93	71	81	- 3	2.8	+2.2	1.2	8.6	151	91	66	5	0	5	2
MAINE.Caribou	82	62	91	54	72	+ 7	.6	- .3	--	6.9	101	90	54	3	0	5	3
Portland.	81	66	86	60	74	+ 5	.2	- .4	0.2	8.0	151	96	62	1	0	2	0
MD.Baltimore.	88	71	90	68	80	+ 3	.6	- .3	0.4	5.8	82	93	59	3	0	4	0
MASS.Boston	87	70	91	69	79	+ 5	.9	+ .3	0.6	3.1	57	96	59	1	0	2	1
Chatham	77	62	83	59	70	--	.2	--	0.2	2.4	44	--	65	0	0	1	0
MICH.Alpena	84	58	93	53	71	+ 5	3.9	+3.3	1.4	7.3	143	--	--	0	0	0	0
Detroit	82	66	87	61	74	+ 1	.2	- .5	0.2	8.6	146	93	60	0	0	1	0
Flint	82	64	86	60	73	+ 3	.6	- .1	0.5	6.5	110	76	59	0	0	2	1
Grand Rapids.	83	64	90	60	74	+ 2	1.6	+1.0	0.7	6.2	103	93	58	1	0	3	2
Houghton Lake	82	61	86	46	70	+ 3	.4	- .2	--	5.4	90	97	53	0	0	0	0

Based on preliminary data and 1941-70 normals

Weather Data for the Week Ending July 29, 1979

States and Stations	Temperature °F						Precipitation					Relative Humidity, percent		Number of Days			
	Average maximum	Average minimum	Extreme high	Extreme low	Average	Departure from normal	Weekly total, in.	Departure from normal	Greatest in 24-hours, in.	Total, in., since June 4	Pct. normal since June 4	Average maximum	Average minimum	Temperature °F: 90 and above	Temperature °F: 32 and below	Precipitation: .01 inch or more	Precipitation: .50 inch or more
Lansing	83	66	90	60	73	+ 2	1.3	+ .7	--	7.5	132	97	50	1	0	0	0
Marquette	75	54	87	48	65	0	1.3	+ .7	0.6	8.6	143	91	55	0	0	5	1
Muskegon	81	62	85	55	72	+ 1	.3	- .3	0.1	3.1	65	92	52	0	0	2	0
S. Ste. Marie	78	54	87	47	67	+ 2	1.8	+ 1.2	1.6	8.7	158	95	59	0	0	3	1
MINN.Duluth	77	55	80	48	66	- 1	.6	- .2	0.3	8.0	107	92	53	0	0	4	0
Internatl. Falls	77	54	81	46	65	- 1	.6	- .2	0.4	5.1	69	--	47	0	0	2	0
Minneapolis	84	64	86	55	74	+ 1	.2	- .6	0.2	7.0	101	85	49	0	0	1	0
Rochester	83	61	86	53	72	+ 1	.3	- .5	0.2	4.5	58	90	53	0	0	3	0
St. Cloud	80	58	85	50	69	- 2	.5	- .2	0.4	7.5	104	99	--	0	0	3	0
MISS.Jackson	87	74	90	73	81	- 1	1.0	0	0.7	17.4	242	98	56	1	0	5	1
Meridian	89	75	93	74	82	0	1.6	+ .4	0.7	9.8	120	94	60	4	0	5	2
MO.Columbia	89	69	92	65	79	+ 1	1.5	+ .7	0.9	4.3	54	97	55	5	0	5	1
Kansas City	88	71	91	69	80	+ 2	1.8	+ .9	1.2	10.2	112	92	61	3	0	4	2
St. Louis	88	73	94	69	81	+ 2	2.9	+ 2.1	1.1	5.0	66	85	56	3	0	6	2
Springfield	86	69	91	61	76	- 2	1.4	+ .7	1.4	12.6	166	93	66	1	0	1	1
MONT.Billings	84	59	92	55	71	- 2	.1	0	0.1	1.5	47	72	35	1	0	2	0
Glasgow	80	58	88	52	69	- 3	.7	- .2	0.6	1.6	41	82	41	0	0	3	1
Great Falls	81	55	88	48	68	- 3	.2	0	0.1	2.9	73	71	29	0	0	2	0
Havre	79	56	92	49	67	- 4	.7	+ .5	--	2.5	71	85	41	2	0	0	0
Helena	83	54	89	51	68	- 2	.1	0	0.1	3.1	100	77	28	0	0	1	0
Kalispell	85	52	92	47	69	+ 3	T	- .2	T	1.5	47	78	27	2	0	0	0
Miles City	83	63	92	56	72	- 4	2.4	+ 2.2	--	3.5	78	81	39	2	0	0	0
Missoula	87	54	93	50	70	+ 2	.2	+ .1	0.2	1.4	52	68	25	3	0	1	0
NEBR.Grand Island	87	66	97	60	77	0	.1	- .5	0.1	5.4	79	94	51	2	0	0	0
Lincoln	85	68	91	65	76	- 2	.2	- .4	0.2	6.7	87	93	62	2	0	0	0
Norfolk	84	66	88	63	75	- 1	2.3	+ 1.7	0.9	7.3	97	94	60	0	0	4	3
N.Platte	87	64	92	60	76	+ 1	3.6	+ 3.0	2.4	10.3	166	85	53	1	0	4	2
Omaha	86	68	90	64	76	0	.2	- .6	0.2	5.7	71	89	61	1	0	0	0
Valentine	86	63	94	58	75	0	1.5	+ 1.0	--	7.1	125	89	47	1	0	0	0
NEV.Ely	89	49	93	43	69	0	T	- .1	T	1.5	125	69	15	4	0	0	0
Las Vegas	109	79	113	75	94	+ 4	0	- .1	0.0	0.8	160	25	9	7	0	0	0
Reno	94	49	97	45	72	+ 2	0	0	0.0	0.6	86	74	13	7	0	0	0
Winnemucca	96	53	101	47	75	+ 3	0	0	0.0	1.1	92	70	14	7	0	0	0
N.H.Concord	88	66	91	60	77	+ 7	.9	+ .2	0.6	4.1	67	90	52	3	0	2	1
N.J.Atlantic City	86	71	90	66	78	+ 2	5.2	+ 4.2	4.4	9.9	138	69	46	1	0	4	2
Trenton	85	72	90	69	78	+ 2	.4	- .7	0.2	8.8	119	--	--	0	0	0	0
N.MEX.Albuquerque	99	69	103	63	84	+ 5	T	- .4	T	1.7	89	48	16	7	0	0	0
Roswell	96	70	100	63	83	+ 3	.3	- .1	0.2	2.7	96	--	--	7	0	0	0
N.Y.Albany	87	66	91	58	77	+ 5	2.2	+ 1.5	2.2	4.8	86	96	54	2	0	1	0
Binghamton	80	62	87	56	71	+ 2	.5	- .4	0.5	2.1	31	97	59	0	0	3	1
Buffalo	82	64	87	57	73	+ 3	2.5	+ 1.8	1.4	5.1	109	96	56	0	0	3	2
New York	90	75	92	72	82	+ 5	.3	- .7	0.3	2.4	39	80	51	3	0	2	0
Rochester	86	66	95	61	76	+ 5	.7	0	0.3	4.4	90	87	60	3	0	5	0
Syracuse	85	63	91	58	75	+ 3	.6	- .1	0.4	3.9	68	84	51	3	0	4	0
N.C.Asheville	83	67	87	64	75	+ 1	2.0	+ .9	1.1	8.2	100	--	69	0	0	4	1
Charlotte	87	71	91	70	79	0	1.0	0	0.6	8.8	113	97	59	1	0	4	1
Greensboro	86	70	90	69	79	+ 1	.8	- .2	0.5	6.4	82	95	60	1	0	4	1
Hatteras	86	74	89	72	80	+ 1	2.6	+ 1.2	2.3	10.2	103	94	71	0	0	5	1
Raleigh	87	70	91	68	79	+ 1	1.6	+ .4	0.7	7.0	86	--	61	1	0	3	2
Wilmington	90	75	95	74	82	+ 1	.9	- 1.0	--	6.9	53	95	61	4	0	0	0
N.DAK.Bismarck	81	59	85	54	67	- 5	1.4	+ 1.0	0.7	3.8	72	97	44	0	0	4	1
Fargo	80	62	84	56	70	- 2	2.9	+ 2.2	2.0	6.3	105	89	56	0	0	4	2
Williston	79	57	85	52	68	- 3	.3	- .1	0.3	4.4	90	89	42	0	0	5	1
OHIO.Akron-Canton	80	66	86	60	73	+ 1	.7	- .1	0.4	4.4	66	90	59	0	0	4	2
Cincinnati	82	70	87	67	76	0	1.5	+ .6	0.6	11.0	149	92	69	0	0	4	0
Cleveland	83	66	89	59	75	+ 3	.1	- .7	0.1	7.0	109	82	51	0	0	6	1
Columbus	81	69	86	65	75	+ 1	3.8	+ 2.9	1.5	12.4	159	99	68	0	0	6	3
Dayton	83	69	90	66	77	+ 2	3.2	+ 2.5	1.4	8.7	130	92	65	1	0	6	3
Toledo	83	64	88	57	73	0	.9	+ .2	0.8	7.2	116	98	63	0	0	6	2
Youngstown	80	63	86	55	71	0	.9	+ .1	0.4	5.2	78	92	60	0	0	4	1
OKLA.Okla. City	92	73	97	70	82	0	.1	- .4	0.1	15.2	245	87	50	6	0	2	0
Tulsa	94	76	100	73	85	+ 2	.1	- .6	--	10.1	133	84	52	7	0	2	0
OREG.Astoria	66	55	72	48	61	0	T	- .2	T	2.8	87	89	69	0	0	0	0
Burns	89	57	92	52	71	+ 1	0	- .1	0.0	.2	15	36	13	4	0	0	0
Medford	95	53	98	50	74	+ 1	0	0	0.0	.6	60	64	19	6	0	0	0
Pendleton	90	--	95	--	73	- 1	0	0	0.0	.3	23	--	17	3	0	0	0
Portland	82	56	87	53	69	+ 1	T	- .1	T	.9	45	87	40	0	0	0	0
Salem	84	50	89	45	67	- 1	T	- .1	T	.9	53	91	35	0	0	0	0
PA.Allentown	83	69	89	64	76	+ 2	1.8	+ .8	1.6	6.7	93	91	60	0	0	2	1
Erie	78	64	83	58	71	+ 2	3.0	+ 2.2	2.2	8.0	125	--	--	0	0	5	3
Harrisburg	81	69	86	65	75	- 1	1.4	+ .6	--	5.4	89	96	71	0	0	5	0
Philadelphia	87	72	90	69	79	+ 2	1.3	+ .3	1.0	7.8	110	96	60	1	0	5	1
Pittsburgh	81	64	86	60	73	+ 1	1.0	+ .2	0.4	5.8	87	94	62	0	0	6	1
Scranton	83	65	92	60	75	+ 3	1.1	+ .2	0.5	4.2	60	95	58	1	0	3	1
R.I.Providence	85	71	88	67	76	+ 3	.5	- .2	0.3	3.2	63	94	61	0	0	2	0
S.C.Charleston	92	75	96	73	84	+ 3	.2	- 1.6	0.1	10.3	76	91	55	4	0	3	0
Columbia	90	70	94	69	80	- 2	.6	- .7	0.3	12.1	138	87	47	4	0	3	0
Greenville	84	70	88	67	77	- 2	3.8	+ 2.9	2.6	12.2	158	96	62	0	0	3	0
S.D.Aberdeen	82	63	91	58	71	- 2	2.1	+ 1.5	--	7.4	125	91	52	1	0	5	2
Huron	87	66	97	61	76	+ 1	1.3	+ .9	0.6	5.0	93	84	48	1	0	--	--
Rapid City	80	61	83	57	70	- 4	.5	+ .1	0.8	7.0	130	89	54	0	0	4	1
Sioux Falls	83	65	88	59	74	0	1.6	+ 1.0	1.6	6.1	91	89	57	0	0	7	1
TENN.Chattanooga	85	71	89	69	78	- 1	1.5	+ .4	1.1	12.3	150	94	66	0	0	2	1
Knoxville	83	70	85	68	76	- 3	1.4	+ .4	0.4	12.0	154	96	72	0	0	3	1
Memphis	90	77	94	75	84	+ 2	1.2	+ .4	0.6	5.1	80	84	58	3	0	6	0
Nashville	87	71	90	68	79	- 1	1.5	+ .7	1.1	6.5	98	97	65	1	0	4	1

