

# WEEKLY WEATHER AND CROP BULLETIN

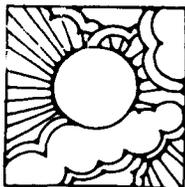
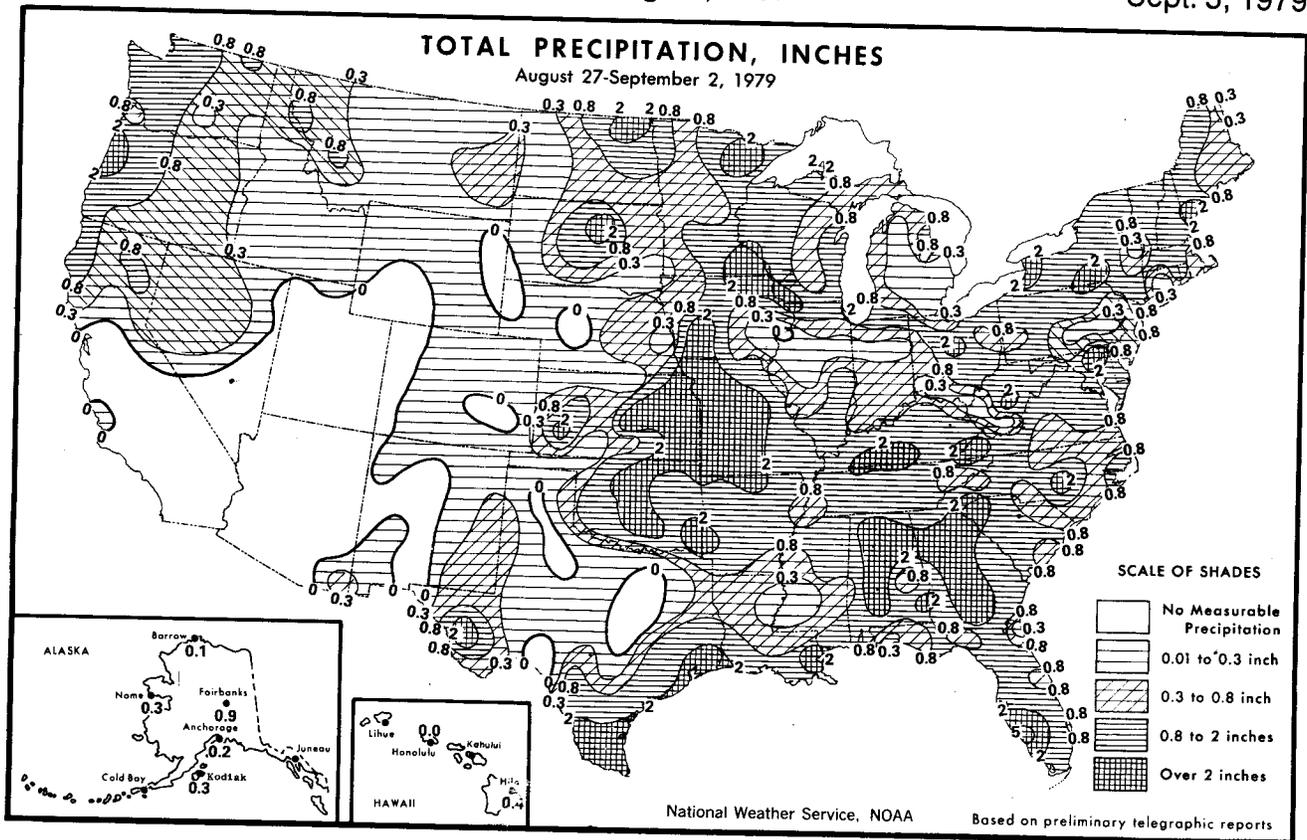
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## National Weather Summary

August 27 - September 2

**HIGHLIGHTS:** The Southwest reported little or no rainfall, while much of the remainder of the Nation received some moisture.

The Pacific Northwest's coastal area noted moderate to heavy amounts of rain. Thunderstorms east of the Rockies accounted for some heavy amounts. Two waning tropical storms provided heavy rains along the Texas Coast.

Temperatures ranged warmer than normal over much of the country; readings in the Midwest and Northeast averaged 4 to 6 degrees above normal. In the West, the Sierras and Plateau Region were cooler than normal. The Gulf Coast showed temperatures at or slightly below the norm.

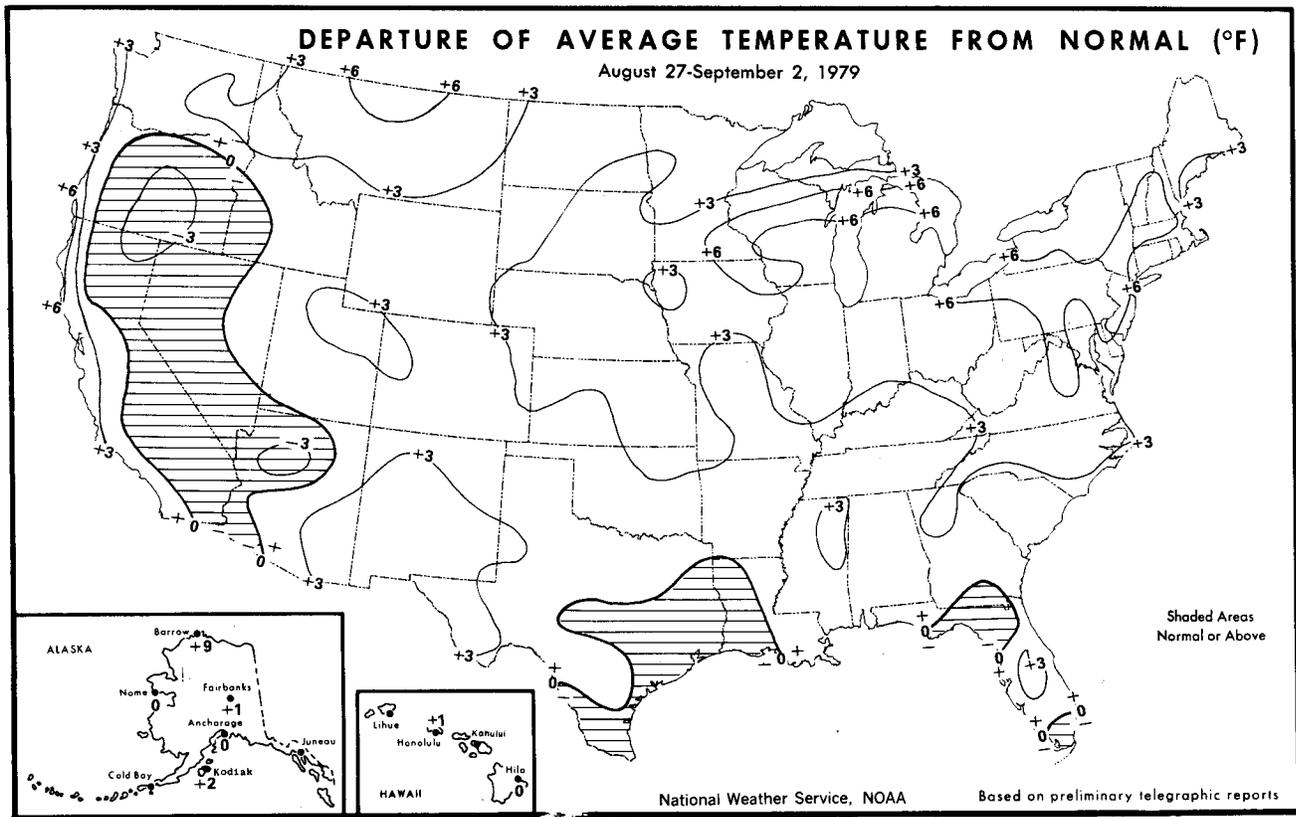
On Monday, thunderstorms rumbled over most of the Plains States, the Midwest, and East Coast States.

Three inches doused Garden City, western Kansas. To the south, a tropical storm in the Gulf of Mexico dumped 5 inches on Texas's southern tip. To the north, Faulkton, east central South Dakota, scored nearly 2.5 inches.

In the Midwest, Harrisville, northeastern Michigan, received more than an inch and one-half, while Green Bay, eastern Wisconsin, managed about 2 inches. Along the Atlantic Coastal States, two and a half inches soaked an area near Valdosta, southern Georgia, and New York City reported an inch and a third.

Temperatures soared in the Southwest; in Arizona, Winslow notched a new mark of 98°, and Tucson hit a record-tying 103°. The 110° at Phoenix made it 25 days this year at 110° or above---the record holds at 27 days.

Intense storms rolled over sections of the upper Mississippi Valley triggering heavy rains and tornadoes on Tuesday.



Two to 4 inches drenched portions of Minnesota and Iowa; about 4 inches fell near Forest City, north central Iowa, and Rochester, southeastern Minnesota. At 9.5 inches, this marks the wettest August on record in Rochester. The rain moved southeastward by evening dumping an inch on Memphis, 2.5 inches on Delaware, central Ohio, and almost 2 inches near Charleston, W. Va.

The tropical depression stalled off the north-eastern Mexico Coast but continued to pump moisture up the Texas Coast; Corpus Christi gathered nearly 2 inches of rain.

Readings persisted hot in the Southwest, where Albuquerque checked in with a record-tying 97°.

Rain dotted much of the Nation on Wednesday, but amounts were a bit lighter than earlier in the week.

In the midlands, Topeka chalked up about 2 inches of rain, while Kansas City, Mo., measured 1.3 inches.

Several stations in the East and Southeast received one-inch-plus rains; a sampling included 1.3 inches at Tampa, western Florida, more than 2 inches at Fayetteville, southern North Carolina, and nearly an inch and one-half at Chatham, on the Massachusetts Cape. Nearly 3 inches covered parts of western New York State.

Again, Albuquerque peaked at 97° to set a record.

Meantime, Hurricane David threatened the Virgin Islands and Puerto Rico.

On Thursday, thunderstorms formed along a front to bring heavy rain through the Tennessee and Ohio Valleys and to the Eastern Seaboard.

Two to 5 inches spread over parts of south central Kentucky overflowing waterways into flash floods. More than an inch of rain fell in McKenzie, western, and Bristol, eastern Tennessee, as well as Newport, northern Vermont.

Hail accompanied storms in the South, where Savannah, Ga., received an inch and one-quarter of rain.

Evening rains carried 3.5 inches to Marfa, West Texas, in one hour, and light amounts from the Pacific Northwest to the northern Plateau Region.

Hurricane David surged toward Puerto Rico, and Tropical Storm Elena formed in the Gulf of Mexico about 200 miles southeast of Galveston, Tex.

Thunderstorms ranged over the southern Plains, extreme northern Mississippi Valley, and the Southeast on Friday.

Oklahoma City accumulated about 2 inches of rain; International Falls, northern Minnesota, got about 1.2 inches.

Along Florida's West Coast, Fort Myers reported 2.5 inches and Naples almost 3 inches. Heavy rains drenched an area in the Carolinas along the border of the two States. Six inches saturated Tryon, N.C., about 25 miles north of Greenville, S.C.

Hurricane David raced through the Dominican Republic and reached Puerto Rico with rampaging winds and 4 inches of rain.

Meantime, Tropical Storm Elena bore down on the coasts of Texas and Louisiana, and Tropical Storm Frederic gathered steam in the Atlantic.

Elena spurred heavy rains over eastern Texas on Saturday; 5 inches soaked Houston, and Beaumont scored more than 3 inches.

Thunderstorms rolled over an area from the Plains through Tennessee. Totals included an inch and one-half at Topeka, nearly an inch and three-quarters in Grandview, western Missouri, and Chattanooga's 1.5 inches.