Based on preliminary data and 1941-70 normals

Weather Data for the Week Ending July 29, 1979

States and Stations	Temperature °F						Precipitation					Relative Humidity, percent		Number of Days			
														Temperature °F		Precipitation	
	Average maximum	Average minimum	Extreme high	Extreme low	Average	Departure from normal	Weekly total, in.	Departure from normal	Greatest in 24-hours, in.	Total, in., since June 4	Pct. normal since June 4	Average maximum	Average minimum	90 and above	32 and below	.01 inch or more	.50 inch or more
TEX. Abilene	98	73	99	69	85	0	0	- .5	0.0	4.0	83	82	31	7	0	0	0
Amarillo	92	65	97	61	79	0	.1	- .5	0.1	4.0	69	85	38	5	0	2	0
Austin	91	74	95	71	83	- 2	4.0	+ 3.6	3.3	11.1	241	89	53	6	0	2	2
Beaumont	85	78	91	76	81	- 2	12.8	+11.5	--	18.7	191	98	81	2	0	0	0
Brownsville	95	79	99	75	87	+ 2	.2	0	0.1	2.6	70	85	52	6	0	2	0
Corpus Christi	95	78	100	77	87	+ 2	1.8	+ 1.4	1.6	5.4	135	90	55	7	0	2	1
Del Rio	100	77	106	75	89	+ 2	T	- .2	T	2.8	100	79	34	7	0	0	0
El Paso	103	73	106	69	80	- 2	T	- .4	T	.7	33	61	19	7	0	0	0
Fort Worth	94	74	101	73	84	- 2	.1	- .3	0.1	2.4	53	92	47	6	0	1	0
Galveston	84	78	87	74	81	- 3	14.6	+13.6	3.2	18.3	229	89	75	0	0	4	1
Houston	88	76	93	74	82	- 2	3.2	+ 2.3	2.6	8.9	113	93	65	4	0	4	1
Lubbock	94	72	97	66	83	+ 3	0	- .5	0.0	4.3	91	68	33	7	0	0	0
Midland	95	71	97	68	83	0	0	- .4	0.0	3.6	120	84	33	7	0	0	0
San Angelo	96	74	98	71	85	0	0	- .3	0.0	2.1	72	80	33	7	0	0	0
San Antonio	92	77	98	73	85	0	2.2	+ 1.8	2.0	8.9	212	90	55	6	0	3	1
Victoria	90	76	94	74	83	- 2	2.8	+ 2.2	2.4	7.8	144	91	64	5	0	4	1
Waco	90	74	93	72	82	- 4	.1	- .2	0.1	8.7	218	90	56	4	0	1	0
Wichita Falls	100	74	105	70	87	0	T	- .4	T	7.3	143	90	36	7	0	0	0
UTAH. Blanding	93	60	93	56	77	+ 3	T	- .3	T	.7	58	--	--	6	0	1	0
Salt Lake City	95	65	101	57	80	+ 2	T	- .1	T	.7	41	58	15	6	0	1	0
VT. Burlington	86	65	93	59	75	+ 5	.3	- .5	0.3	2.6	41	92	58	2	0	2	0
VA. Lynchburg	86	70	88	56	77	+ 1	1.0	+ .1	.9	7.7	113	98	--	0	0	6	1
Norfolk	89	73	93	71	81	+ 2	2.9	+ 1.5	2.2	7.4	85	93	57	2	0	4	1
Richmond	90	72	92	70	81	+ 3	T	- 1.3	T	5.0	59	--	65	5	0	1	0
Roanoke	84	68	87	65	75	- 1	1.0	+ .1	0.2	9.1	140	99	63	0	0	4	0
WASH. Colville	--	--	--	--	73	+ 4	.6	+ .5	--	1.2	60	--	--	0	0	0	0
Omak	92	64	95	57	77	+ 6	0	- .1	0.0	.9	56	39	21	6	0	0	0
Quillayute	66	51	71	47	58	- 2	T	- .5	T	4.8	91	97	65	0	0	2	0
Seattle-Tacoma	77	55	84	53	66	+ 1	0	- .1	0.0	1.2	60	83	41	0	0	0	0
Spokane	87	59	93	54	73	+ 2	T	- .1	T	1.5	88	54	18	2	0	1	0
Walla Walla	92	63	97	58	78	+ 1	T	0	T	2.5	192	48	16	5	0	0	0
Yakima	93	58	98	50	75	+ 4	0	0	0.0	.6	75	57	18	7	0	0	0
W. VA. Beckley	77	75	82	60	71	+ 1	2.2	+ 1.2	0.7	10.8	133	99	74	0	0	7	2
Charleston	83	69	89	66	77	+ 2	3.1	+ 1.9	1.5	7.8	100	74	65	0	0	7	2
Huntington	84	71	89	68	78	+ 2	3.2	+ 2.3	0.9	13.4	197	90	68	0	0	7	2
Parkersburg	81	72	86	69	75	0	2.4	+ 1.5	--	6.3	82	79	62	0	0	0	0
WISC. Green Bay	82	62	87	56	72	+ 2	.8	+ .2	0.4	5.1	86	97	54	0	0	3	0
La Crosse	83	63	87	58	72	- 1	1.5	+ .8	--	4.1	55	98	58	0	0	0	0
Madison	84	61	88	55	73	+ 2	.2	- .6	0.2	5.1	67	98	52	0	0	1	0
Milwaukee	83	64	90	57	73	+ 2	.4	- .3	0.4	3.6	55	95	50	2	0	1	0
Wyo. Casper	88	55	92	50	72	- 1	.9	+ .7	0.6	2.5	109	87	26	3	0	4	1
Cheyenne	86	56	90	54	71	+ 1	.2	- .2	0.1	4.5	113	66	27	2	0	3	0
Lander	86	54	91	52	70	- 2	.1	0	0.1	.9	39	70	23	2	0	1	0
Sheridan	83	55	91	50	68	- 4	.1	0	--	1.8	46	89	41	1	0	0	0
P.R. San Juan	89	78	91	75	84	+ 3	.6	- .9	--	10.7	96	86	60	0	0	5	1

Based on preliminary data and 1941-70 normals

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; lowest early. Showers widespread 24th to 26th, most areas 1.00 in. plus.

Fieldwork: 1.2 days suitable. Soil moisture mostly surplus. Care of livestock and poultry, normal chores main activities. Corn, sorghum mostly good condition; cotton, pastures, peanuts, soybeans good condition. Corn 91% silked; 60% dented, 58% 1978, 45% average; 40% mature, 27% 1978; harvest just starting south. Soybeans 46% blooming, 42% 1978, 43% average; 22% pods set, 16% 1978. Cotton 95% squaring; 55% setting bolls, 52% 1978, 67% average. Peanuts 95% pegging.

ALASKA: Warm, sunny weather interrupted by widespread showers. Rainfall near or above normal. Temperatures near normal.

General rain and clouds limited field activities throughout much of the railbelt. Warmer and drier weather over the weekend aided haying activities and crop development. Harvest 1st crop hay in windup stage. Maturity of small grains ahead of 1978. Small grain fields headed and many fields in dough stage. Potatoes made excellent growth. Most fields showing bloom. Supplies of cabbage, lettuce, radishes and squash marketed. Soil moisture supplies adequate or better.

ARIZONA: Dry, hot first half week, scattered showers began 25th White Mountains, southeast; by weekend eastern two-thirds received rain. Temperatures 2 to 4° above normal.

Cotton excellent progress, open bolls western, some central areas, limited spraying required. In southeast, plants setting bolls, making excellent progress, insect counts so low virtually no spraying required. Sorghum harvest expected shortly, grain maturing rapidly. Field corn harvest for green chop well advanced. Corn for grain making good progress. Safflower being cut rapidly as matures. Sugarbeet harvest completed. Alfalfa haying running ahead normal. Cantaloup harvest virtually complete, planting fall harvest underway. Watermelon harvest rapidly winding down, virtually complete. Land preparations fall lettuce, other fall, winter vegetables underway. Citrus groves generally good condition, June drop heavy, fair to good prospects. Diesel, LP gas, gasoline supplies mostly adequate. Diesel tight some central areas. Cattle, calves good condition. Fire danger extreme. Recent rains should aid perennials. Stock water, soil moisture adequate. Grasshoppers quite active.

ARKANSAS: Temperatures and precipitation near normal first of week. Tropical storm Claudette produced moderate to heavy rainfall; below normal temperatures.

Fuel supplies improved; diesel 70% adequate and 30% tight; gasoline 68% adequate, 30% tight; LP gas 90% adequate. Soil moisture adequate. Fieldwork: 4.3 days suitable. Soybeans good condition; fields blooming 14%, 19% 1978. Cotton fair to good condition; squaring 95%; boll set 70%, 93% 1978. Plant bugs increasing. Rice good condition; 6% headed, 14% 1978. Weed control measures prevalent. Corn good condition. Sorghum good condition. Apple harvest continued; quality good. Peach harvest nearing completion. Tomato harvest continued. Watermelon harvest slow. Hay and pastures average condition. Livestock good condition.

CALIFORNIA: Showers and thundershowers early week. Temperature recovery rapid. Cooling through Delta limited to one day during week.

Cotton 83% bloomed, 33% setting bolls. Rice 13% headed. Wheat 95% harvested. Barley 88% harvested. Corn 68% tassel stage; 50% silk stage. Stone fruit harvest active. Fantasia, Red Grand and Flavortop major plums being picked. Freestone peach harvest active. Picking Friar, Simka, Laroda, late Santa Rosa plums. Cardinal table grape harvest active southern San Joaquin Valley. Thompson seedless, Exotics and Ribiers beginning. San Joaquin Tokay grapes starting to color. Zinfandel grapes fairly well colored. Brown rot in stone fruit from earlier rains very limited. Clingstone peach harvest becoming active. Bartlett pear harvest active Sacramento Delta, start Lake County mid-August. Citrus and avocados seasonally normal. Almond harvest soon earliest varieties. Navel orange worm control active. Broccoli, cauliflower supplies heavy central coast, south bay districts. Cantaloup, mixed melon harvest active into Merced County. Celery heavy central coast. Sweet corn moderate volume San Diego to San Francisco Bay area. Lettuce harvest moderate central coast, south bay. Potato harvest active Kern District, increasing slightly Stockton, Riverside. Market tomato harvest active south coast, northern San Joaquin Valley. Processing tomato harvest quite active San Joaquin Valley, underway Sacramento Valley. Range fire problem most lower elevation areas. Range feed generally adequate. Cattle in good condition. Some chickens dying from heat southern California. Diesel supplies continue tight some areas San Joaquin Valley. Gasoline, propane generally adequate.