(continued on page 19)



## National Agricultural Summary

August 27 - September 2

**HIGHLIGHTS:** Frequent rains fell from the eastern Great Plains to the Atlantic Coast, providing adequate soil moisture throughout most areas. Rains in the northern States continued to slow swathing and combining of small grains. Above-normal temperatures aided row crop development, particularly in extreme northern areas where those crops need a month of frost-free growth to mature fully. Areas of the Nation reporting short soil moisture included parts of the northern Plains, some of the South, and much of the West. Most Corn Belt farmers had 4 days or less suitable for fieldwork; other areas of the Nation had 4 to 6 days available. Winter wheat producers continued to plow and prepare land for fall seedings; planting was underway on a limited scale throughout many areas of the Nation. Oats combining reached 65%, 30 points below last year and the average. Barley combining stood at 72%, compared with 82% last year and the 85% average. Spring wheat harvest advanced to 60%, falling short of 1978's 77% and the 81% average. Early corn fields were mature in the Corn Belt. Soybean fields began yellowing. Cotton acreage showing open bolls ranged from 4 to 39%. Sorghum continued coloring, but harvest remained centered in Texas. Pastures rated mostly good from the Rocky Mountains eastward and mostly fair in the West. Wet soils in eastern vegetable-production areas delayed harvest operations. Agricultural fuel supplies improved slightly from the previous week. LP gas rated 8% tight and 90% adequate; diesel fuel scored 23% tight and 75% adequate; gasoline stood at 18% tight and 80% adequate.

**SMALL GRAINS:** Rainy, humid weather continued to delay small grain harvests. A few States across the North had small acreages of winter wheat left to harvest. Winter wheat producers began seeding the 1980 crop. South Dakota reported 2% planted, Texas and Montana 5%, and Colorado 9%. Oats combining stood at 65%, short of the 95% for last year and the average. Rains lodged fields and encouraged weed growth. Barley harvest stood at 73%, lagging last year's 82% and the 85% average. Small grain swaths were difficult to combine because of the rainy weather and some grain began sprouting; some malting barley may be diverted to feed use. Spring wheat harvest stood at 60%, below 1978's 77% and the 81% average.

**CORN:** Corn rated good throughout most major production areas. Many stands in the northern Corn Belt need a month to mature fully. In the eastern Corn Belt, dough stage ranged from 50% in Wisconsin to 95% in Indiana. Dent stage ranged from an extremely low 10 to 20% in Wisconsin and Michigan to a near-normal 60% in Illinois. In the western Corn Belt, dough stage ranged from a very low 36% in Minnesota to 85% in Iowa and Nebraska and 94% in Missouri. Normally, more than 90% of the Minnesota crop should be in the dough stage. Denting ranged from 24% in South Dakota to 67% in Missouri. All States except Missouri lagged far behind normal. Corn harvest continued throughout the South. Progress ranged from 5% in Virginia to 13% in North Carolina, 33% in Texas, and 53% in Georgia.

**SOYBEANS:** Virtually all soybean acreage was podding in the north central States but ranged from 50% in North Carolina to 92% in Louisiana across the South. Early fields continued yellowing in northern areas; a few fields also yellowed in the south central States. Above-normal readings helped speed crop development, but many northern areas need a month of frost-free weather to mature the crop. Soybeans generally rated good with some fair stands in the Southeast.

**COTTON:** Cotton boll set was virtually complete; acreage showing open bolls lagged behind last year and average in the south central States. Insect populations increased; however, sprays controlled any serious problems. Arizona growers defoliated stands and began harvesting in western areas. The first picking was finished in the lower Rio Grande Valley, but farmers waited for clear weather to begin the second pickings. Statewide, the Texas harvest reached 8%, lagging last year's 15% and the 13% average.

**OTHER CROPS:** Grain sorghum heading was virtually complete; coloring showed on 30% of the northern acreage and up to 76% on the Texas acreage. Among the major producing States, only Texas reported acreage harvested with 59% complete, compared with 67% last year and the 58% average.

Rice heading moved well ahead, exceeding 90% in all States except Arkansas at 81%. Harvest was well advanced along the Gulf Coast; Texas reached 98% and Louisiana, 74%. Harvest just got started in Arkansas and reached 4% in Mississippi.

**FRUITS & NUTS:** Peach harvest continued across the northern production areas. Apple harvest proceeded in all areas of the Nation; northern areas began picking fall varieties. Washington growers started picking Golden Delicious apples. Oregon producers picked Bartlett and Anjou pears, and the California raisin lay advanced to more than 60% complete.

Pecans showed a wide range of conditions. Texas pecans scored excellent; Georgia and Louisiana fair to good; and Mississippi poor to fair. Walnuts and filberts rated good. California almond knocking hit full swing.

Hurricane David's gusty winds and rain pelted Florida's East Coast citrus; other citrus areas had gusts and winds but very little standing water. Arizona growers continued picking lemons.

**VEGETABLES:** Frequent rains hampered vegetable harvests in many areas of the Nation. Wet weather hindered Oregon onion curing. Florida vegetable growers continued preparing land and planting fall vegetables; only a light volume of produce was available for local market. Heavy Texas rains interrupted land preparation and planting in the lower Rio Grande Valley. Harvests of a wide variety of vegetables continued throughout Texas. California vegetable volume increased. The processing-tomato harvest hit stride after two relatively inactive weeks.

**PASTURES & LIVESTOCK:** Pastures in the eastern two-thirds of the Nation rated mostly good, except in the Southeast where some grasslands rated only fair. In the Pacific Northwest, rains improved some pastures. However, most western rangeland rated only poor to fair and drying. The outlook for winter forage was not good. Cattle producers continued to move herds from high-elevation pastures. Eastern rains promoted good regrowth of cut hayfields, but at the same time, hampered curing and spoiled some hay. Cattle generally rated good.

Weather Data for the Week Ending Sept. 2, 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		Precipitation	
														90 and above	32 and below	.01 inch or more	.50 inch or more
ALA. Birmingham . . . . .	88	69	93	67	79	+ 1	2.2	+ 1.3	1.3	14.2	105	96	56	3	0	5	1
Mobile . . . . .	90	72	92	71	81	+ 1	1.7	+ .1	1.3	20.1	91	96	56	4	0	4	1
Montgomery . . . . .	91	72	92	70	81	+ 1	.4	+ .5	--	7.5	60	88	50	6	0	--	0
ALASKA. Anchorage . . . . .	63	44	68	40	53	+ 0	.2	+ .4	.2	6.6	116	88	62	0	0	1	0
Barrow . . . . .	44	39	53	36	42	+ 6	.1	+ .1	0	1.0	42	83	71	0	0	3	0
Fairbanks . . . . .	58	44	63	39	52	+ 1	.9	+ .5	.6	3.6	63	85	65	0	0	3	1
Kodiak . . . . .	64	50	67	47	56	+ 2	.3	+ .9	.3	7.0	58	78	57	0	0	1	0
Nome . . . . .	53	43	53	36	47	+ 0	.3	+ .5	.1	7.0	97	85	63	0	0	3	0
ARIZ. Flagstaff . . . . .	77	40	80	35	58	+ 3	0	+ .5	0	3.6	62	70	19	0	0	0	0
Phoenix . . . . .	104	74	110	70	89	+ 2	0	+ .2	0	1.5	68	43	16	7	0	0	0
Tucson . . . . .	101	72	103	70	86	+ 3	T	+ .4	0	5.1	102	45	18	2	0	0	0
Winslow . . . . .	96	55	98	54	74	+ 0	0	+ .3	0	1.7	52	36	8	7	0	0	0
Yuma . . . . .	105	77	108	73	90	+ 1	0	+ .1	0	1.7	243	--	--	7	0	0	0
ARK. Fort Smith . . . . .	88	70	92	68	79	+ 0	1.7	+ 1.0	1.3	12.2	122	95	61	5	0	3	1
Little Rock . . . . .	88	70	93	67	79	+ 1	1.2	+ .6	.4	10.2	103	94	61	3	0	5	0
CALIF. Bakersfield . . . . .	90	68	93	64	79	+ 1	0	+ 0	0	0	100	--	35	4	0	0	0
Eureka . . . . .	70	59	75	55	65	+ 8	1.1	+ 1.0	.9	1.5	136	94	67	0	0	3	1
Fresno . . . . .	92	64	97	60	78	+ 1	0	+ 0	0	.1	100	73	30	5	0	0	0
Los Angeles . . . . .	77	66	79	64	71	+ 2	T	+ .1	0	0	84	62	0	0	0	0	0
Red Bluff . . . . .	85	65	98	62	76	+ 2	.3	+ .2	--	.3	43	63	31	2	0	--	0
San Diego . . . . .	75	70	75	67	73	+ 2	T	+ .1	0	.1	33	77	70	0	0	0	0
San Francisco . . . . .	76	59	80	56	68	+ 4	T	+ 0	0	.1	50	86	50	0	0	0	0
Stockton . . . . .	90	62	98	59	76	+ 2	0	+ 0	0	.2	200	73	35	4	0	0	0
COLO. Denver . . . . .	85	53	89	50	69	+ 1	T	+ .3	0	9.0	184	70	24	5	0	0	0
Grand Junction . . . . .	90	60	93	56	75	+ 3	T	+ .2	0	1.4	70	37	17	5	0	0	0
Pueblo . . . . .	92	52	97	49	72	+ 0	0	+ .3	0	6.5	125	81	21	6	0	0	0
CONN. Bridgeport . . . . .	80	68	84	62	74	+ 3	.2	+ .6	.1	7.7	79	93	73	0	0	3	0
Hartford . . . . .	84	62	88	55	73	+ 5	.2	+ .7	.1	6.8	63	93	53	0	0	3	0
D.C. Washington . . . . .	88	74	91	74	81	+ 6	1.0	+ .1	.9	10.2	84	95	65	2	0	2	1
FLA. Apalachicola . . . . .	89	73	91	71	81	+ 0	.9	+ 1.2	--	14.3	66	85	57	2	0	--	--
Daytona Beach . . . . .	88	73	89	69	81	+ 0	1.7	+ .1	--	21.4	106	97	64	0	0	--	--
Ft. Myers . . . . .	91	77	92	75	83	+ 1	5.0	+ 3.1	--	28.4	111	92	60	6	0	--	--
Jacksonville . . . . .	90	72	92	69	81	+ 0	.2	+ 1.7	.1	14.7	67	99	59	5	0	2	0
Key West . . . . .	88	79	90	76	83	+ 0	1.1	+ .3	.4	9.1	69	89	64	3	0	5	0
Miami . . . . .	87	76	88	73	81	+ 1	1.7	+ .1	.8	14.2	63	92	58	0	0	6	2
Orlando . . . . .	91	74	92	73	83	+ 2	.3	+ 1.3	.1	17.0	77	95	57	6	0	5	0
Tallahassee . . . . .	90	70	93	70	80	+ 0	.5	+ 1.1	.4	23.7	105	94	58	5	0	4	0
Tampa . . . . .	90	76	91	76	83	+ 1	2.0	+ .2	.7	20.6	89	96	61	5	0	7	0
W. Palm Beach . . . . .	90	76	91	74	83	+ 1	.6	+ 1.3	.4	11.9	55	88	55	7	0	5	0
GA. Atlanta . . . . .	89	71	94	69	80	+ 4	2.1	+ 1.3	1.0	12.5	103	96	54	3	0	4	2
Augusta . . . . .	89	71	93	69	80	+ 2	1.6	+ .8	.8	11.9	92	96	55	3	0	5	1
Macon . . . . .	91	71	94	70	81	+ 2	2.1	+ 1.3	1.1	12.2	102	94	55	5	0	2	2
Savannah . . . . .	89	72	91	69	80	+ 1	1.6	+ .2	1.3	18.8	94	94	58	4	0	4	1
HAWAII. Hilo . . . . .	83	71	84	70	76	+ 0	.4	+ 1.7	--	24.1	89	83	67	0	0	--	--
Honolulu . . . . .	87	75	90	72	82	+ 1	0	+ .1	0	1.4	88	81	54	0	0	0	0
Kahului . . . . .	89	--	93	--	--	--	0	+ .4	0	--	--	54	1	0	0	0	0
Lihue . . . . .	86	74	88	70	80	+ 1	0	+ .4	0	4.7	81	92	65	0	0	0	0
IDAHO. Boise . . . . .	80	55	90	48	68	+ 1	.1	+ .1	.1	2.0	133	71	33	1	0	2	0
Lewiston . . . . .	85	60	94	56	72	+ 4	.1	+ .1	--	1.4	50	79	34	1	0	0	0
Pocatello . . . . .	83	51	90	42	67	+ 2	T	+ .2	0	2.2	100	66	23	1	0	0	2
ILL. Cairo . . . . .	86	72	89	71	79	+ 2	1.5	+ .7	.8	5.9	54	--	--	0	0	3	2
Chicago . . . . .	82	66	86	63	74	+ 3	.8	+ .1	.7	15.6	139	91	61	0	0	3	1
Moline . . . . .	84	64	89	61	74	+ 4	T	+ .8	0	14.4	118	98	60	0	0	0	0
Peoria . . . . .	85	65	89	60	75	+ 4	.1	+ .7	0	7.6	72	91	54	0	0	1	0
Rockford . . . . .	83	63	95	58	72	+ 3	1.7	+ .8	--	15.9	129	95	63	1	0	--	--
Springfield . . . . .	85	67	87	62	76	+ 4	.2	+ .5	.2	8.3	78	97	61	0	0	3	0
IND. Evansville . . . . .	86	67	87	64	77	+ 3	.8	+ .2	.3	12.7	127	96	65	0	0	1	0
Ft. Wayne . . . . .	81	63	84	60	72	+ 3	.2	+ .4	.1	10.9	105	95	62	0	0	1	0
Indianapolis . . . . .	82	66	86	62	74	+ 5	.3	+ .1	.5	22.1	213	99	75	0	0	1	1
South Bend . . . . .	84	65	89	61	74	+ 3	T	+ .1	.1	15.0	143	93	65	0	0	1	0
IOWA. Burlington . . . . .	84	65	89	61	74	+ 3	T	+ .8	0	7.2	72	--	--	0	0	2	0
Des Moines . . . . .	83	65	90	59	74	+ 4	.6	+ .2	.4	14.3	128	91	59	1	0	2	0
Dubuque . . . . .	82	64	86	60	73	+ 6	2.2	+ 1.2	--	18.6	138	93	60	0	0	--	--
Sioux City . . . . .	82	63	89	57	72	+ 2	.4	+ .3	--	11.9	111	87	59	0	0	1	0
KANS. Concordia . . . . .	90	64	97	59	77	+ 3	T	+ .8	0	9.6	86	92	40	5	0	0	0
Dodge City . . . . .	90	63	95	58	77	+ 2	.2	+ .3	.2	7.5	84	87	37	6	0	2	0
Goodland . . . . .	88	60	95	58	74	+ 4	T	+ .4	0	12.7	167	87	36	3	0	1	0
Topeka . . . . .	87	68	92	62	78	+ 4	3.4	+ 2.5	2.0	17.0	121	90	61	3	0	2	2
Wichita . . . . .	93	69	99	62	81	+ 5	.1	+ .7	.1	9.4	79	87	44	5	0	1	0
KY. Lexington . . . . .	83	68	85	64	75	+ 2	1.2	+ .5	.8	13.6	111	90	61	0	0	4	1
Louisville . . . . .	85	69	87	67	77	+ 3	.7	+ 0	.4	15.6	149	98	62	0	0	4	0