COLORADO: Heavy rain, high winds, and hail east early week and again weekend. Only isolated showers 26th thru 28th. Temperatures close to normal.

Winter wheat turned color 97%, 100% 1978, 100% average; ripe 94%, 100% 1978, 98% average; harvested 80%, 97% 1978, 87% average. Barley turned color 62%, 100% 1978; ripe 41%, 100% 1978; harvested 24%, 87% 1978, 64% average. Corn average height 65 in., 66 in. 1978; tasseled 42%, 62% 1978; silked 18%, 25% 1978. Alfalfa hay first cutting 94%, 100% 1978; second cutting 42%, 62% 1978. Fieldwork: 5 days suitable. Ranges and pastures good condition. Livestock very good condition. Diesel fuel supply tight to adequate; LP gas, gasoline supplies mostly adequate.

FLORIDA: Tropical storm Claudette moving through central Gulf to Texas-Louisiana Coast at midweek brought some heavy rains and cooler temperatures to western Panhandle. Dry air after midweek. Spotty summertime thundershowers brought rains averaging from 0.25 to 0.75 in. Most areas had dry weekend. Temperatures near to slightly above normal except 2 to 4° below normal Panhandle.

Soil moisture adequate many central, southern areas; however, additional rain needed some localities. Moisture supplies Panhandle, north generally surplus. Corn, tobacco harvests active. Soybeans, peanuts and sugarcane good to excellent condition. Marketing tobacco active. Haying continued but interrupted by showers. Fuel supplies mostly adequate; a little tight central, southern areas. Pastures, cattle, calves mostly good to excellent condition. Citrus grove con-

dition excellent, weather hot and drying. Some irrigation with permanent equipment. New growth of foliage continued, fruit growth good to excellent. Preparation for fall vegetable crops very active. Planting of several crops underway. Laying plastic mulch active. Seed beds progressing favorably. Few summer vegetables moving through markets on limited basis.

GEORGIA: Temperatures near normal. Mean temperatures ranged from 72° mountains to 82° across south. Precipitation heavy; most stations 2.00 to 3.00 in. Weekend rainfall scattered and light.

Soil moisture adequate to surplus. Fieldwork: 2 days suitable. Corn fair to mostly good; 7% harvested, 6% last year. Soybeans good. Peanuts good, virtually all fields pegging. Tobacco fair to mostly good; 64% harvested, 52% last year, average 67%. Cotton good; 99% setting bolls, 91% last year, 92% average; 0% open, 1% last year, 2% average. Watermelons fair to mostly good; 87% harvested, 84% last year. Peaches fair to mostly good; 92% harvested, 84% last year, 93% average. Apples good; 20% harvested, 12% last year. Pecans fair to good. Hay fair to mostly good. Pastures mostly good to excellent. Cattle and hogs good. LP gas 93% adequate, 4% tight; diesel fuel 69% adequate, 27% tight; gasoline 76% adequate, 22% tight.

HAWAII: Weather variable, some sections, Island of Hawaii wet. Tender crops affected from wet weather. Bottom and soft rot losses occurred to lettuce, chinese cabbage. Weather other islands, generally favorable. Return trade winds brought cooler temperatures. Crops improving some areas. Vegetable supplies: Head cabbage remains heavy, leaf crops light, others light to moderate. Banana, papaya light, rains beneficial. Pineaple harvesting active; peak continues. Sugar harvesting steady. Pastures generally fair to good; showers beneficial, Island of Hawaii. Fuel supplies adequate.

IDAHO: Temperatures near normal; range 105 to 28°. Precipitation limited except southeast. Maximum precipitation 2.54 in.

Small grains developing at or ahead of last year's pace. Winter wheat 25% ripe, 5% harvested; same as last year. Spring wheat 65% turned, 15% ripe; last year 60% turned, 10% ripe. Barley 60% turned, 10% ripe; same as last year. Second cutting alfalfa 20% complete. Potatoes 75% closing middles, same as last year. Ranges dry and deteriorating. Soil moisture mostly short to very short. Farm fuel supplies generally adequate to tight.

ILLINOIS: Temperatures 1 to 3° above normal. Precipitation light north, 2.00 to 5.00 in. south.

Soil moisture adequate. Corn 78% silked, 74% 1978, 83% average; dough stage 15%, 18% 1978, 29% average; condition good. Soybeans 71% bloomed, 66% 1978, 70% average; podded 30%, 25% 1978, 37% average; condition good. Wheat 15% plowed, 6% 1978, 15% average. Oats 85% ripe, 92% 1978, 98% average; combined 50%, 54% 1978, 75% average; condition good. Barley 90% combined. Second crop alfalfa 82% cut, 72% 1978, 77% average; condition good. Pastures fair to good. Fieldwork: 4.0 days suitable.

INDIANA: Heavy rains and severe flooding central, south. Severe flooding of homes, businesses, and farmlands. Extreme north central had 1.00 in. High humidities and low sunshine.

Fieldwork: 2 days suitable. Topsoil and subsoil moisture adequate to mostly surplus. Soybeans 65% blooming, 1978 65%; 15% podding, 1978 10%, average 30%. Corn 60% silk stage, 1978 55%, average 70%; 5% dough, 1978 5%. Wheat 100% combined, 1978 100%, average 100%. Oats 40% combined, 1978 60%, average 75%. Rye 75% combined, 1978 80%. Wheatland 5% plowed, 1978 5%, average 10%. Alfalfa 75% cut twice, 1978 75%, average 75%. Diesel 80% adequate, gasoline 76% adequate.

IOWA: Warm, humid with moderate to heavy showers. Heaviest showers 29th to 30th.

Fieldwork: 4.7 days favorable. Topsoil and subsoil moisture adequate. Corn tasseled 82%, 1978 100%; silked 57%, 1978 79%, normal 79%. Corn in or past milk stage 12%, 1978 20%. Soybeans blooming 79%, 1978 78%, normal 79%; pods setting 31%, 1978 41%, normal 45%. Oats harvested 62%, 1978 68%, normal 83%. Winter wheat harvested 94%, 1978 85%, normal 92%. Second crop clover, hay harvested 45%, 1978 49%, normal 48%. Crops and pasture improved with additional moisture. Livestock market movement and herd replacement slow.

KANSAS: Slow cold front caused locally heavy rains. Flooding in southwest late 22d, early 23d. More heavy rain recorded on 25th. Over 3.00 in. central and south central with 3.00 to 4.50 in. east central. Temperatures within 2° of normal.

Wheat harvest nearly over, wet weather delayed wrapup. Corn 55% tasseled, 65% last year, 75% average; 10% dough, equal last year, 20% average. Sorghum 15% headed, 10% last year, 20% average. Soybeans 30% bloom, 35% last year; 15% set pods, equal last year, 20% average. Second cut alfalfa 90%, 95% average. Third cut 25%, 40% last year, 30% average. Fieldwork: 4.0 days suitable. Some tightening fuel supplies.

KENTUCKY: Showers and thunderstorms each day brought rainfall totals ranging from around 0.50 in. extreme east to near 8.00 in. north central. Temperatures several degrees below normal.

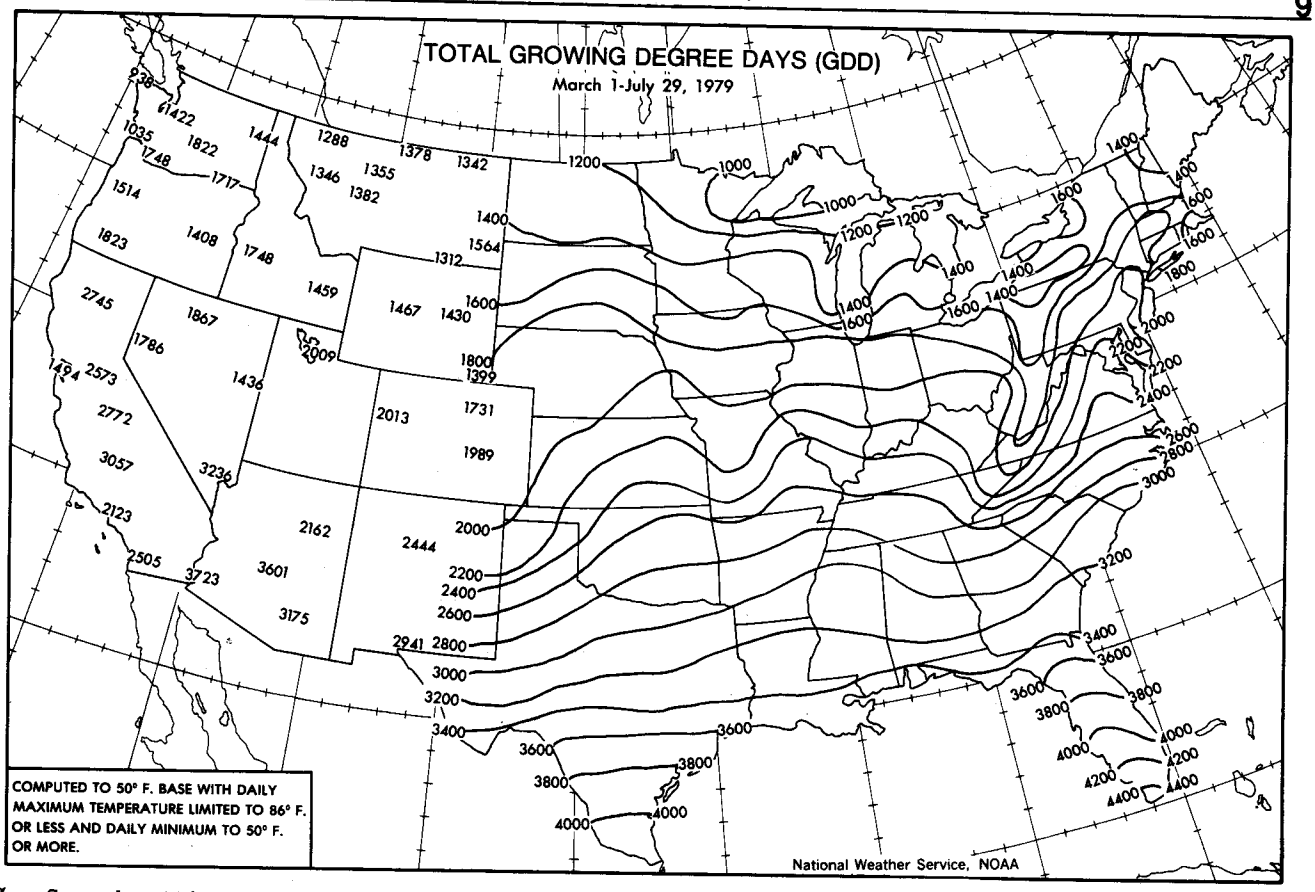
Excessive rainfall especially in north central and bluegrass has left low-lying fields covered with water and soil saturated. Concern centers on 1979 burley crop. Early reports indicate drowning of tobacco in low areas and much yellowing, even on reasonably well drained land. Burley development late but slightly ahead of last year with nearly 25% acreage blooming. Topping begun; 5% complete on burley and 15% complete on dark types. Corn prospects excellent, nearly all fields tasseled. Corn 18% in milk stage, 22% last year. Soybeans 34% blooming, 37% last year, average 40%. Fieldwork: 1.7 days suitable. Growth of hay crops rank but difficult to cure hay. Pastures very good and late summer prospects excellent.