Based on preliminary reports and 1941-70 normals

Weather Data for the Week Ending Sept. 2, 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		Precipitation		
														90 and above	32 and below	.01 inch or more	.50 inch or more	
LA. Baton Rouge.	90	72	91	70	81	0	.5	-	.4	--	14.0	95	97	57	5	0	-	0
Lake Charles.	88	73	92	71	81	0	1.7	+	.7	1.1	21.0	131	97	64	5	0	3	0
New Orleans.	91	75	94	73	83	+2	3.6	+	2.3	1.2	17.8	105	91	58	5	0	6	1
Shreveport.	93	69	94	67	81	0	.8	+	.1	.8	11.3	128	97	54	7	0	1	4
MAINE. Caribou.	73	54	88	37	63	+4	.2	+	.6	--	12.1	110	77	56	0	0	-	0
Portland.	75	56	81	45	65	+4	2.0	+	1.3	1.3	13.6	162	82	64	0	0	1	0
MD. Baltimore.	86	71	88	68	78	+5	3.8	+	2.9	2.6	15.2	128	96	61	0	0	2	2
MASS. Boston.	83	67	89	60	75	+6	.6	-	.2	.3	8.2	88	89	59	0	0	3	2
Chatham.	73	60	78	57	66	--	1.5	-	.2	1.4	7.4	80	98	73	0	0	3	1
MICH. Alpena.	79	60	87	50	69	+3	.4	-	.3	.3	9.5	116	--	--	0	0	0	0
Detroit.	81	62	87	57	71	+3	T	-	.6	0	11.7	122	--	64	0	0	2	0
Flint.	81	61	85	56	71	+5	.2	-	.5	.2	9.7	101	99	62	0	0	1	0
Grand Rapids.	80	64	87	60	73	+5	.1	-	.6	.1	11.0	122	93	65	0	0	2	0
Houghton Lake.	76	60	81	50	67	+5	.2	-	.4	--	9.3	107	98	64	0	0	-	0
Lansing.	82	63	87	58	72	+5	.3	-	.3	--	10.1	116	97	56	0	0	1	0
Marquette.	73	52	81	44	62	+3	.7	-	.2	.3	11.9	127	92	63	0	0	6	0
Muskegon.	77	63	83	60	70	+4	.7	-	.0	.6	8.0	104	98	68	0	0	2	1
S. Ste. Marie.	74	50	84	40	62	+2	.8	-	.1	.7	14.9	164	--	61	0	0	4	1
MINN. Duluth.	72	53	80	43	62	+2	1.2	+	.4	.7	12.1	103	89	59	0	0	3	1
Internat. Falls.	70	49	76	35	59	0	1.6	+	.8	1.5	8.5	75	92	69	0	0	1	1
Minneapolis.	81	62	92	57	72	+6	1.3	+	.6	1.0	14.6	140	83	52	1	0	2	2
Rochester.	81	61	87	54	71	+6	2.2	+	1.4	2.2	14.6	125	94	62	0	0	2	1
St. Cloud.	76	56	87	52	66	+2	.5	-	.3	--	12.5	109	90	0	0	2	0	
MISS. Jackson.	91	71	95	69	81	+1	.1	-	.7	.1	24.9	220	98	57	6	0	1	0
Meridian.	92	72	93	70	82	+3	.3	-	.5	.1	11.5	92	95	59	6	0	0	0
MO. Columbia.	85	65	90	61	75	+2	2.4	+	1.5	.6	8.9	77	95	56	1	0	4	1
Kansas City.	85	67	90	61	76	+3	2.1	+	1.2	1.3	15.5	117	87	58	1	0	2	2
St. Louis.	87	70	89	68	78	+4	.7	+	.1	.7	7.7	71	89	54	0	0	2	1
Springfield.	88	67	90	65	78	+4	2.9	+	2.1	1.2	19.5	179	89	51	1	0	7	2
MONT. Billings.	85	56	91	52	71	+5	T	-	.3	0	2.4	56	62	24	2	0	1	0
Glasgow.	82	55	89	53	69	+5	.2	-	.1	.1	2.4	42	78	36	0	0	3	0
Great Falls.	84	53	95	47	68	+5	.1	-	.3	.1	3.2	60	63	20	2	0	2	0
Havre.	88	55	98	47	72	+3	.2	-	.1	--	2.9	62	69	23	2	0	2	0
Helena.	81	49	91	42	65	+3	T	-	.3	0	3.9	93	73	26	1	0	0	0
Kalispell.	79	48	89	43	63	+4	.6	+	.3	.3	2.7	57	96	39	0	0	4	0
Miles City.	86	59	96	54	72	+5	.5	+	.2	--	4.2	71	74	29	2	0	4	0
Missoula.	79	51	88	44	64	+3	.6	+	.3	.6	2.7	71	87	38	0	0	4	1
NEBR. Grand Island.	88	63	94	57	75	+4	.6	+	.8	.6	7.7	79	93	42	2	0	1	1
Lincoln.	86	66	93	59	77	+5	T	-	.0	0	9.5	83	95	58	2	0	0	0
Norfolk.	86	63	91	56	74	+4	.5	-	.1	--	10.2	97	92	49	3	0	0	0
N. Platte.	89	58	95	49	73	+4	T	-	.5	0	12.0	141	81	36	3	0	0	0
Omaha.	85	66	93	61	74	+4	.2	-	.7	--	8.7	70	92	56	3	0	0	0
Valentine.	91	56	96	48	73	+5	T	-	.5	0	7.8	93	86	24	5	0	0	0
NEV. Ely.	82	44	86	37	63	+1	0	+	.1	0	2.1	124	50	13	0	0	0	0
Las Vegas.	99	69	106	65	84	-1	0	0	.1	0	3.0	300	30	9	7	0	0	0
Reno.	81	45	92	39	63	-1	.4	+	.4	.4	1.0	100	83	23	1	0	2	0
Winnemucca.	82	45	91	41	64	0	.5	+	.4	.4	2.8	175	67	29	1	0	2	0
N. H. Concord.	82	57	88	45	70	+6	1.6	+	.9	.9	8.3	89	87	51	0	0	3	1
N. J. Atlantic City.	83	70	85	63	76	+5	.3	-	.6	.2	14.2	113	83	58	0	0	3	0
Trenton.	85	70	88	66	78	+7	.4	-	.4	.3	13.9	115	--	--	0	0	2	0
N. MEX. Albuquerque.	95	63	97	59	79	+5	T	-	.2	0	3.2	91	53	14	7	0	0	0
Roswell.	93	66	98	62	79	+4	.3	-	.0	--	4.8	104	--	--	5	0	0	0
N. Y. Albany.	83	62	88	53	73	+6	.3	-	.6	.3	7.5	84	75	55	0	0	2	0
Binghamton.	78	61	82	53	69	+4	2.3	+	1.5	1.7	6.7	36	97	57	0	0	2	2
Buffalo.	79	62	87	56	71	+5	3.7	+	2.9	2.2	12.2	140	86	67	0	0	4	2
New York.	83	70	90	60	78	+6	1.0	+	.1	.3	7.2	64	81	56	1	0	4	2
Rochester.	81	61	88	56	71	+4	1.1	+	.5	.3	7.8	95	94	63	0	0	2	0
Syracuse.	81	62	87	54	72	+5	1.5	+	.8	.9	9.2	96	96	54	0	0	3	1
N. C. Asheville.	83	65	85	61	74	+3	.6	-	.3	.2	12.1	91	98	64	0	0	5	0
Charlotte.	88	69	91	68	79	+3	.6	-	.2	.3	10.4	85	96	56	2	0	2	0
Greensboro.	87	68	91	66	78	+4	.4	-	.5	.3	7.8	61	99	58	1	0	4	0
Hatteras.	86	72	89	70	79	+3	1.0	-	.5	.5	14.2	82	97	67	0	0	5	1
Raleigh.	88	69	91	68	79	+4	.9	-	.1	.4	9.2	68	97	58	1	0	4	0
Wilmington.	90	73	93	70	81	+3	.4	-	1.9	--	9.6	46	97	61	5	0	1	0
N. DAK. Bismarck.	80	52	90	46	66	+2	.3	-	.1	.2	5.6	75	94	44	1	0	2	0
Fargo.	80	57	94	50	69	+4	.4	-	.2	.3	7.2	78	85	45	1	0	2	0
Williston.	81	53	85	47	67	+3	T	-	.4	0	4.7	68	87	33	0	0	0	0
OHIO. Akron-Canton.	80	66	84	63	73	+5	.5	-	.1	.4	8.7	88	94	57	0	0	2	0
Cincinnati.	83	67	85	63	75	+3	.2	-	.4	.2	16.5	159	95	62	0	0	3	0
Cleveland.	83	67	87	64	75	+7	1.0	+	.4	.6	12.4	127	88	54	0	0	3	1
Columbus.	82	67	86	63	75	+5	1.5	+	.9	1.5	21.0	189	95	67	0	0	1	1
Dayton.	83	65	86	63	74	+3	.6	0	.0	.4	16.9	172	97	62	0	0	5	0
Toledo.	81	63	86	61	72	+4	.1	-	.6	.1	13.0	134	100	67	0	0	2	0
Youngstown.	81	65	85	61	73	+6	1.4	+	.8	1.3	10.4	101	90	57	0	0	3	1