LOUISIANA: Temperatures 1° above to 3° below normal. Extremes: 95 and 70°. Rain statewide.

Fieldwork: 1.7 days suitable. Soil moisture adequate to surplus. Cotton fair to good; 96% squaring; 85% setting bolls, 89% last year, 83% average. Soybeans good; 47% blooming, 65% last year; 24% setting pods, 34% last year. Rice fair to good; 64% headed, 81% last year; 15% ripe, 28% last year; 7% harvested, 12% last year. Corn fair to good; 92% dough, 97% last year; 56% mature, 74% last year. Sorghum fair to good; 92% headed, 85% last year; 40% turning color. Sugarcane, sweetpotatoes good. Hay fair to good. Pastures, cattle good.

MARYLAND AND DELAWARE: Temperatures averaged 1° above normal. Highs in mid-80's and lows around 70°. Precipitation widespread and irregular.

Fieldwork: 4.5 days suitable. Soil moisture mostly adequate. Fuel supplies adequate. Corn 70% silked, 64% last year, 69% normal. Small grain harvest: Barley complete, wheat 94%, rye 98%, oats



70%. Second cutting alfalfa 80% complete. Tobacco growers cultivating crop. Early varieties apples and peaches being harvested.

MICHIGAN: Temperatures ranged 1 to 3° above normal. Warm early week, slight cooling end of week. Precipitation widespread midweek, heaviest precipitation Upper and Northern Lower averaging 1.50 in., elsewhere averaged 0.67 in.

Fieldwork: 5 days suitable. Soil moisture generally short. Pasture supplies average. Corn silked 25%, 50% normal. Wheat harvest 65% complete, 25% last week, 70% normal. Oats 20% ripe. Dry beans over 50% bloomed. Soybeans 35% bloomed. Second cut hay 40% complete, 30% last week, 45% normal. Sweet cherry harvest 85% complete. Tart cherries 60% harvested. Blueberries 25% picked. Summer apple and peach harvests started. Cabbage harvest 25% complete, snap beans 15%, sweet corn 10%. Potatoes, tomatoes and onion harvests starting. Army worm problem Upper peninsula and northern Lower.

MINNESOTA: Temperatures averaged near normal. Extremes: 93 and 43°. Precipitation averaged greater than 1.00 in. above normal west central and portions of northwest and southwest; near normal elsewhere except for southeast, up to 0.50 in. below normal. Precipitation totals greater than 1.00 in. west central, north central, northwest, and portions of southwest, less than 1.00 in. elsewhere except for locally heavy accumulations south central and southwest.

Most crops in good condition; soybeans extremely variable. Row crops 1 to 2 weeks behind normal; small grains 2 to 3 weeks. Widespread rains improved moisture supplies. Few oat fields swathed; more oat, barley to be swathed this week. Corn 47% tasseled, 1978 86%, normal 85%. Soybeans 71% blooming, 1978 86%, normal 88%. Turning ripe: Spring wheat 20%, 1978 75%, normal 74%; oats 48%, 1978 84%, normal 85%; barley 35%, 1978 90%, normal 82%. Swathed: Winter wheat 20%, 1978 65%, normal 75%; rye 24%, 1978 58%, normal 80%. Flax 79% blooming, 1978 95%, normal 97%.

MISSISSIPPI: Temperatures 1 to 3° below normal. Extremes: 64 and 94°. Most locations received rain on at least 2 days and many on all 7 days.

Soil moisture surplus to excessive. Fieldwork: 1.3 days suitable. Rains continued to hamper weed control and hay harvest. Soybeans 45% blooming, 58% 1978, 49% average; 14% podding, 17% 1978, 18% average; condition good. Cotton 98% squared, 100% 1978, 97% average; 84% blooming, 96% average; 52% setting bolls, 72% 1978, 63% average; condition fair to good. Rice 16% headed, 36% 1978, 24% average; condition good. Corn 96% silked, 97% 1978, 88% average; 69% in or past dough stage, 86% 1978; 38% dented, 51% 1978; condition good. Sorghum 39% headed, 52% 1978. Hay crops 55% harvested, 60% 1978, 53% average. Watermelon 73% harvested, 66% 1978, 61% average. Peaches 72% harvested, 72% 1978, 83% average. Pasture condition good. Diesel supplies tight to adequate; gasoline, adequate to tight; LP gas, mostly adequate.

MISSOURI: Temperatures 1 to 2° below normal. Highs ranged mid-80's to low 90's. Precipitation 8.00 in. west central Plains, west Ozarks averaging 0.50 in., elsewhere 1.50 in. with local amounts 2.00 to 4.00 in. associated with thunderstorms.

Fieldwork: 3.9 days suitable. Corn 80% tasseled, last year 56%; 68% silked, last year 34%, normal 74%. Soybeans 39% blooming, last year 34%, normal 48%. Sorghum 28% headed, last year 32%, normal 40%. Oats 84% harvested, last year 91%, normal 96%. Cotton

86% blooming, last year 91%; setting bolls 39%, last year 56%, normal 62%. Alfalfa hay 83% harvested 2d cutting, last year 78%, normal 92%. Alfalfa hay 13% harvested 3d cutting, last year 10%, normal 18%. Other hay 87% harvested. Conditions of corn, soybeans, cotton and pasture mostly fair to good. Soil moisture short to adequate. LP gas supplies mostly adequate. Diesel fuel and gasoline supplies mostly tight to adequate.

MONTANA: Very dry weather continued. Few areas received heavy precipitation. Most of south central, northeast and southeast had heavy showers, while west stayed dry. West was also warm as temperatures averaged 5° above normal. Southwest had normal temperatures but remainder had below normal temperatures. Some north central areas had temperatures as much as 10° below normal.

Harvest of winter wheat started. Soil moisture short, some improvement from rains, particularly eastern third. Fieldwork: 5.5 days suitable. Winter wheat harvested 10%, 5% 1978, 10% average. Spring wheat turning 35%, 35% 1978, 45% average. Barley turning 45%, 40% 1978, 45% average. Oats turning 40%, 40% 1978, 40% average. Second cutting alfalfa 5% complete; wild hay cut 60%. Range feed supply and stockwater mostly adequate.

NEBRASKA: Precipitation 0.75 in. except southern third where amounts averaged 1.30 in. Temperatures normal.

Corn silking 50%, year ago 65%, normal 75%. Sorghum heading 15%, year ago 25%, normal 35%. Soybeans podding 15%, year ago 30%, normal 30%. Wheat harvest 75% complete, year ago 95%, normal 95%. Diesel 65% adequate, 35% tight. Gasoline 85% adequate, 15% tight. Fieldwork: 4.9 days suitable.

NEVADA: Wet early, dry air and much warmer balance of week. Temperatures averaged 2 to 5° above normal.

Alfalfa hay and small grain harvesting resumed. Wild hay harvest full swing. Ranges showing effect hot, dry weather.

NEW ENGLAND: Warm humid air mass early week persisted. Fog and cloudiness frequent in coastal areas. Isolated shower activity throughout week.

Hot and humid weather made fieldwork uncomfortable. Rain still needed for grass fields but clover and alfalfa holding their own. Corn maturity late. Squash and green beans abundant. Low bush blueberry harvest underway. Sprinkler irrigation not doing complete job in cranberry crop. Soil moisture and available grazing very short to adequate. Fuel tight to adequate.

NEW JERSEY: Temperatures averaged 2 to 3° above normal. Extremes: 57 and 94°. Rainfall averaged 0.74 in. north, 1.63 in. central and 1.54 in. south. Soil moisture in percent of field capacity 65% north, 65% central and 61% south.

Fieldwork: 5.5 days suitable. Hot weather advancing crop maturity. Soil moisture varied because of frequent but scattered showers. Summer vegetable harvests increasing. Irish potato harvest light but increasing slowly. Sweetpotato vine growth continued good. Blueberry harvest past peak. Apple and peach harvest increasing. Hay making and grain combining slowed by showers and high humidity. Most field corn and soybean fields look good.

NEW MEXICO: Temperatures averaged 3° higher than normal with little day to day variation. Rain generally meager and patchy but a few totals near 1.00 in. northeast.

Cotton good; recent weather promoting good growth. Alfalfa harvest about 50% complete with third cutting in south. Grain sorghum and corn good; very limited sorghum heading. Onion harvest continued. Apples, pecans, ranges, and livestock good. Some ranges need rain.

NEW YORK: Scattered rainfall helped some areas, most still dry. Temperatures and humidity above normal.

Many corn fields tasseling. Wheat harvest 25% done, 35% 1978. Most oats turned, earliest nearing maturity. Alfalfa regrowth slow. Second cutting alfalfa 30% cut, 40% 1978. Tomatoes, onions in good condition. Sweet corn fair to good condition. Early cabbage harvest starting. Tart cherry harvest 50% complete.

NORTH CAROLINA: Temperatures near normal. Precipitation 1.00 in.

Fieldwork: 3.1 days suitable. Soil moisture adequate to surplus. Condition of corn, cotton, peanuts, soybeans, hay crops, Irish potatoes, sweetpotatoes, apples and pasture fair to mostly good. Tobacco and summer cabbage fair to good. Summer cucumbers and watermelons mostly fair to good. Green peppers good. Summer snap beans fair. Harvested: Peaches 70%, 1978 57%, average 73%; hays 74%, 1978 81%, average 72%; spring Irish potatoes complete; flue-cured tobacco 30%, 1978 19%, average 28%. Phenological stages: Corn silking 88%; corn soft dough 60%; corn dent 37%; cotton squared 83%; cotton bloomed 62%; soybeans flowered 14%.

NORTH DAKOTA: Near-normal temperatures and above normal precipitation. Thunderstorms commonplace with high winds, hail, heavy rain and tornadoes. Rainfall from 0.20 in. northeast to over 3.00 in. southeast. Temperature extremes: 90° southeast to 49° northeast.

Cooler, wetter weather gave some relief to crops, heavy rains and winds east caused considerable lodging. Other areas, showers more spotty and still need general rain. Conditions vary; mostly fair to good. Swathing of winter wheat and rye just started. Also early barley and oat fields. Small grain development still late. Percent ripe or beyond and normal: Hard red spring 7%, 38%; durum 3%, 21%; oats 14%, 49%; barley 21%, 64%. Row crops mostly good but late. Sunflower 7% bloom, normal 34%.

OHIO: Temperatures slightly above normal but influenced by extensive cloud cover. Growing degree day accumulations slightly above normal. Precipitation varied widely ranging with heavy rains of up to 4.50 in. southern third.

Wheat harvest nearing completion, though rain delayed all fieldwork. Insect populations low but japanese beetles a problem. Hay and straw baled when possible between showers. Wheat harvest 95%, 90% 1978, 98% average. Corn tasseled 75%, 70% 1978, 70% average. Corn, dough 10%, 15% 1978, 15% average. Soybeans blooming 50%, 60% 1978. Soybeans setting pods 30%, 35% 1978, 55% average. Oats harvested 20%, 45% 1978, 65% average. Alfalfa 2d cut 70%, 80% 1978, 80% average. Fieldwork: 3 days favorable. Pasture condition good. Soil moisture adequate to surplus.

OKLAHOMA: Temperatures 1 to 2° below normal southeastern third, elsewhere near normal. Some precipitation all areas averaging from 0.05 in. southeast to 3.45 in. southwest.

Sorghum 35% heading, 25% 1978, 45% average. Sorghum 10% milk to soft, 10% 1978, 15% average.