Based on preliminary reports and 1941-70 normals

Weather Data for the Week Ending Sept. 2, 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	90 and above	32 and below	Precipitation		
																.01 inch or more	.50 inch or more	
OKLA.Okla. City . . .	90	68	94	63	79	+ 1	2.2	+ 1.5	1.8	19.9	219	87	49	4	0	3	1	
Tulsa . . .	92	72	97	69	82	+ 4	.8	0	.6	16.1	148	85	49	5	0	3	1	
OREG.Astoria . . .	69	56	72	50	63	+ 3	.6	+	.2	4.1	85	94	70	0	0	4	0	
Burns . . .	67	50	75	41	60	- 3	.6	+	.5	2.3	128	74	51	0	0	-	0	
Medford . . .	78	57	86	49	68	0	.3	+	.2	1.3	87	79	42	0	0	4	0	
Pendleton . . .	81	57	89	53	69	0	.4	+	.3	1.8	100	--	34	0	0	1	0	
Portland . . .	73	61	81	59	67	+ 2	1.3	+	1.0	3.3	114	86	64	0	0	5	1	
Salem . . .	73	58	81	52	65	0	1.8	+	1.6	3.4	148	87	58	0	0	2	1	
PA.Allentown . . .	85	69	88	64	77	+ 8	.1	-	.8	8.8	74	88	54	0	0	2	0	
Erie . . .	81	66	89	58	74	+ 9	1.7	-	.9	13.7	133	--	--	0	0	-	0	
Harrisburg . . .	84	68	86	61	76	+ 4	T	-	.7	8.8	90	99	63	0	0	0	0	
Philadelphia . . .	87	71	89	67	79	+ 7	.3	-	.5	2	13.6	116	96	59	0	0	3	0
Pittsburgh . . .	81	64	83	62	73	+ 5	.7	+	.1	.3	12.7	123	93	59	0	0	2	1
Scranton . . .	84	66	86	58	75	+ 8	.7	0	0	.7	6.9	64	86	48	0	0	2	0
R.I.Providence . . .	80	64	83	58	73	+ 5	.4	-	.4	.3	13.4	141	89	65	0	0	3	0
S.C.Charleston . . .	90	71	92	70	80	+ 2	.6	-	.7	.5	11.2	54	93	57	6	0	2	1
Columbia . . .	90	69	93	67	79	0	1.2	+	0	1.0	16.8	111	100	54	4	0	3	1
Greenville . . .	86	68	91	66	77	+ 1	2.1	+	1.2	.9	16.7	137	67	63	1	0	1	2
S.DAK.Aberdeen . . .	83	58	91	46	71	+ 5	.4	0	0	.3	8.7	105	86	50	1	0	1	0
Huron . . .	86	58	98	51	72	+ 4	.4	0	0	.2	6.6	87	96	43	2	0	3	0
Rapid City . . .	87	55	96	50	71	+ 4	.1	-	.2	.1	9.4	131	78	29	2	0	1	0
Sioux Falls . . .	82	64	89	56	73	+ 5	.1	-	.6	.1	10.5	106	85	57	0	0	2	1
TENN.Chattanooga . . .	86	70	89	68	78	+ 2	1.2	+	.5	.5	17.8	148	94	61	0	0	4	2
Knoxville . . .	87	70	88	66	78	+ 2	.5	-	.1	.3	14.3	124	95	60	0	0	2	2
Memphis . . .	88	72	93	70	80	+ 2	2.4	+	1.6	1.5	12.5	121	88	61	3	0	2	1
Nashville . . .	87	68	90	66	78	+ 2	1.0	+	.2	.7	12.1	116	96	58	1	0	3	0
TEX.Abilene . . .	95	73	98	71	83	+ 2	T	-	.5	0	5.8	82	73	33	7	0	1	0
Amarillo . . .	89	64	94	60	76	+ 1	T	-	.6	0	9.4	103	84	41	4	0	0	0
Austin . . .	92	73	94	71	83	0	T	-	.7	0	11.7	163	90	46	6	0	-	-
Beaumont . . .	88	76	92	74	81	- 1	3.8	+	2.5	--	25.9	159	96	65	3	0	5	3
Brownsville . . .	88	76	92	74	82	- 2	4.6	+	3.6	2.8	7.8	115	92	65	3	0	3	3
Corpus Christi . . .	90	77	94	75	84	0	3.0	+	2.0	.9	8.9	117	96	65	4	0	4	2
Del Rio . . .	97	75	102	72	86	0	T	-	.5	0	3.5	83	87	36	7	0	0	0
El Paso . . .	98	67	100	64	83	+ 5	T	-	.3	0	3.1	91	64	19	7	0	0	0
Fort Worth . . .	96	72	97	70	84	+ 1	0	-	.6	0	5.2	74	92	41	7	0	0	0
Galveston . . .	85	76	88	72	80	- 2	2.5	+	1.3	.8	22.9	175	86	70	0	0	6	2
Houston . . .	90	72	94	70	81	- 1	1.2	+	.1	.4	14.3	111	98	60	4	0	4	0
Lubbock . . .	91	68	96	66	79	+ 3	T	-	.4	0	8.3	124	75	38	5	0	1	0
Midland . . .	93	67	97	66	80	0	T	-	.4	0	6.1	124	86	35	6	0	1	0
San Angelo . . .	93	71	96	68	82	0	.1	-	.4	.1	4.4	96	81	34	7	0	1	0
San Antonio . . .	92	74	95	71	83	0	.1	-	.6	.1	11.1	161	89	51	6	0	0	0
Victoria . . .	91	74	94	73	83	0	1.4	+	.5	--	11.2	124	94	56	5	0	0	0
Waco . . .	93	73	94	70	83	0	T	-	.6	0	13.3	218	92	47	7	0	0	0
Wichita Falls . . .	94	72	97	69	83	0	.1	-	.4	.1	11.2	156	86	41	6	0	2	0
UTAH.Blanding . . .	86	55	87	50	70	+ 2	0	-	.3	0	1.3	43	--	--	0	0	0	0
Salt Lake City . . .	90	59	93	54	74	+ 3	0	-	.2	0	1.4	52	57	18	5	0	0	0
VT.Burlington . . .	77	58	85	49	69	+ 5	1.8	+	1.0	.4	6.9	66	83	63	0	0	3	0
VA.Lynchburg . . .	86	68	90	64	77	+ 5	.4	-	.5	.4	11.4	100	97	--	1	0	3	0
Norfolk . . .	88	73	90	72	80	+ 5	.5	-	.7	.3	9.4	61	96	59	2	0	3	3
Richmond . . .	88	72	93	70	80	+ 6	1.4	+	.4	1.1	12.4	87	96	62	2	0	3	1
Roanoke . . .	84	67	88	66	76	+ 4	.8	-	.1	.5	18.1	162	27	63	0	0	2	1
WASH.Colville . . .	80	54	88	47	67	+ 3	.8	+	.6	.6	3.0	100	--	--	0	0	2	0
Omak . . .	81	55	89	49	68	+ 1	.6	+	.5	.4	2.3	110	77	40	0	0	3	0
Quillayute . . .	68	56	73	49	62	+ 4	1.8	+	1.0	1.3	7.3	86	91	69	0	0	4	1
Seattle-Tacoma . . .	68	57	74	54	63	+ 1	1.0	+	.7	.8	3.2	100	88	66	0	0	2	1
Spokane . . .	79	56	87	51	67	+ 2	.5	+	.4	.1	2.8	127	80	34	0	0	0	0
Walla Walla . . .	84	62	90	59	72	+ 1	.3	+	.2	.2	3.7	206	75	35	1	0	-	0
Yakima . . .	82	56	87	49	69	+ 3	.3	+	.2	.2	1.3	108	76	35	0	0	2	0
W.VA.Beckley . . .	79	63	81	60	71	+ 4	.2	-	.6	.1	14.3	117	95	63	0	0	3	0
Charleston . . .	85	67	87	65	76	+ 4	.3	-	.4	.2	12.7	106	90	61	0	0	3	0
Huntington . . .	84	68	86	66	76	+ 4	.1	-	.6	.1	20.5	195	90	63	0	0	3	0
Parkersburg . . .	85	69	87	66	77	+ 4	1.3	+	.6	--	12.2	105	82	54	0	0	1	0
WISC.Green Bay . . .	78	61	84	59	70	+ 6	2.0	+	1.3	1.8	11.9	132	93	66	0	0	3	-
La Crosse . . .	83	64	87	59	73	+ 5	1.7	+	.9	--	12.3	112	97	63	0	0	1	0
Madison . . .	82	62	88	58	71	+ 6	.6	-	.1	.2	10.4	94	99	59	0	0	2	0
Milwaukee . . .	79	64	85	60	71	+ 5	1.0	+	.3	.8	8.8	92	98	66	0	0	3	1
WYO.Casper . . .	83	48	90	43	66	+ 1	.1	-	0	.1	5.1	182	74	21	1	0	2	0
Cheyenne . . .	82	50	86	47	66	+ 2	.2	-	.1	--	7.1	122	66	24	0	0	2	0
Lander . . .	82	50	87	44	66	+ 1	T	-	.2	0	3.1	107	65	19	0	0	0	0
Sheridan . . .	85	49	94	43	67	+ 2	.1	-	.2	--	3.2	65	80	25	2	0	-	0
P.R.San Juan . . .	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Based on preliminary reports 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. Rainfall totals 1.00 to 2.00 in. Heaviest rain on 1st, 1.58 in.

Fieldwork: 4.7 days suitable. Soil moisture short across central belt, adequate elsewhere. Corn and hay harvest, insect control, land preparation for small grains main activities. Crops, pastures good condition. Corn 85% mature, 69% 1978, 74% average; 40% harvested, 33% 1978. Soybean blooming complete; 89% setting pods, 79% 1978; 11% leaves turning, 15% 1978; 4% dropping leaves. Cotton 6% bolls open, 14% 1978.

**ALASKA:** Tanana Valley cool and wet; elsewhere warm and dry.

Prospects for small grains average throughout railbelt. Warm, dry weather needed to help crops mature. Oats and barley turning ripe. Early fields being combined. Second crop hay below average Tanana Valley, average elsewhere. Ground moisture supply adequate.

**ARIZONA:** Dry weather, near normal temperatures. Isolated thundershowers midweek White Mountains, southeast.

Cotton good progress; defoliation, harvest underway western areas, fields maturing faster than usual central. Limited insect controls applied. Sorghum, corn for grain seasonal progress. Alfalfa haying excellent progress. Planting, irrigation, fertilizing lettuce, mixed vegetables full swing. Storm damaged 500 more acres southeast. Lemon harvest increasing, citrus groves good condition. Diesel, gasoline supplies mostly adequate all areas except southeast, gasoline tight, diesel very tight, LP gas adequate statewide. Cattle, calves good condition. Range, pasture stock water and soil moisture drying up. Screwworm situation excellent.

**ARKANSAS:** Temperatures ranged from 6° below normal to 5° above normal. Rainfall light to moderate.

Soil moisture adequate. Fieldwork: 4.7 days suitable. Diesel 74% adequate, 24% tight; gasoline 83% adequate, 15% tight; LP gas 87% adequate, 7% tight. Soybeans good condition; 81% blooming, 74% setting pods. Rain enhanced yield prospects. Cotton fair condition. Rain, high humidity reduced prospects in several areas. Open bolls 5%, 12% 1978, 13% average. Rice good condition, 81% headed; harvest started, 1978 5%. Corn good; harvest 11%, 20% 1978, average 33%. Some combining sorghum; 3% harvested, 27% 1978, 28% average. Apple harvest active, good quality. Grape harvest began northwest. Fall tomato harvest active, good quality. Pastures average condition. Hay good to excellent. Livestock gaining weight.

**CALIFORNIA:** Series of cool-type weather systems moved southeast through State. Precipitation generally confined to frontal activity during midweek but spotty in coverage; greatest amounts northeast corner. Temperature trend mixed but coolest in Sacramento Valley and northeast corner; coast mostly above normal with central and lower half of north coast warmest. Highest temperatures lower elevations southeast desert area.

Cotton 87% setting bolls, 17% open bolls. Rice 95% headed, 31% turning color. Corn 99% tassel stage, 91% silk stage. Nectarine, freestone peach, plum, pear packouts seasonally declined. Raisin lay very active over 60% complete. Wine grape harvest started north coast. Almond knocking full swing. Clingstone peaches, prunes, grapes, figs picked. Artichoke harvest continued central coast. Broccoli, cauliflower moderate central coast. Brussels sprouts increasing. Cantaloup harvest San Joaquin Valley, west Riverside. Fall desert melons up and doing well. Celery supplies heavy Salinas-Watsonville, Santa Maria. Lettuce fairly heavy central coast. Potato digging moderate Stockton, Riverside, Santa Maria, started Tulelake. Market tomatoes increasing Stockton, good volume coastal. Processing tomato harvest full swing after two short weeks. Movement cattle from high mountain ranges underway. Supplemental feeding beginning some coastal areas. Sheep grazing harvested fields. Fuel supplies generally adequate.

**COLORADO:** Few afternoon and evening showers occurred early week. Mountains and west received considerable shower activity 30th. Weak cold front produced gusty winds and a few showers near the eastern border 31st. Temperatures averaged 1° below normal.

Winter wheat seeded 9%, 7% 1978, 12% average. Spring wheat harvested 49%, 100% 1978. Corn dough 67%, 77% 1978; dented 34%, 37% 1978. Sorghum headed 88%, 94% 1978. Dry beans cut 8%, 11% 1978, 19% average. Threshed 2%, 2% 1978, 7% average. Alfalfa second cutting virtually complete; third cutting 34%, 51% 1978. Fieldwork: 5 days suitable. Ranges and pastures good condition. Livestock good condition. Fuel supplies generally adequate.

**FLORIDA:** High pressure ridge dominated through 2d when Hurricane David approached southeast coast. Scattered thundershowers mainly during afternoon and evening hours developed each day with rainfall averaging 1.00 to 3.00 in. Temperatures averaged slightly below normal over north and slightly above normal south.

Soil moisture mostly adequate north, excessive south, central caused by heavy rains from Hurricane David. Moisture adequate to excessive in Panhandle. Corn, peanuts and hay harvest delayed by wet conditions. Tobacco harvest complete. Soybeans good to excellent condition, spraying for pests increasing. Sugarcane badly blown over by strong winds from Hurricane David but very little breakage occurred. Some light flooding of fields but damage expected to be light. Pastures mostly good, however, some southern pastures only fair. Cattle good condition. Hurricane David's gusty winds and rains pelted east coast citrus; other citrus areas had wind gusts and rains but with little standing water. Land preparation for fall vegetable planting very active. Eggplant, pepper, tomato transplanting active most areas. Open bloom, fruit evident some older acreage of tomatoes, cucumbers west central area; squash, pole beans, tomatoes Gadsden County area. Seeding sweet corn, snap beans, squash, okra underway. Celery transplanting gaining. Crop condition good. Fieldwork

very active, weather permitting. Light volume older squash, okra, cucumber crops for local markets.

GEORGIA: Temperatures near normal ranging from low 70's mountains to near 80° central and south. Extremes: 94 and 61°. Most sections received rain.

Soil moisture further improvement, now adequate. Fieldwork: 5 days suitable. Corn fair to good; 53% harvested, last year 40%, average 28%. Soybean harvested just beginning, condition fair to mostly good. Peanuts fair to good; 8% dug, 9% last year and 10% average; threshed 4%, 5% last year and 6% average. Cotton fair to good; 31% open, the same as last year. Tobacco 99% harvested, last year 96%. Apples fair to mostly good; 63% harvested, the same as last year. Pecans fair to good. Pastures and hay crops fair to mostly good. Cattle and hogs good. Planting of small grains 1%, same as last year, average 2%. Wheat and rye plantings very limited, last year 1%. LP gas 97% adequate, 3% tight; diesel fuel 84% adequate, 15% tight; gasoline 88% adequate, 12% tight.

HAWAII: Weather hot, humid. Record high temperatures.

Irrigation heavy all areas. Showers light, scattered. Spraying frequent, disease, insect control necessary. Diseases, tipburning affecting yields semi-head lettuce. Head cabbage supplies heavy. More rains needed some banana orchards. Some Hawaii papaya orchards show signs more active harvest. Pineapple harvesting gradually declining. Sugar harvesting steady. Pastures generally good. Fuel supplies adequate.

IDAHO: Some showers all areas. Precipitation below normal except southwest. Temperatures slightly above normal north. Close to normal elsewhere. Range 35 to 95°.

Seeding 1980 winter wheat. Winter wheat harvest 85% complete, last year 80%, normal 75%. Spring wheat harvested 60%, last year 55%, normal 55%. Potatoes 45% turning, last year 60%, normal 70%; 20% dying, last year 20%, normal 20%. Second cutting alfalfa 90% completed. Sweet corn (processing) harvest 65% completed. Dry beans 90% turned; 20% swathed, last year 25% swathed. Onions 15% dug, last year 20%. Dryland soil moisture short. Range condition fair. Fieldwork: 5.8 days suitable.

ILLINOIS: Temperatures 2 to 6° above normal. Precipitation averaged less than 0.10 in. west and central, over 2.00 in. extreme northwest, 0.75 in. other areas.

Soil moisture adequate to surplus. Corn 60% dented, 66% 1978, 76% average; 15% mature, 8% 1978, 20% average; condition good. Soybeans 10% turning yellow, 19% 1978, 31% average; condition good. Winter wheat acreage 58% plowed, 53% 1978, 69% average. Third crop alfalfa hay 54% cut, 60% 1978, 67% average; condition good. Pasture good. Fieldwork: 5.0 days suitable.

INDIANA: Temperatures averaged 4° above normal and ranged from 55 to 89°. Rainfall 0.50 to 0.80 in. Sunshine 46 to 79% of possible. Humidity high.

Fieldwork: 2 days suitable. Topsoil moisture adequate to surplus. Wheat land 20% plowed, 1978 30%, average 45%. Corn 45% dented, 1978 55%, average 60%; 5% mature, 1978 10%, average 15%; 95% in dough, 1978 95%, average 95%; condition good. Soybeans 10% turning yellow, 1978 15%, average 25%; 100% set pods, 1978

100%, average 90%; condition good. Tobacco 10% harvested.

IOWA: Warm with light rains except moderate to heavy over most of north central and northeast.

Fieldwork: 3.8 days favorable. Corn condition good to excellent; in or past dough stage 85%, 1978 100%, normal 91%; in or past dent stage 38%, 1978 81%, normal 72%. Soybean condition mostly good; leaves turning 10%, 1978 40%, normal 35%. Hay condition good to excellent. Third crop alfalfa hay harvested 58%, 1978 63%, normal 57%. Topsoil and subsoil moisture adequate to surplus. Livestock market movement normal. Increased rate of herd replacement.

KANSAS: Rainfall averaged 1.00 in. to nearly 2.00 in. except south central where precipitation averaged 0.50 in. Temperatures averaged between 2 and 5° above normal. Warmest readings in central and south central where mean temperatures averaged around 80°. Northwest coolest with mean temperatures mid-70's.

Corn dented 50%, 60% a year ago, 65% average; mature 20%, 20% 1978, 30% average. Sorghum for grain 90% headed, 85% last year, average; 30% colored, 30% last year, 35% average. Soybeans virtually all pods set, minimal leaf shedding. Alfalfa third cutting 95% complete, 90% year ago, 85% average; fourth cutting 30% done, 20% last year, 15% average. New alfalfa seedings 30% complete, same as year ago and average. Wheat seeding just underway.

KENTUCKY: Rainfall averaged 1.00 to 2.00 in. over west and central and less than 1.00 in. over east. Temperatures 2 to 4° above normal.

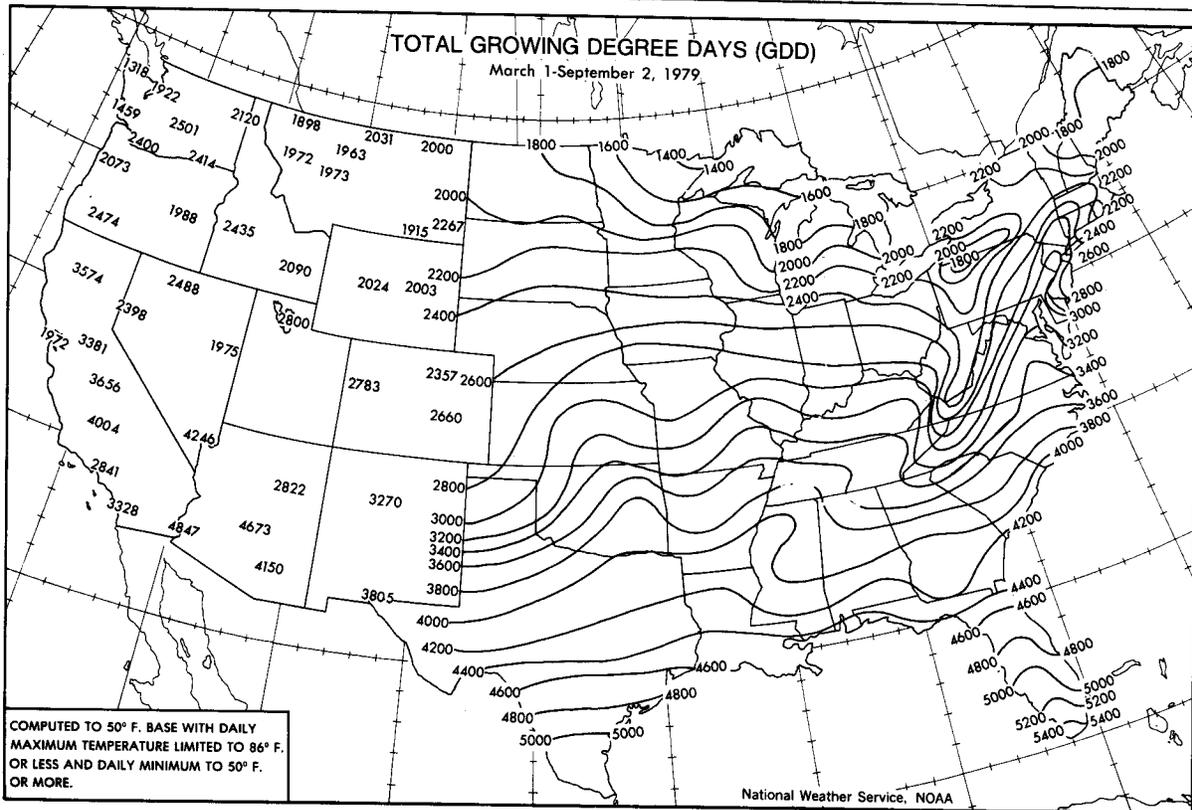
Soil moisture surplus to adequate. Burley 30% cut, last year 27%, and average 36%. Condition of burley fair. Wet weather making cutting and housing difficult. Damage from blue mold widespread. Growers generally pessimistic about quantity and quality of 1979 burley. Dark types 30% cut, slightly ahead of last year but behind average progress of 42%. Corn 17% mature compared with 22% for both last year and average. Another 50% corn acreage dented but not mature. Considerable corn needs another month frost-free weather. Soybean maturity highly variable, leaves beginning to turn yellow on 15% of acreage. Pastures excellent.

LOUISIANA: Temperatures normal to 3° above normal. Extremes: 98 and 66°. Showers statewide.

Fieldwork: 5.0 days suitable. Soil moisture adequate. Soybeans good; 99% blooming; 92% setting pods, 95% last year. Rice fair to good; 95% headed; 83% ripe, 91% last year, 74% harvested, 77% last year, 71% average. Cotton fair to good; 5% opening bolls, 26% last year, 15% average. Corn fair to good; 97% mature; 51% harvested, 63% last year, 46% average. Sorghum good; 86% turning color, 90% last year; 47% ripe, 52% last year; 24% harvested, 33% last year. Sweetpotatoes good; 29% dug, 32% last year, 28% average. Sugarcane good; 5% planted. Pecans, hay fair to good. Pastures, cattle good.

MARYLAND & DELAWARE: Temperatures 6° above normal. Highs in upper 80's and lows in mid-60's to low 70's. Precipitation moderate to heavy, 2.00 to 3.00 in.

Fieldwork: 3.7 days suitable. Soil moisture adequate to surplus. Fuel supplies mostly adequate. Corn crop, dough stage 80%, 95% last year, 84% normal; dent stage 65%, equal to last year, ahead of 61% normal. Soybeans 55% podded,



74% normal, 73% last year. Tobacco harvest 35% complete.

**MICHIGAN:** Temperatures above normal Upper and Lower. Precipitation ranged from 0.10 in. southeast Lower to 0.75 in. Lower and above 1.00 in. Upper.

Fieldwork: 4 days suitable. Soil moisture adequate, except southwest surplus. Pasture feed supplies average. Corn nearly 20% dented, 55% last year, 45% normal. Silage 2% harvested, 3% last year, 5% average. Oats 85% harvested, 95% normal. Some progress in fall land preparation. Dry beans 10% harvested, 15% last year; 20% shedding, 35% last year. Soybeans 10% turning, 25% last year, 30% normal. Early potatoes 25% harvested, same last year and normal. Sugarbeets remain in good condition. Third cutting hay 25%, slowed by wet fields, some hay rotting in windrows. Summer apples and blueberries 80% picked. Peaches 70% picked. Tomatoes 35% harvested, fields in southwest extremely wet, some rotting. Sweet corn 75% picked. Cucumber harvest 80% complete. Carrots 30% and onions 45% pulled. Plums 25% and pears 20% picked. Vegetable harvest progress slowed by wet fields.