Cotton 65% squaring, 65% 1978, 80% average. Fieldwork: 6.1 days suitable.

OREGON: Temperatures above normal. Maximums ranged from high 60's on coast to over 100° east. Minimums ranged from mid-30's to high 50's. Precipitation limited to light drizzle along coast.

Soil moisture continuing short. Winter wheat 35% harvested; spring wheat harvest about ready. Barley harvest well along. Grass seed harvest progressing well. Mint harvest starting Malheur, about ready other areas. Haying continuing; third cutting alfalfa underway. Norgold potato digging started. Melons being harvested north central near Hermiston. Sugarbeets developing well. Hop harvest to get underway about mid-August. Early apple harvest underway, also apricots, pears to start mid-August. Snap bean and table beet harvest well along southern Willamette Valley. Beginning in north, onions look good. Irrigation supplies low, some areas have stopped irrigating. Livestock good condition. Ranges and pastures drying up rapidly. Grasshoppers still causing damage although much spraying accomplished.

PENNSYLVANIA: Third consecutive week of warm and very humid conditions. Under partly sunny skies temperatures 60's and 80's most days with extremes 51 and 92°. Almost daily showers and/or thunderstorms produced 1.00 to 3.00 in. rainfall for wettest week in 2 months.

Fieldwork: 4 days suitable. Soil moisture mostly adequate to short. Activities: Making hay; filling silos; combining oats, barley, wheat; baling straw; spraying; harvesting fruits, vegetables. Barley combined 82%, last year 73%. Wheat combined 48%, same in 1978. Oats combined 8%, under 5% last year. Corn 56 in., last year 55 in. Alfalfa second cut 47%. Clo-tim still 94%. Hay quality fair. Feed from pastures average. Harvesting apples, peaches, tomatoes, snap beans, cabbage, sweet corn, salad crops.

PUERTO RICO: Island average rainfall 0.78 in. or 0.67 in. below normal. Temperatures averaged about 81° on coasts and 76° interior. Extremes: 92 and 61°.

SOUTH CAROLINA: Wet, humid with higher temperatures, somewhat drier last half week. Daytime highs mostly 90's 27th thru 29th. Rainfall near normal except southern part below usual.

Soil moisture adequate to surplus. Fieldwork: 2.6 days suitable. Corn condition good with favorable moisture; 82% dough stage, last year 79%; mature 35%, 44% last year, 41% average; 2% harvested, ahead of last year. Cotton fair to good, prior to rains dry stress caused some boll and square losses; fruiting well, good prospects; 88% set bolls, 85% last year, 84% average. Soybean condition good, some weed control problems; 40% blooming, 32% last year, 28% average. Harvesting tobacco despite showers, good condition; 64% harvested, 41% last year, 56% average. Peanut condition fair to good, wet conditions fostering diseases. Peach and grape conditions fair to good with surplus moisture, humidity contributing to peach, grape rot. Peach shipments began seasonal decline, still harvesting substantial volume. Excellent quality cantaloup, watermelon harvest active but well advanced.

SOUTH DAKOTA: Average temperatures 6° subnormal to 5° above. Extremes: 99 and 51°. Unusually humid, abundant precipitation. Average precipitation 0.75 to 2.00 in.

Topsoil moisture pockets of surplus, central, east, southwest; adequate elsewhere. Subsoil moisture short in portions of northwest, south and northeast, elsewhere adequate. Fieldwork: 4 days suitable. Small grain harvest slowed by heavy rain and high humidity. Harvest 2 weeks behind average. Some small grain lodged. Some windrowed small grain losing quality. Grasshoppers continue a problem. Armyworms and seed weevil increasing. Main farmwork: Windrowing, harvesting, haying, working summer fallow. Farm fuel supplies tight to adequate. Winter wheat 20% harvested, 1978 75%, average 76%. Rye 13% harvested, 1978 54%, average 67%. Oats 15% harvested, 1978 25%, average 49%. Spring wheat 5% harvested, 1978 13%, average 31%. Barley 15% harvested, 1978 34%, average 55%. Alfalfa 2d cutting 44%, 1978 54%, average 57%. Wild hay 46% harvested, 1978 52%, average 65%. Flax 91% in bloom or past, 1978 84%, average 98%. Soybeans 66% in bloom or past, 1978 73%, average 79%. Corn 50% tasseling or past, 1978 63%, average 63%. Corn 25% silked, 1978 42%, average 49%.

TENNESSEE: Tropical storm Claudette caused heavy rains especially east. Amounts averaged 2.00 in. west, 4.00 in. east. Temperatures near normal.

Soil moisture surplus. Fieldwork: 1.3 days suitable. Crop fair. Pastures and livestock good. Soybeans blooming 38%, 1978 60%, average 54%; setting pods 12%, 1978 21%, average 15%. Corn silked 73%, 1978 83%, average 90%; dough stage 27%, 1978 42%, average 45%; dent stage 4%, 1978 11%, average 14%. Cotton squaring 94%, 1978 98%, average 96%; setting bolls 35%, 1978 68%, average 60%. Burley tobacco topped 11%, 1978 18%. Blue mold in tobacco severe statewide. Snap beans rotting in fields as too wet to harvest. Blossom end rot bad in tomatoes; excessive culls. Peach harvest near completion. Fuel supplies mostly adequate.

TEXAS: Tropical storm Claudette moved onshore near Beaumont producing heavy rain Southeast Texas. Low pressure extended through West Texas causing numerous thunderstorms. Claudette moved into East Central Texas producing heavy rain, especially Upper Texas Coast. Late week showers lingered Northeast Texas, northern Panhandle. Rainfall below normal South Plains, Trans-Pecos, North Central Texas; 2.00 to 4.00 in. above South Texas, Central, Upper Coast; near normal elsewhere.

Tropical storm Claudette dumped heavy rains causing extensive damage to crops on Gulf Coast. Heavy rains fell in South Central and East Texas, while front crossed Panhandle bringing general rain throughout Low Plains and southern High Plains. Rain would be welcomed on Edwards Plateau, Cross-Timbers where conditions dry although not critical. Row crops aided by hot weather earlier week stimulating growth, fruit development. Harmful insects remain under control although grasshoppers present problems with sorghum, corn, hay, and margins of cotton fields, particularly Low Plains, Cross-Timbers, East Texas. Cotton made good progress as hot weather promoted growth, fruit development. Blooms noted throughout Panhandle where cultivation, post emergence herbicide application prevalent. Insect damage light although producers applying insecticides for bollworm, bud worm, and boll weevil portions of Blacklands, South Central Texas. Defoliation began Gulf Coast as weather permitted. At least two gins on 24-hour shifts lower Rio Grande Valley where harvesting began in earnest. Sorghum harvesting spread into Blacklands, but rains curtailed harvesting most areas. Sorghum began to reach maturity Low Plains. Midge causing problems late planted fields. Soybeans blooming High Plains. Rains from Claudette submerged soybean fields in Gulf Coast. Extent of damage unknown. Corn excellent progress. Earworm damage reported recently harvested fields. Peanuts made good growth state-

wide. Leaf spot control underway Low Plains, Cross-Timbers. Blooming, pegging commonplace in Cross-Timbers, Edwards Plateau. Rice harvest halted by torrential rains. Damage expected heavy but extent unknown. Diesel tightened from previous week with slow, late deliveries. Gasoline supplies improved slightly. Cotton squaring 81%; setting bolls 38%; open bolls 8%; harvested 1%, 2% 1978, 1% average. Rice headed 100%; turning color 63%; harvested 8%, 27% 1978, 29% average. Sorghum headed 67%; turning color 56%; mature 42%; harvested 30%, 53% 1978, 38% average. Corn harvested 5%, 9% 1978, 6% average.

Land preparation, planting fall vegetables active. Harvests bell peppers, squash, cucumbers, onions, melons, sweet corn, cabbage, and tomatoes continued. Irrigation and insect control citrus groves. Heavy rains delayed harvests east. Peach supplies available central, east and north Texas. Some in north Texas grasshopper damage. Pecans size well. Second generation casebearer infestations very slight.

Pastures and rangelands continued to green many areas in response to good moisture conditions. South Central and South Texas, however, ranges below average and some areas showing heat and moisture stress. Haying operations remained active where weather conditions permitted. Moderate to heavy grasshopper populations problem across North Texas; becoming problem over rest of State. Livestock remained fair to excellent condition.

UTAH: One or two isolated afternoon or evening thundershowers, very little accumulated precipitation. Rising trend in temperatures latter part period. Averages ranged from 3° below to 3° above normal.

Range improved slightly by rains 20th to 22d. Soil moisture critical many lower elevation rangelands. Livestock generally good condition. Fieldwork: 6 days suitable. Dryland winter wheat harvest about 50% complete, irrigated about 10%. Spring planted small grains about 50% ripe, 10% harvested. Alfalfa hay harvest slowed by rains. Little rain damage. Tart cherries and apricot harvest about midpoint. Onion and tomatoes generally good condition. Corn progressing normally. Potatoes and dry beans progressing nicely.

VIRGINIA: Rather warm, humid. Temperatures near normal. Extremes: 92 and 57°. Rainfall heavy averaging over 1.00 in. occurring daily as showers, thunderstorms.

Topsoil moisture mostly adequate to surplus; shortages north. Fieldwork: 3.4 days suitable. Fuel supplies mostly adequate. Tobacco pulled: Flue-cured 7%, 3% 1978, 8% average; sun-cured 2%, 0% 1978, less than 0.5% usual. Excessive wet, humid conditions causing disease problems some areas. Pastures, hay in excellent condition, some hay harvesting difficulties caused by rain. Corn, soybeans, peanuts, tobacco prospects good.

WASHINGTON: West: Temperatures near to below normal. Precipitation below normal.

Red raspberry harvest nearly complete, short season. Blueberry harvest active. Vegetable crops continue to be harvested. Threshing vegetable seed and barley, wheat soon to follow. Moisture stress on corn and pasture; irrigation being applied.

East: Temperatures averaged 4° above normal. Precipitation below normal.

Picking cherries nearly complete. Apricot and peach harvests active. Apple thinning and spraying continue. Potato harvest slow. Sweet onion harvest almost complete; storage onions starting. Alfalfa hay cutting continued. Small grain harvest accelerating. Grass seed harvest continued. Spraying grasshoppers on rangeland. Fire conditions high. Wheat turned 100%; harvested 22%, 1978 22%.

WEST VIRGINIA: Temperatures 8° above normal. Precipitation well above normal.

Fieldwork: 2.1 days suitable. Soil moisture adequate to surplus. Farm activities: Harvesting small grains, haying, clipping pastures. Small grain harvest: Wheat 50%, 70% 1978, 85% average; barley 65%, 70% 1978, 87% average; oats 27%, 30% 1978, 44% average; condition mostly good. Corn mostly good to fair condition. Hay: 1st cutting 89%, 92% 1978, 83% average; 2d cutting 28%, 22% 1978, 26% average; condition mostly good. Peaches 22% harvested; all fruit mostly fair to good condition.

WISCONSIN: Temperatures near normal. Highs mostly in 80's with a few 90's. Lows generally in 50's and 60's. Extremes: 91 and 48°. Showers and thunderstorms developed 24th and 26th, with heaviest amounts in excess of 1.00 in. central and northeast. More rainfall activity moved into west late 29th and continued other areas early 30th.