**MINNESOTA:** Temperatures near normal to 7° above normal. Extremes: 94 and 35°. Precipitation near normal except northeast up to 2.00 in. above, southeast up to 1.00 in. above. Precipitation totals greater than 1.00 in. except central less than 1.00 in. Some locally heavy accumulations reported.

Fair progress small grain harvest. Wet conditions caused some quality deterioration. Row crops still well behind normal, need several weeks of frost-free weather. Few winter wheat,

rye fields seeded. Wet fields making sweet corn harvesting difficult. Soil moisture surplus southern third, mostly adequate elsewhere. Corn 36% in dough, 1978 94%, normal 92%. Soybeans 7% turning yellow, 1978 35%, normal 52%. Combined: Spring wheat 32%, 1978 75%, normal 78%; oats 63%, 1978 91%, normal 94%; barley 70%, 1978 96%, normal 90%; winter wheat 90%, 1978 99%, normal 99%; rye 90%, 1978 99%, normal 99%; flax 6%, 1978 20%, normal 46%.

**MISSISSIPPI:** Temperatures near normal. Extremes: 62 and 98°. Scattered showers.

Soil moisture adequate. Fieldwork: 4.7 days suitable. Harvesting of hay crops, silage continued active. Cotton and soybean insect levels increased. Rice harvest began. Soybeans 91% podding, 92% 1978, 84% average; 11% turning color, 22% 1978; 1% shedding, 4% 1978, 6% average; condition good. Cotton 4% open bolls, 57% 1978, 27% average; condition good to fair. Rice 93% headed, 96% 1978, 90% average; 24% mature, 50% 1978; 4% harvested, 7% 1978, 5% average; condition good. Corn 60% mature, 82% 1978; 11% harvested, 17% 1978, 12% average; condition good. Sorghum 42% ripe, 65% 1978; 11% harvested, 20% 1978, 20% average. Hay crops 78% harvested, 80% 1978, 74% average. Sweetpotatoes 15% harvested, 29% 1978, 26% average. Peanuts 14% harvested, 25% 1978, 31% average. Pecan condition rated fair to poor. Pastures good condition. Diesel and gasoline supplies adequate to tight; LP gas supplies adequate.

**MISSOURI:** Temperatures normal to 3° above normal, reaching high 60's and low 90's. Precipitation heavy, mostly ranging from 1.00 to 2.00 in.

Fieldwork: 3.8 days suitable. Corn 94% in dough stage or beyond, last year 71%, normal 97%; 67% dented, last year 45%, normal 73%; 14% mature, last year 12%, normal 25%. Soybeans 92% blooming or beyond, last year 99%, normal 100%; 79% setting pods, last year 84%, normal 83%; 9% turning color, last year 5%. Grain sorghum 94% headed or beyond, last year 100%, normal 90%; 16% mature, last year and normal 23%. Cotton 10% with open bolls, last year 16%, normal 12%. Alfalfa hay harvested third cutting 78% complete, last year 80%, normal 76%. Condition of corn, soybeans and pasture mostly good. Soil moisture supplies mostly adequate. Fuel supplies mostly adequate.

MONTANA: Temperatures above normal but with large fluctuations in maximum temperatures day to day. Temperatures in 90's, few areas reaching near 100°. Precipitation widespread but with substantial rainfall confined to west. Some areas east of Divide received less than 0.10 in.

Soil moisture short. Fieldwork: 5 days suitable. Winter wheat 5% planted. Harvest of spring wheat slowed by showers, running behind normal. Winter wheat harvested 95%, 85% 1978, 90% average. Spring wheat harvested 40%, 40% 1978, 55% average. Barley harvested 40%, 40% 1978, 55% average. Oats harvested 55%, 50% 1978, 55% average. Second cutting alfalfa 70% complete. Sheep and cattle 10% moved from summer ranges. Grazing prospects for late summer ranges fair.

NEBRASKA: Precipitation averaged 0.33 in. Panhandle and north, 1.50 in. southern border areas with isolated amounts of up to 5.00 in. central. Temperatures averaged 4° above normal.

Corn dough 85%, year ago 85%, normal 100%; dent 25%; nearly one week behind year ago 55%, normal 70%. Sorghum turning color 30%, year ago 40%, normal 55%. Soybean leaves turning color 20%, year ago 20%, normal 35%. Third cutting alfalfa 65%, year ago 80%. Fieldwork: 5.5 days suitable. Diesel and gasoline 95% adequate, 5% tight.

NEVADA: Temperatures below normal northwest, normal elsewhere. Extremes: 106 and 31°. Light precipitation confined to northwest.

Second crop alfalfa hay about finished. Cattle starting to move down from high elevation ranges. LP gas, diesel fuel, gasoline rated mostly adequate.

NEW ENGLAND: General rains 27th, 29th and 30th; amounts ranged 0.25 to 1.00 in. Temperatures near seasonal. Nighttime lows ranged 30 to 45°, daytime highs ranged 70 to near 90°.

Heavy rains saturated soils, making fieldwork difficult. Too much rain delayed harvest, delayed maturity and caused disease problems. Potato tubers need more size before vine killing. Corn needs warm sunshine to aid maturity. Rains making it tough for vegetable growers to get crops picked. Soil moisture adequate to surplus, available grazing adequate to good. Fuel supplies are tight to adequate.

NEW JERSEY: Temperatures 4 to 6° above normal. Extremes: 56 and 90°. Rainfall averaged 0.96 in. north, 2.11 in. central and 1.15 in. south. Soil moisture in percent of field capacity averaged 58% north, 80% central and 68% south.

Fieldwork: 5.2 days suitable. Rainfall varied. Soil moisture excessive in some areas. Fall vegetables developing nicely. Late summer vegetable volumes tapering off. Sweetpotato harvest expected to begin next week. Harvest of fall variety apples getting underway. Peach harvest continued. Rio-oso-gems available. Cranberries

sizing and coloring well. Weather conditions poor for third cutting hay. Farm fuel supplies adequate.

NEW MEXICO: Showers eastern plains early week with totals mostly 0.50 in. or more. Otherwise only scattered and very light shower activity. Temperatures generally averaged 2 to 4° warmer than normal.

Light scattered showers interrupted field activity early week. Some cotton, hay, chile and miscellaneous crops lost and damaged in Dexter-Hagerman and Carlsbad areas by hail. Cotton making good progress though two weeks late; squaring heavily, an occasional boll open. Haying continued with 4th cut 50% in south, 2d and 3d cutting ending to north. Grains good condition; sorghum 85% headed, corn 85% dough stage. Winter wheat seeding started with good soil moisture. Thinning lettuce, picking green chile, early apples, miscellaneous vegetables. Ranges and livestock mostly good.

NEW YORK: Temperatures 2 to 7° above normal. Precipitation variable, heaviest north and west; lightest in Hudson Valley area and on Long Island.

Field preparation for 1980 wheat crop started. Corn in milk to early dent stage. Oat harvest 84% complete, 90% 1978. Second cutting alfalfa 86% done, 90% 1978. Third cutting alfalfa 29% cut, 20% 1978. Early apple harvest continued. Peach and pear harvests made good progress. Concord grape harvest underway. Onion, lettuce, celery, cabbage, tomato, potato harvests active.

NORTH CAROLINA: Temperatures 3 to 5° above normal. Mountains 70 to 90°; elsewhere upper 80's to low 90's. Precipitation subnormal northern Piedmont; elsewhere above normal. Scattered thundershowers.

Fieldwork: 5.4 days suitable. Soil moisture short to adequate. Condition of tobacco and peanuts mostly fair to good; corn, cotton, Irish potatoes, sweetpotatoes and apples fair to mostly good; soybeans, hay crops and pasture fair to good. Harvested: Flue-cured tobacco 84%, 1978 73%, average 76%; sweetpotatoes 10%, 1978 18%, average 12%; corn for grain 13%, 1978 10%, average 14%; corn silage 45%, 1978 43%; apples 23%, 1978 24%, average 26%. Phenological stages: Corn dent 83%; corn matured 75%; soybeans flowering 77%; soybeans pod set 50%; cotton open boll 15%.

NORTH DAKOTA: Warmer weather with some locally severe thunderstorms. Temperatures averaged 2 to 5° above normal except northeast near-normal. Extremes: 94 southeast to 38° northeast. Some thunderstorms produced large hail. Most intense storms southwest. Rainfall generally averaged over 0.40 in. Northwest again missed out on most rainfall. Largest amounts generally northeast.

Harvest of small grains continued slow due to showers and high humidity. Some sprout damage in swathed grain. Percents swathed or combined to date, last year, and average: Hard red spring wheat 72, 89, 89; durum wheat 53, 79, 77; oats 87, 94, 94; barley 88, 97, 96. Warm, dry weather needed for harvest and row crop development which remains late. Sunflower 52%, with ray flowers dried, average 69%. Potato digging just beginning, last year and average 2%.

OHIO: Precipitation variable, ranging from 0.50 in. below normal to 1.00 in. above normal. Season totals well above normal. High temperatures

upper 80's to 3° above normal. Lows averaged low 60's, holding mean temperatures 4 to 7° above normal.

Quality of crops being harvested, tobacco, tomatoes, hays and hay seed, hurt by frequent rains. Condition of remaining crops good to excellent. Warm, dry weather needed to mature. Stalk rotting in soybeans and smut in corn. Corn dented 40%, 55% 1978, 65% average. Soybean leaves turning yellow 15%, 10% 1978, 25% average. Corn silage cut 10%, 15% 1978, 15% average. Alfalfa 3d cutting 35%, 50% 1978, 50% average. Apples harvested 20%, 25% 1978. Tomatoes harvested 20%, 25% 1979. Fall plowing for winter grains 25%, 40% 1978, 30% average. Fieldwork: 2 days favorable. Pasture condition very good. Soil moisture surplus.

OKLAHOMA: Temperatures near normal most sections. Panhandle temperatures 4 to 5° above normal, central readings 1 or 2° above normal. Light rainfall.

Open weather enabled excellent progress seedbed preparation. Wheat seedbeds prepared 60%, 30% 1978, 50% average. Sorghum heading 100%, 95% 1978, 100% average. Sorghum milk to soft 60%, 65% 1978, 75% average. Sorghum mature 10%, 25% 1978, 25% average. Cotton setting bolls 100%, 90% 1978, 95% average. Fieldwork: 5.7 days suitable.

OREGON: Maximum temperatures low 70's to upper 80's, mostly low 80's. Minimum temperatures upper 30's to low 60's, mostly low 50's. Average temperatures in 60's, ranging 3° below to 9° above normal. All areas received precipitation with heaviest amounts in northern Cascades. Week-end showers added to weekly total.

Soil moisture mostly adequate west, short to adequate east. Winter wheat harvest slowed by rain, 96% complete. Growers working summer fallow, fertilizing, seeding fall grain; most seeding to begin in mid-September. Sugarbeet seed, hops, mint, and red clover harvest continued as weather permitted. Bartlett pear harvest moving rapidly in Hood River; Anjou picking starting, size good but some light spots. Peach harvest continuing; blackberry harvest continuing. Early filberts dropping. Walnuts developing normally; good crop expected. Snap bean harvest finishing rapidly. Sweet corn and beet harvest continuing. Wet weather hampering onion curing. Potato harvest continuing. Livestock condition generally good. Range and pastures poor to good. Rains helped start regrowth.

PENNSYLVANIA: Partly sunny, warm and humid with scattered showers and thunderstorms. Temperatures most days from lows in 50's and 60's to highs in 80's averaging 4 to 8° above normal. Extremes: 45 and 93°. Rainfall from the numerous but widely scattered showers ranged from less than 0.25 in. much of southeast and northwest to 1.00 to 2.00 in. central mountains. Isolated heavy rains of 4.00 to 5.00 in. 29th and 1st produced local flash flooding central and southeast.

Fieldwork: 4 days suitable. Soil moisture adequate to surplus. Activities: Hay making; fall plowing; limited barley and wheat planting; harvest of potatoes, tobacco, oats, fruits and vegetables, ensilage corn. Oats 95% combined, equal to last year. Tobacco 30% cut, 28% last year. Potatoes 36% dug, last year 22%. Corn 57% dough, last year same, average 56%; 20% dented, last year 25%, normal 25%. Fall plowing 35%, last year 31%. Barley and wheat sown under 5%. Alfalfa second cut 86%, third cut 34%.

clo-tim second cut 69%. Hay quality mostly poor to fair. Feed from pastures average to above.

SOUTH CAROLINA: Warm, humid with thunderstorms daily.

Fieldwork: 5 days suitable. Corn condition good, late crop damaged by insects and low soil moisture; 91% mature, 90% last year, 88% average; 47% harvested, 40% last year, 37% average. Cotton condition fair to good, insect pressure spotted; 39% open bolls, 39% last year, 30% average. Soybean condition fair to good; 97% blooming, 96% last year, 91% average; 86% setting pods, 82% last year, 77% average; insecticides applied for corn ear worms. Tobacco and peach harvest virtually complete. Apple condition good to excellent, 54% harvested, 34% last year, 45% average. Grapes fair to good, 70% harvested, 90% last year, 83% average. Pasture and hay fair to good, improving with scattered showers.

SOUTH DAKOTA: Temperatures near normal early week, above normal later. Extremes: 101 and 41°. Warm, humid weather produced thundershowers, heaviest east. Some hail, heaviest northwest.

Fieldwork: 4 days suitable. Small grain harvest neared completion, except spring wheat. Farmwork: Small grain, flax and hay harvesting and fall plowing and seeding. Boxcar and trucks to transport grain in tight supply. Grain storage problems evident. Topsoil moisture supplies surplus in pockets of east and northwest, short in band running northwest to south central, elsewhere adequate. Subsoil moisture supplies short in band from northwest to south central, elsewhere, adequate except for two pockets in extreme east. Flax 84% ripe, 1978 78%, average 93%. Rye 95% harvested, 1978 100%, average 100%. Oats 96% harvested, 1978 100%, average 100%. Spring wheat 85% harvested, 1978 100%, average 100%. Barley 95% harvested, 1978 100%, average 100%. Flax 31% harvested, 1978 46%, average 79%. Corn 68% in dough or beyond, 1978 82%, average 87%. Corn 24% dented and beyond, 1978 38%, average 54%. Corn 5% mature, 1978 13%, average 15%. Sunflowers 95% in bloom or past. Soybeans 96% podded, 1978 100%, average 100%. Soybeans 8% shedding leaves, 1978 17%, average 14%. Sorghum 97% headed, 1978 99%, average 97%. Sorghum 42% showing color, 1978 41%, average 44%. Winter wheat 2% seeded, 1978 6%, average 6%. Rye 3% seeded, 1978 14%, average 11%.

TENNESSEE: Weak high pressure most of week. Rain at weekend. Amounts averaged 3.00 in. west, 0.75 in. east. Temperatures 2° above normal.

Soil moisture adequate. Fieldwork: 2.9 days suitable. Pastures excellent. Corn dent stage 88%, 1978 90%, average 86%; mature stage 23%, 1978 40%, average 34%; harvested for grain 3%, 1978 6%, average 4%. Cotton open bolls 6%, 1978 16%, average 13%. Soybeans setting pods 91%, 1978 87%, average 79%. Burley tobacco harvested 49%, 1978 35%, average 49%. Dark fired tobacco harvested 34%, 1978 32%, average 49%. Lespedeza hay harvested 57%, 1978 51%, average 55%. Corn and tobacco fair. No major insect problems. Weeds bad most fields. Fuel supplies adequate.

TEXAS: Tropical depression moved into South Texas early week causing heavy rains; latter week Tropical Storm Elena moved across Upper Texas Coast with significant rainfall; cold front extended Panhandle producing thunderstorms. Temperatures 2° below normal Central, South Texas; 2° above normal Panhandle, West Texas; normal elsewhere. Precipitation above normal South

Texas, Coast; normal Panhandle, North Central Texas; below normal elsewhere.

Open weather prevalent first of week; weekend cold front through Panhandle producing heavy thunderstorms; Tropical Storm Elena dumped heavy rains along Gulf Coast and lower Rio Grande Valley. Moisture conditions adequate statewide; some isolated areas on Edwards Plateau and South Texas need good general rain. Rain hampered cotton harvest along coast and many areas South Central Texas. First picking lower Rio Grande virtually complete; some producers awaiting open weather for second picking. Stripping winding down along Coastal Bend; harvesting active drier fields in South Central Texas. Some producers spraying for bollworms affected Blackland and Plains fields. Sorghum harvest 33% complete southern Low Plains. Harvest virtually complete Central Texas southward; late planted fields remain. Heavy losses to midge noted some later planted fields. Recent rains beneficial many Panhandle stands. Corn harvest 33% complete statewide; Central and East Texas producers gathered over half crop by weekend. Silage harvest active on Panhandle fields. Late planted soybeans continue to bloom; pods on older beans filling well. First rice cutting nearly complete; slowed by rains. Peanut harvest slowed in South Texas; most early planted fields dug in that area. Prospects excellent on Cross-Timbers due to recent rains. Some irrigation late planted South Texas fields. Wheat and oat fall plantings increased in Panhandle and Central Texas. Adequate moisture should promote germination but weed growth caused additional land preparation Panhandle. Fuel supplies for farming better than previous week. Cotton setting bolls 100%; open bolls 17%; harvested 8%, 15% 1978, 13% average. Rice harvested 98%, 97% 1978, 93% average. Sorghum headed 98%; turning color 76%; mature 67%; harvested 59%, 67% 1978, 58% average. Corn harvested 33%, 38% 1978, 30% average. Peanuts harvested 18%, 15% 1978, 15% average. Sunflowers harvested 0%, 1% 1978, 8% average. Oats planted 4%, 4% 1978, 2% average. Winter wheat planted 5%, 4% 1978, 5% average.

Lower Rio Grande Valley heavy rains interrupted land preparation, planting fall vegetables. Moisture very beneficial for vegetables planted, citrus crop. Sweet corn, cabbage plantings up. San Antonio-Winter Garden, irrigation active. Carrots, cabbage, squash and other fall vegetables planted. Laredo, cabbage in 2 to 3 leaf stage, being thinned. Additional cabbage, carrots planted. East Texas limited volume cantaloups, watermelons, okra, parsley, greens available. Planting, caring for fall vegetables active. North Texas remaining okra, cantaloups, watermelons harvested. Sweet-potatoes being harvested on schedule. High Plains, active harvest of peppers, cucumbers, cabbage, cantaloups, tomatoes, sweet corn, peas, beans. Potato harvest over. Some lettuce planted. Limited volume peaches available in North Texas, High Plains. Pecans excellent, weevils more numerous and spraying active. Pastures, ranges, livestock generally good to excellent condition. For some areas, more grass available this time of year than for many years. For some scattered areas missed by showers, conditions less favorable. Sheep, goat shearing active Edwards Plateau. Marketing livestock, harvesting hay, preparation land fall, winter grazing active.

UTAH: Few isolated, very light showers latter week. Temperatures ranged from 2 below normal to 4° above. Soil moisture deficit continues serious most elevation ranges and dryland farms.

Fieldwork: 7 days suitable. Winter wheat planting starting. Soil moisture short. Alfalfa hay cut and to be cut 3 or more times slightly

below normal averaging about 72%. About 10 to 15% of alfalfa cut for 3d time. Silage corn harvest starting. Dry onion and potato harvests starting. Tomato and sweet corn harvests about 50% complete. Sugarbeets about 95% or normal. Range feed supplies poor with fall and winter range poor to fair.

VIRGINIA: Hot, humid. Temperatures several degrees above normal. Extremes: 102 and 54°. Rainfall heavy, average near 1.50 in. Daily scattered showers, thunderstorms, amounts from none to several inches.

Topsoil moisture mostly adequate. Fieldwork: 4.1 days suitable. Farm fuel supplies mostly adequate. Corn condition good; combining 5% done, 4% 1978, 8% usual; Tidewater, southeast progress 7% done, 6% 1978; silage harvests active. Soybeans, peanuts, pastures good to excellent. Tobacco mostly good, burley fair; flue-cured 55% pulled, 49% 1978, 53% average; fire-cured 60%, 25% 1978, almost 40% usual; sun-cured 35%, 28% 1978, 44% usual; burley 25%, 6% 1978, almost 30% average. Apples 6% picked, up from revised 2% picked last week. Other activities: Hay baling, land preparation for fall seeding, cabbage cut southwest, tomatoes picked Eastern Shore.

WASHINGTON: West: Temperatures normal to 3° above. Precipitation averaged below normal.

Vegetable harvest continued on beans, potatoes, carrots, corn, cabbage, cauliflower, cucumbers. Blackberries also underway with blueberries nearly complete. Planting flower bulbs and cabbage plants for seed. Preparation for fall seeding. Pastures improved with moisture.

East: Temperatures averaged 3° above normal. Precipitation near normal.

Short water supplies for irrigation. Apples maturing rapidly. Golden Delicious picking started. Peach, nectarine and pear harvests continued. Other crops harvested: Sweet corn, potatoes, mint, hops. Grain harvest mostly completed. Early fall seeding started. Grass-hoppers declining. Wheat harvested 98%, 1978 83%.

WEST VIRGINIA: Temperatures above normal. Extremes: 90 and 50°. Precipitation above normal except central and south below normal.

Soil moisture adequate to surplus. Farmwork: 2.9 days suitable. Main farm activities: Haying, clipping pasture. Oats harvested 88%, average 94%, 1978 92%. Corn mostly good, improving. Hay 2d cutting 52%, average 73%, 1978 64%. Some abandonment due to wet weather. 3d cutting beginning. Potato digging 34%, average 46%, 1978 44%. Tobacco mostly fair, topping 67% complete; 15% harvested; crop stressing from weather. Pastures mostly good. Fuel supplies adequate, becoming tight central and south.

WISCONSIN: Wet but turned warmer and drier after midweek. Temperatures 4° above normal as highs were in 80's from 29th to 2d. Overnight lows mostly in 50's and 60's, Extremes: 90 and 47°. Rainfall spotty, averaging about 0.50 to 1.50 in. Much of rainfall occurred 27th to 28th except for locally heavy amounts northeast 31st.

Wet fields limited harvesting. Fieldwork: 2 days suitable. Oats 65% harvested, 1978 and normal

(continued on page 17)

### World Weather and Crop Update

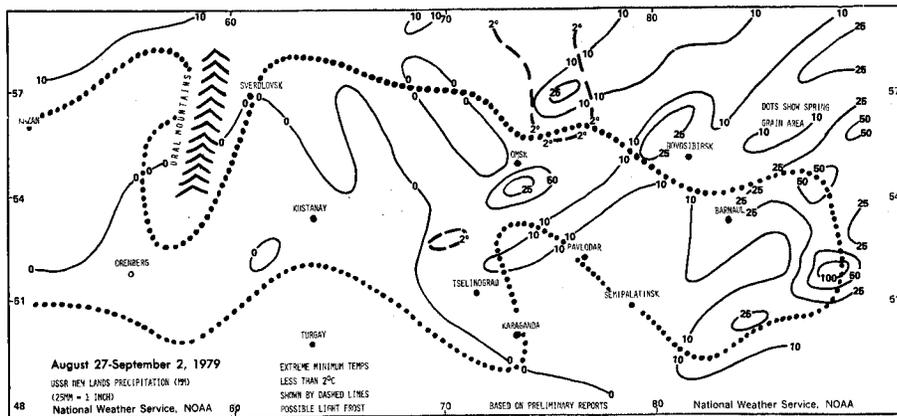
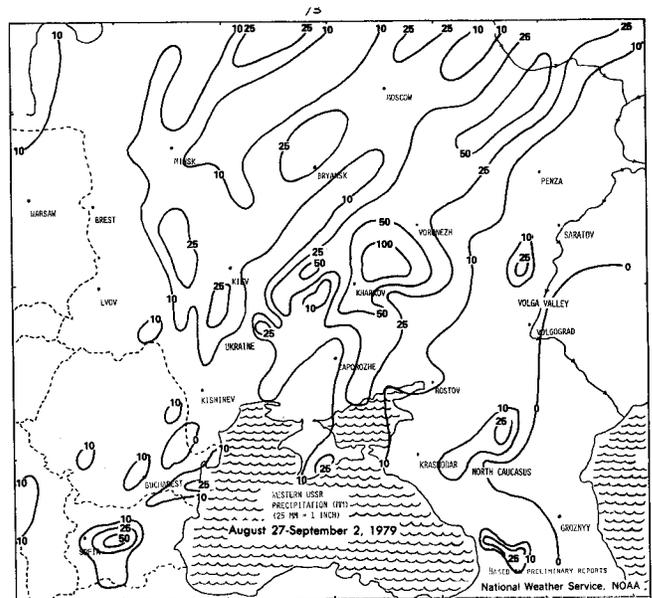
August 27 - September 2