Fieldwork: 6 days suitable. Second crop haying 35% done, 1978 30%, normal 30%. Showers and humidity slowed hay drying. Quantity good where moisture received after first cutting, short growth in drier areas. Corn and soybeans benefited from rainfall. Corn 25% silked, 1978 50%, normal 45%. Early corn has tall growth. Late corn coming good, some just starting to tassel. Soybeans doing well where moisture adequate. Harvesting early oats started south. Late oats heading on short straw. Storms lodged some oats but short stands limiting lodging. Winter wheat harvest continuing. Pasture conditions declined in dry areas but above normal for late July. Tobacco growing well but size variable depending on planting dates. Early potatoes being dug. Sweet corn harvest ready to start. Late peas being harvested as are early snap beans and beets. Cherry harvest starting in major production area of Door County. Cranberries setting fruit. Topsoil moisture short to adequate.

WYOMING: Temperatures below normal except upper and lower Platte drainages. Precipitation generally below normal except northeast section.

Topsoil moisture very short to short. Winter wheat 74% mature, 22% harvested. Spring wheat turning color 52%, mature 16%, harvested 2%. Oats turning color 54%, mature 19%, harvested 6%. Barley turning color 70%, mature 25%, harvested 3%. Row crops in good condition although progress behind normal. Corn 36% tasseled. Dry beans 55% bloomed. Potatoes 37% in bloom. First cutting alfalfa hay 88% complete, second cutting 7%. Other hay 42% cut. Fieldwork: 6 days suitable. Livestock contracted for fall delivery: Cattle 15%, calves 15%, lambs 13%. Expected supplies of hay for next winter below average to average; expected feed grain supplies average. LP gas and gasoline adequate; diesel fuel supplies near adequate most areas.

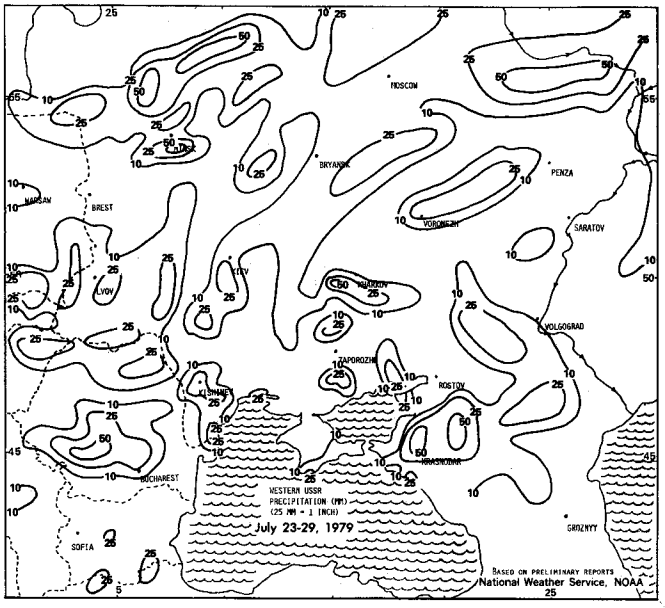
World Weather and Crop Update

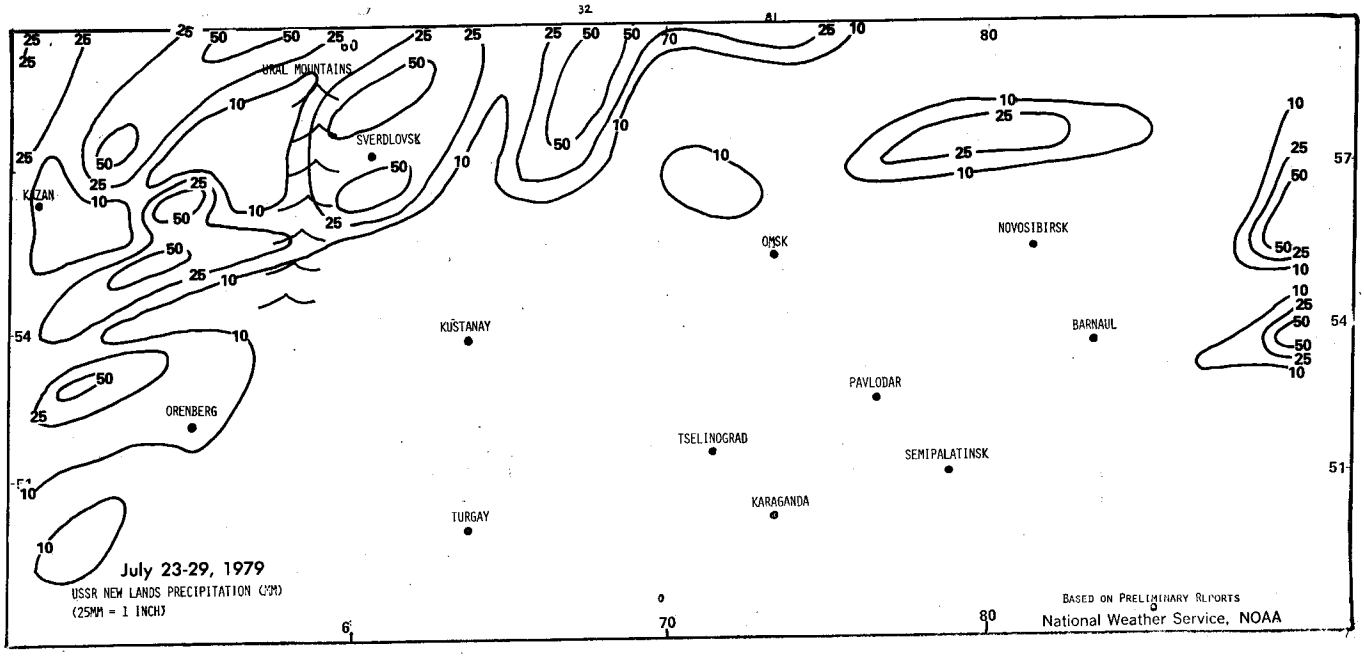
July 23 - 29

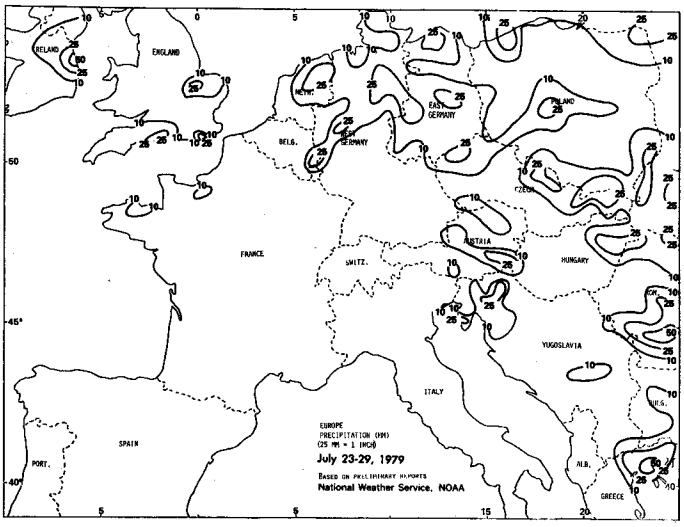
USSR.	Winter grain harvesting west of Urals.	Some interference by rains.
	Spring grains heading New Lands.	Good soil moisture conditions.
CHINA.	Spring wheat harvest near.	Prospects good.
AUSTRALIA.	Winter grains jointing in Queensland.*	Soil moisture good.
INDIA.	Rice jointing.*	Good growing conditions in major areas.
EUROPE.	Winter grain harvesting in the North.	Rains interfering West and East Germany, Austria.
SO.AMERICA.	Argentine wheat planting.	Delayed in Buenos Aires Prov. by dryness.
CANADA.	Spring grain crops heading.	Southern portions very dry.

*Based on normal crop calendar information.

USSR. Winter grain harvest in western USSR continued to be bothered by showers, although rainfall totals were lighter than in the previous two weeks. The heaviest activity occurred in the north central Ukraine and the North Caucasus. In the Volga River region, rain was limited to the northern portions. Showers also tapered off in the New Lands. Temperatures ranged warmer than normal. With an excellent soil moisture base, conditions for crop development also have been excellent. However, spring grains are still behind normal. Spring grains are heading throughout the region with some very early fields harvested in the southern portions of the New Lands.

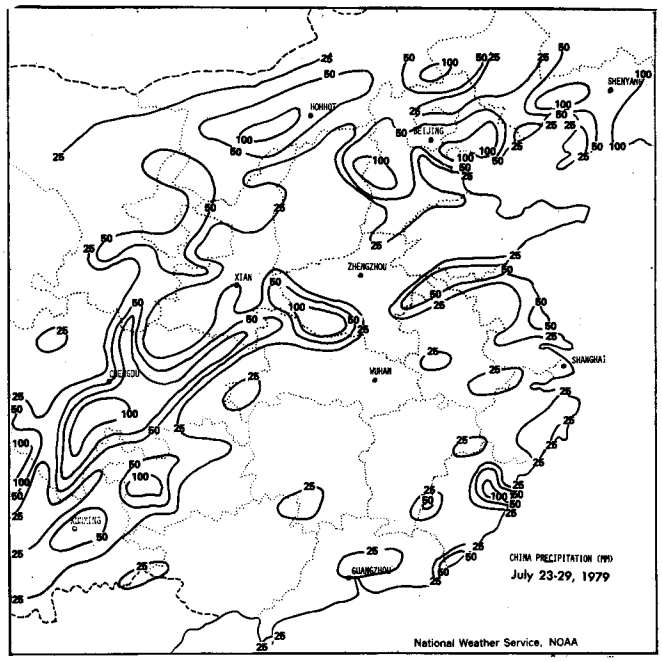


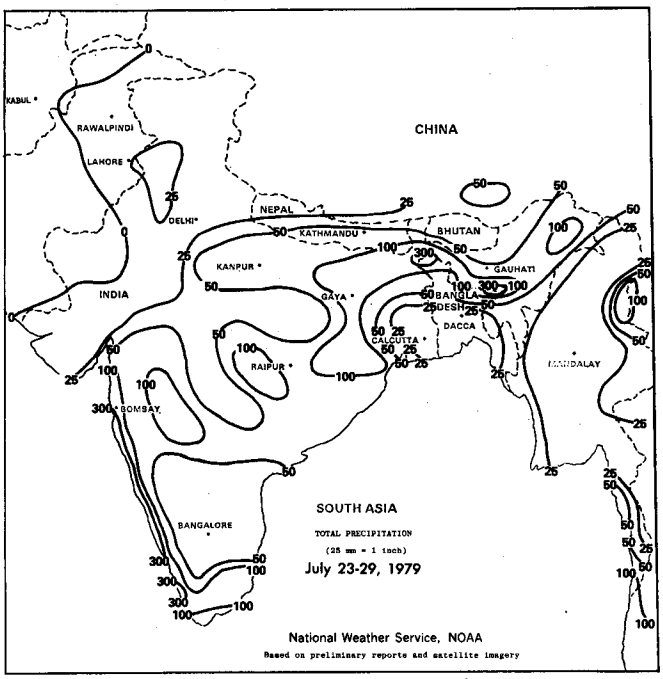




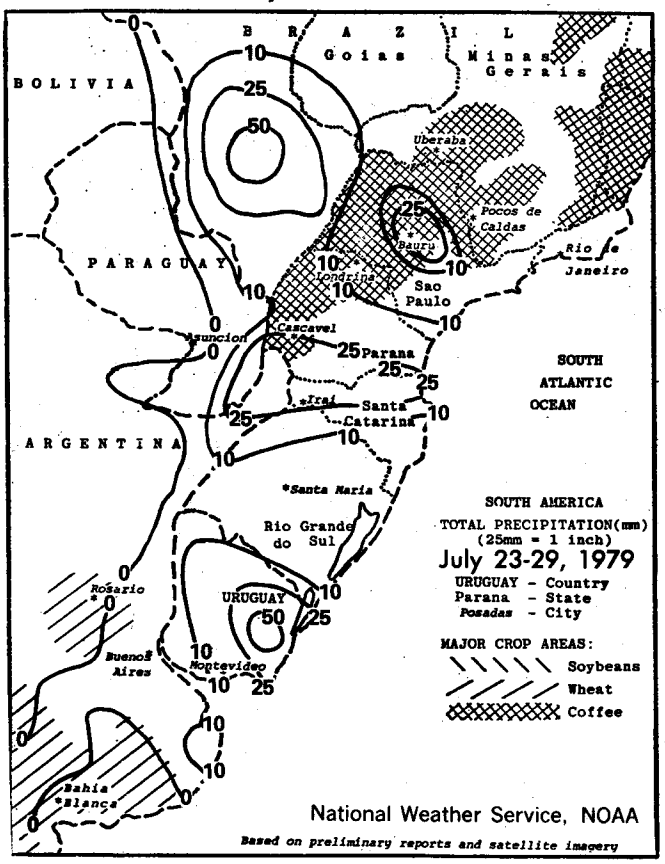
EUROPE. Winter grain harvest continued under clear skies over much of Europe. However, normal to above normal rains (15 to 30 mm) fell across the northern half of West Germany and all of East Germany and Poland for the second straight week. This moisture has likely caused problems with harvesting of early fields. Austria and northern Yugoslavia also were wet again (see map). This area has been wet since mid-June. Light showers dampened England where crops are 2 to 3 weeks late in their development but progressing nicely.

CHINA. Rainfall was generally light in most production areas after very heavy rains the previous week. The only regions to receive continued heavy moisture centered in the western and northern provinces where 25 to 65 mm occurred. Szechwan Province was the only major rice-growing region receiving rain, which should have helped some reported localized dryness. Cotton development should benefit from the clear weather. Spring grains are approaching harvest, but they received heavy rains this week.



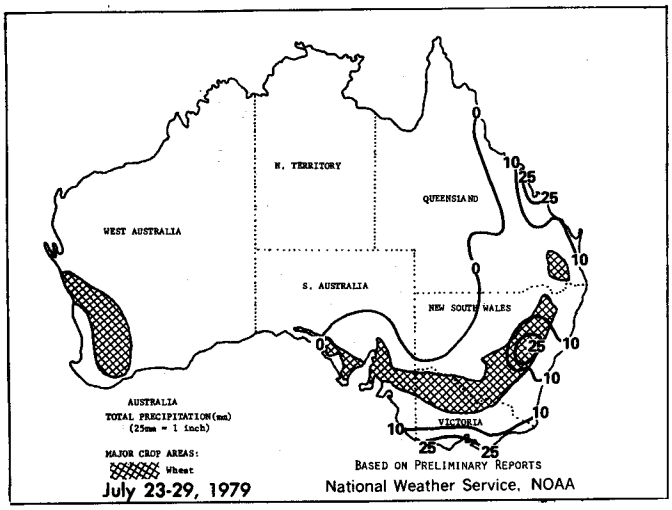


INDIA. Monsoon activity was generally good over most of the country except in the far western and northern areas. The rice-production areas have had four excellent weeks of rain and should be in good to excellent condition. Peanut-production areas received the best rains of the season, except in Gujarat, which is still very dry. Rainfall tapered off from last week across southern Bangladesh, but moisture conditions are generally good. Most of Thailand received less than 25 mm. Crops are generally good, although conditions have been drier than normal. Moisture the next 2 to 4 weeks will be very important. Rainfall over the remainder of Southeast Asia continues light.

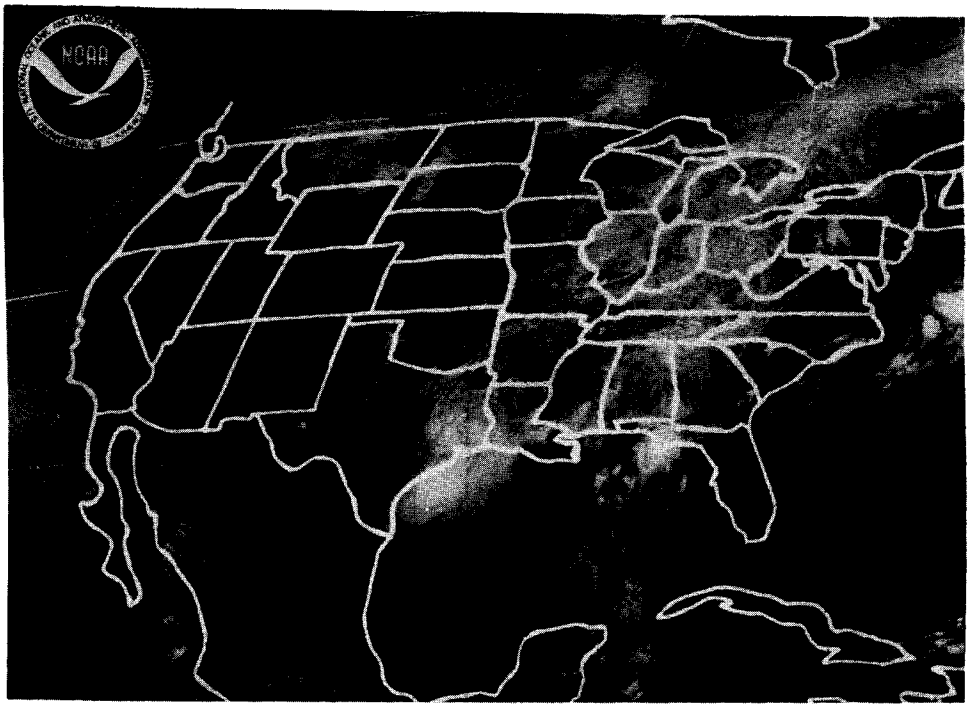


SOUTH AMERICA. Dryness persisted over the winter grain areas of Buenos Aires province. Planting is being held up until rain comes. Some light showers (less than 10 mm) did occur over the northern double-cropped region. In Brazil, general rains of 10 to 25 mm fell over most southern States except Rio Grande do Sul (less than 10 mm). The rains covered all but the northeastern coffee areas. Over 25 mm fell in central Sao Paulo; this moisture likely disrupted coffee harvest slightly.

AUSTRALIA. The winter wheat regions of Australia received less than 10 mm of moisture in most areas. Only the northern portions of New South Wales received any moisture of consequence (10-25 mm). Crop conditions continue to be excellent. Crop calendar information indicates that winter grains should be jointing in Queensland.

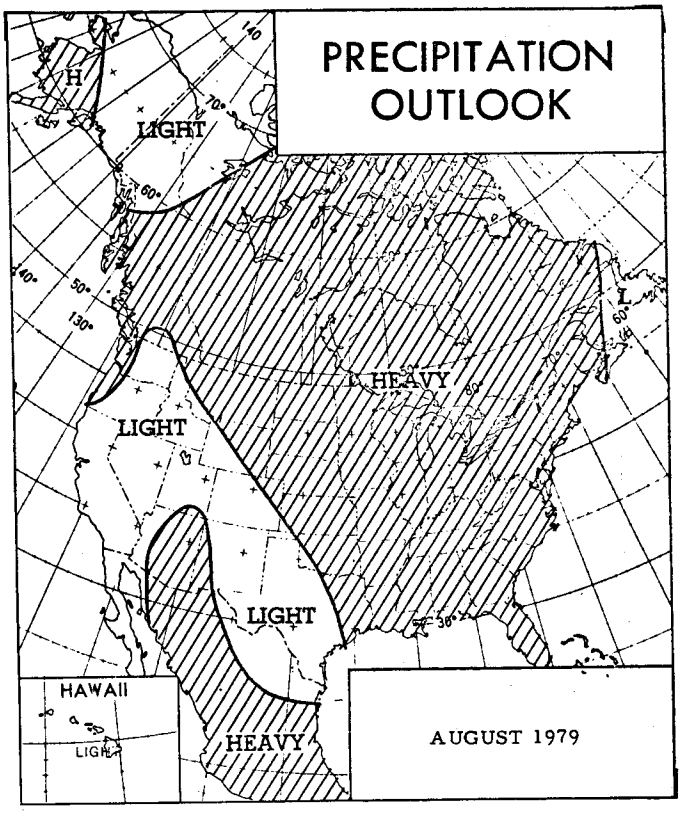


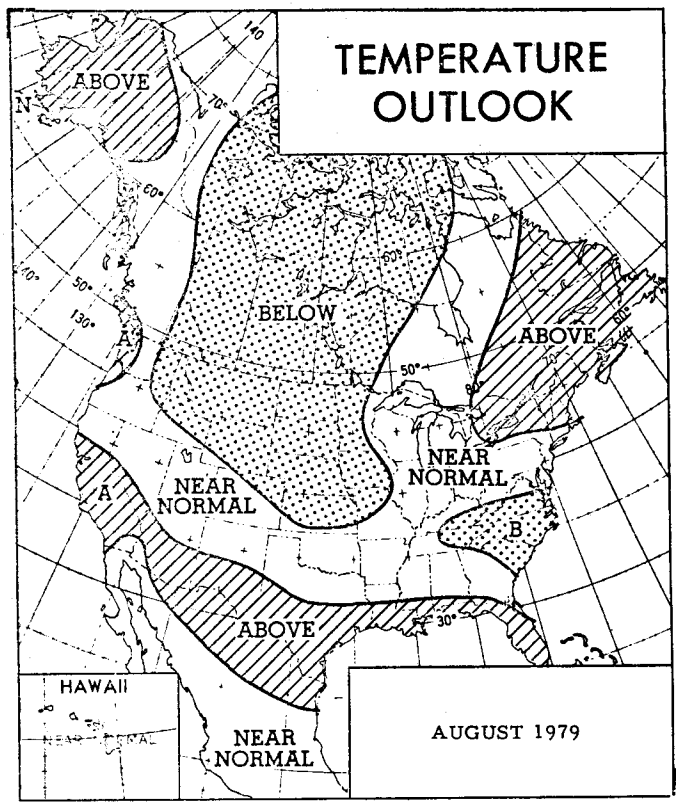
CANADA. Spring grain crops in southern Saskatchewan and Manitoba received 5 to 15 mm. That represents the best rains in several weeks, although amounts were light. Good rains also occurred over the northern production areas where soil moisture has been excellent. The crop is generally in the heading stage. Significant crop stress has occurred across southern Alberta and southern and eastern Saskatchewan, which contributes to approximately 65% of Prairie production.



This NOAA/NESS satellite photo, taken at 1:00 PM EDT, shows the cloudiness of Tropical Storm Claudette as it moved over eastern Texas on Wednesday. Although surface winds were fairly light, considerable rain fell (see text for details).

Average Monthly Weather Outlook





CROP DEVELOPMENT
FOR WEEK ENDING JULY 29

CORN TASSELING

	1979	1978	AVG.
COLO	42	62	NA
GA	NA	NA	NA
ILL*	78	74	83
IND*	60	55	70
IOWA	82	100	NA
KANS	55	65	75
KY	100	NA	NA
MICH*	25	NA	50
MINN	47	86	85
MO	80	56	NA
NEBR*	50	65	75
NC *	88	NA	NA
OHIO*	78	74	83
PA	NA	NA	NA
S DAK	50	63	63
VA	NA	NA	NA
WISC*	25	50	45

* SILKING PROGRESS

SOYBEANS BLOOMING

	1979	1978	AVG.
ALA	46	42	43
ARK	14	19	NA
GA	NA	NA	NA
ILL	71	66	70
IND	65	65	NA
IOWA	79	78	79
KANS	30	35	NA
KY	34	37	40
LA	47	65	NA
MICH	35	NA	NA
MINN	71	86	88
MISS	45	58	49
MO	39	34	48
NEBR	NA	NA	NA
NC	14	NA	NA
OHIO	50	60	NA
SC	40	32	28
TENN	38	60	54

SOYBEAN POD SET

	1979	1978	AVG.
ALA	22	16	NA
ARK	NA	NA	NA
GA	NA	NA	NA
ILL	30	25	37
IND	15	10	30
IOWA	31	41	45
KANS	15	15	20
KY	NA	NA	NA
LA	24	34	NA
MICH	NA	NA	NA
MINN	NA	NA	NA
MISS	14	17	18
MO	NA	NA	NA
NEBR	15	30	30
NC	NA	NA	NA
OHIO	30	35	55
SC	NA	NA	NA
TENN	12	21	15

COTTON SETTING BOLLS

	1979	1978	AVG.
ALA	55	52	67
ARIZ	NA	NA	NA
ARK	70	93	NA
CALIF	33	NA	NA
GA	99	91	92
LA	85	89	83
MISS	52	72	63
MO	39	56	62
N MEX	NA	NA	NA
NC	NA	NA	NA
OKLA	NA	NA	NA
SC	88	85	84
TENN	35	68	60
TEX	38	NA	NA

GRAIN SORGHUM HEADED

	1979	1978	AVG.
COLO	NA	NA	NA
KANS	15	10	20
MO	28	32	40
NEBR	15	25	35
OKLA	35	25	45
S DAK	0	0	0
TEX	67	NA	NA

RICE HEADED

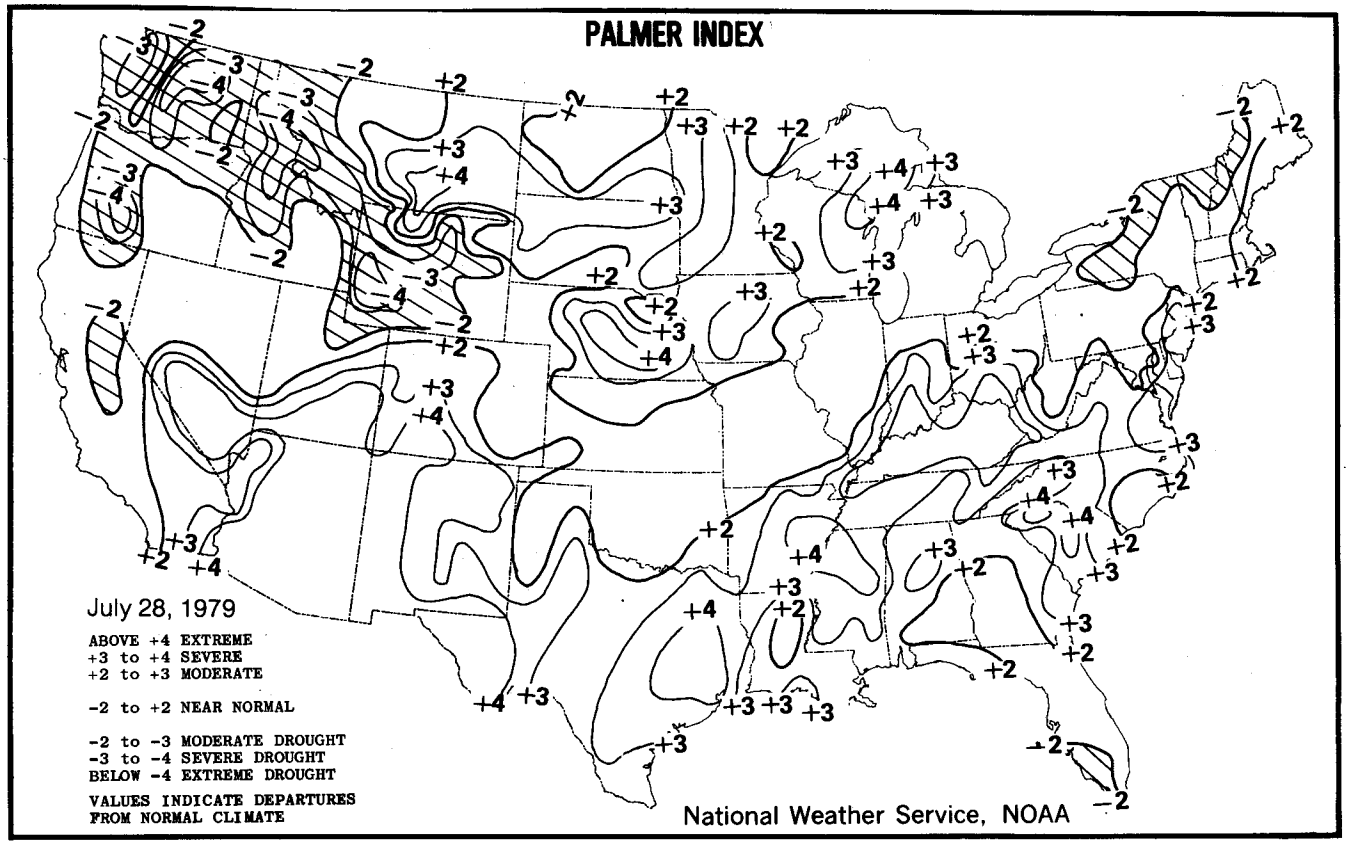
	1979	1978	AVG.
ARK	6	14	NA
CALIF	13	NA	NA
LA	64	81	NA
MISS	35	25	45
TEX	100	NA	NA

HARVEST PROGRESS
FOR WEEK ENDING JULY 29
WINTER WHEAT

	1979	1978	AVG.
CALIF	95	NA	NA
COLO	80	97	87
IDAHO	5	5	NA
ILL	100	100	100
IND	100	100	100
KANS	100	100	100
MO	100	100	100
MONT	10	5	20
NEBR	75	95	95
OHIO	95	90	98
OKLA	100	100	100
OREG	35	NA	NA
S DAK	20	75	76
TEX	100	100	100
WASH	22	22	NA
15 STATES	81	85	90

THESE 15 STATES PRODUCED 91%
OF THE 1978 WINTER WHEAT CROP.

NA NOT AVAILABLE

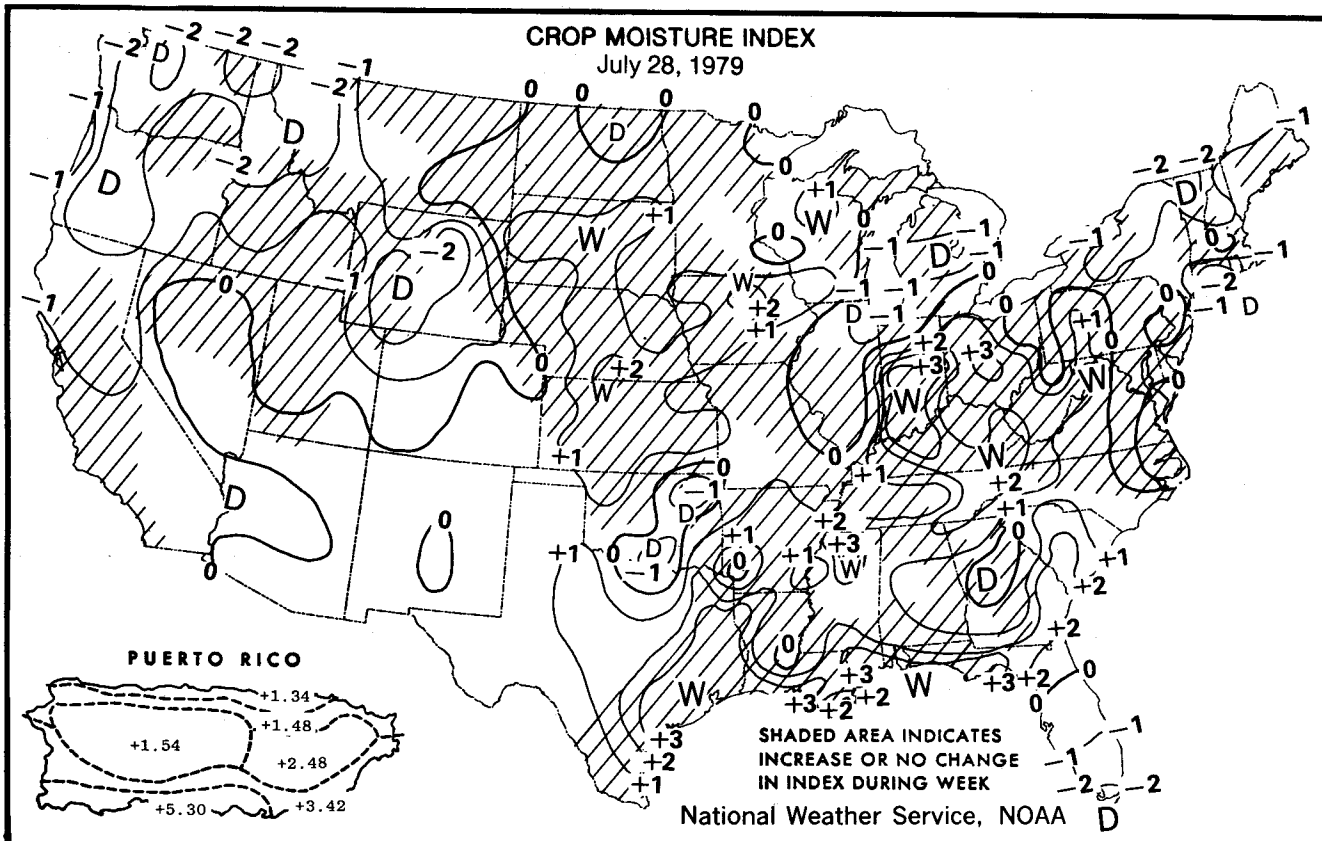


The Palmer Index

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 moistue 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	EXTRFMELY 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 CONTINUED, RAIN URGENTLY NEEDED
BELOW		-4.0	NOT ENOUGH RAIN, STILL EXTREMELY DRY

RECENT RAINS MOVED THROUGH ILLINOIS AND RELIEVED THE DRY CONDITION THERE. PORTIONS OF CENTRAL LOWER MICHIGAN ARE STILL SLIGHTLY DRY. HEAVY RAIN IN CENTRAL AND SOUTHERN INDIANA HAS INCREASED THE CROP MOISTURE INDEX TO THE "EXCESSIVELY WET,SOME FIELDS FLOODED" CATEGORY. IN SPITE OF THE SPOTTY RAIN IN WESTERN NEW ENGLAND, THE CROP MOISTURE INDEX HAS DECREASED IN THE NORTHERN PORTION. THE INDEX IS COMPUTED FROM DIVISIONAL AVERAGES BUT MANY SMALLER LOCALES ARE EVEN DRIER THAN INDICATED. FLOODED FIELDS IN SOUTHEAST TEXAS ARE INDICATED BY THE "PLUS-THREE" CROP MOISTURE INDEX.

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CONTENTS

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