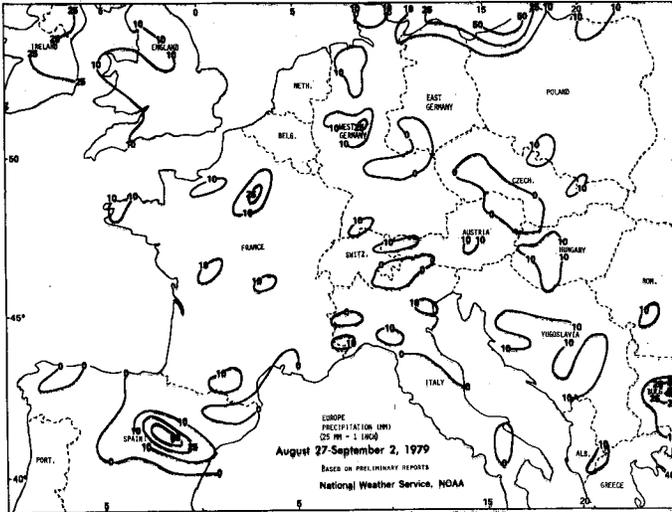
**HIGHLIGHTS:**

- USSR. Harvesting spring grains...generally favorable conditions. Sowing winter grains...too dry in Volga Valley.
- EUROPE. Harvest of small grains continues...mostly fair weather.
- CHINA. Harvesting corn, cotton, and soybeans in southern areas\*...normal weather; some rain.
- INDIA. Rice turning color in the north\*...dry in the northwest; some rain in the northeast.
- AUSTRALIA. Grains heading\*...some beneficial rains; other crop areas dry.
- ARGENTINA. Grains jointing...adequate soil moisture in most areas.
- CANADA. Harvesting grains...some interference by rains.

\*Based on normal crop calendar information.

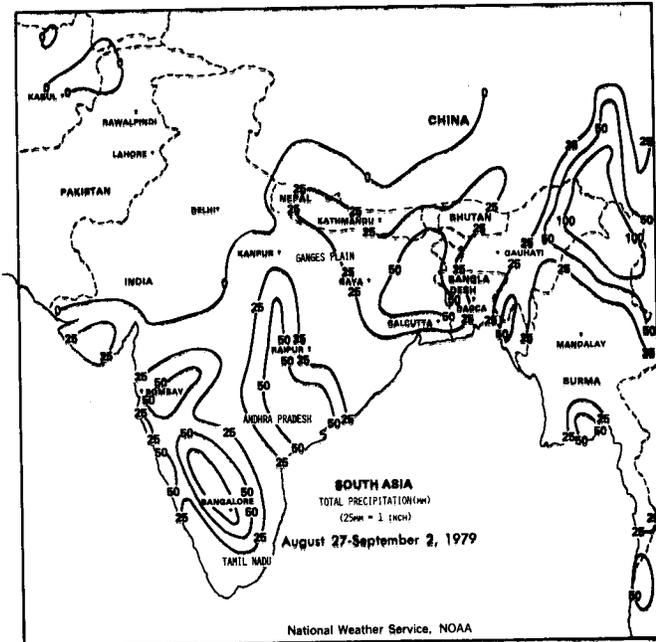
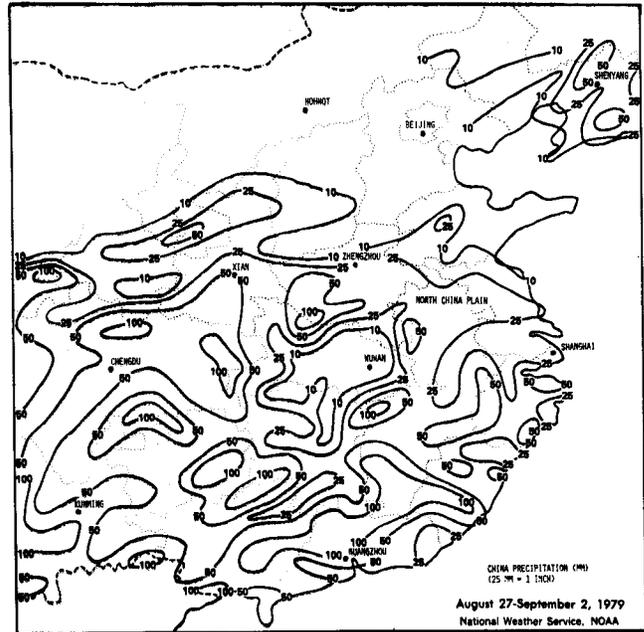
USSR. Broad coverage of above-normal rains over an area extending from the eastern Ukraine northeastward provided beneficial moisture for winter grain sowing. Late grain harvesting activities east of Moscow were likely disrupted, but that area had been relatively dry for several weeks, so impacts probably remained light. Hot and dry conditions developed to the east, covering much of Krasnodar Kray, the North Caucasus, and Volga Valley. Most spring-planted crops are advanced enough to avoid injury, but winter grains cannot be sown in the Volga Valley until the soil becomes moistened. This dryness pushed northeastward into the western portion of the New Lands late in the week, providing good harvest weather. Variable rains fell in the eastern portion, but totals dipped below the disruptive amounts of the previous two weeks.



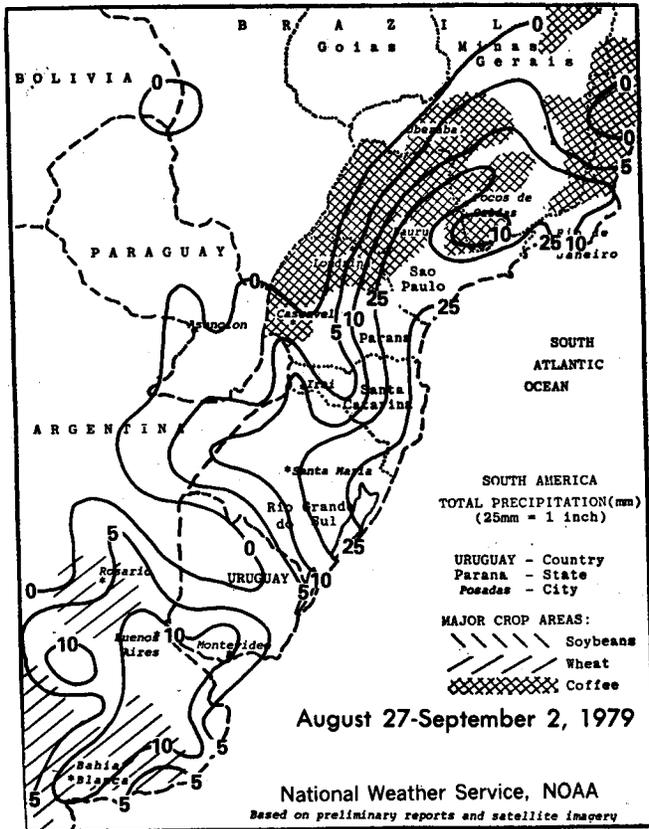


EUROPE. Rainfall decreased sharply last week, with only scattered locations reporting near-normal amounts. This allowed late harvest of small grains to continue unimpeded in the north, and given the previous weeks' rains to the south, spring-planted crops should have adequate moisture.

CHINA. Heavy, above-normal rainfall persisted in southern and southwestern crop areas. The intermediate rice crop (which is nearing maturity) would have benefited more from drier weather, but no excessive amounts fell, so the impact was minimal. Totals across southern portions of the North China Plain exceeded normal only slightly in most locations as harvest of row crops became widespread. Many more-northerly areas received only light rainfall, with good harvest weather prevailing.

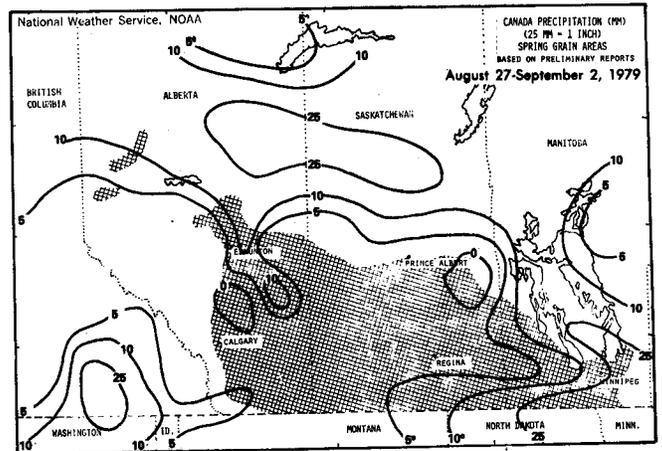
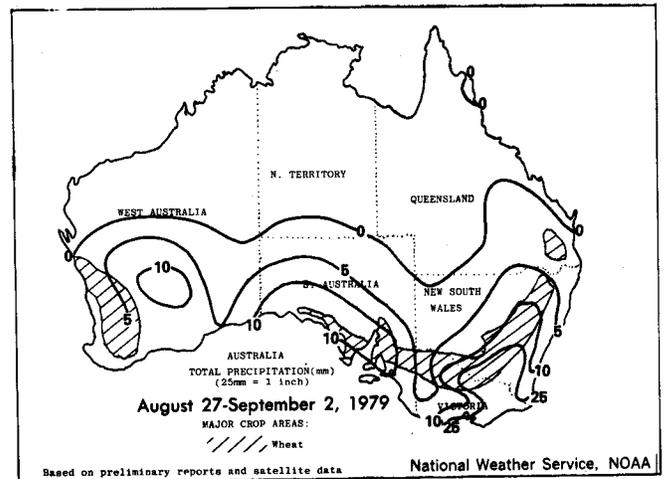


INDIA. Welcome rains finally doused parched crop areas in southern India, including much of the watersheds that irrigate rice crops in Andhra Pradesh and Tamil Nadu. Unirrigated crops may have already suffered such severe stress as to be beyond help. In the western portion of the Ganges Plain, crop conditions continued to deteriorate as only light, scattered rains fell. Eastern portions received greater amounts, but totals for the month of August fell substantially short of normal, and the outlook for unirrigated crops remained diminished.



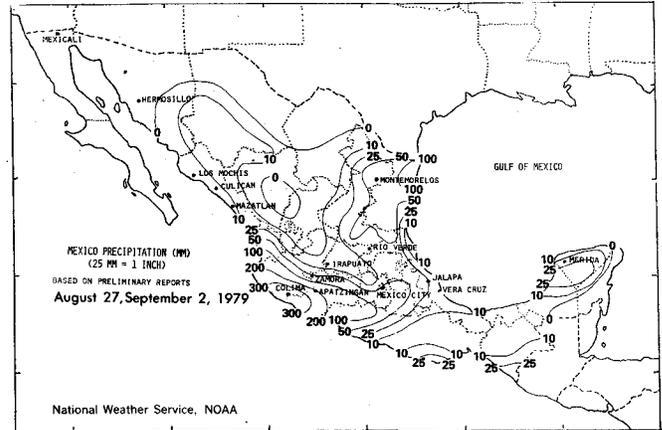
**SOUTH AMERICA.** Near-normal rainfall occurred over the winter grain areas of Argentina. Soil moisture should be adequate for plant development as the growing season approaches in those portions where the crop has been sown. Rains slacked off in the southernmost states of Brazil, but above-normal totals of previous weeks have provided good soil moisture as the soybean-planting season approaches. Rains did spread north again, dropping some early-season amounts in some coffee areas. The danger of frost has nearly passed now, and this moisture will help coffee trees recuperate from earlier frost damage as the flowering season approaches.

**AUSTRALIA.** Much of the winter grains area received relief from dry conditions when a frontal system moved through early in the week. Northeastern areas remained relatively dry, and rainfall totals for August fell short of normal in many areas, but these timely rains did much to improve the outlook for the crop.

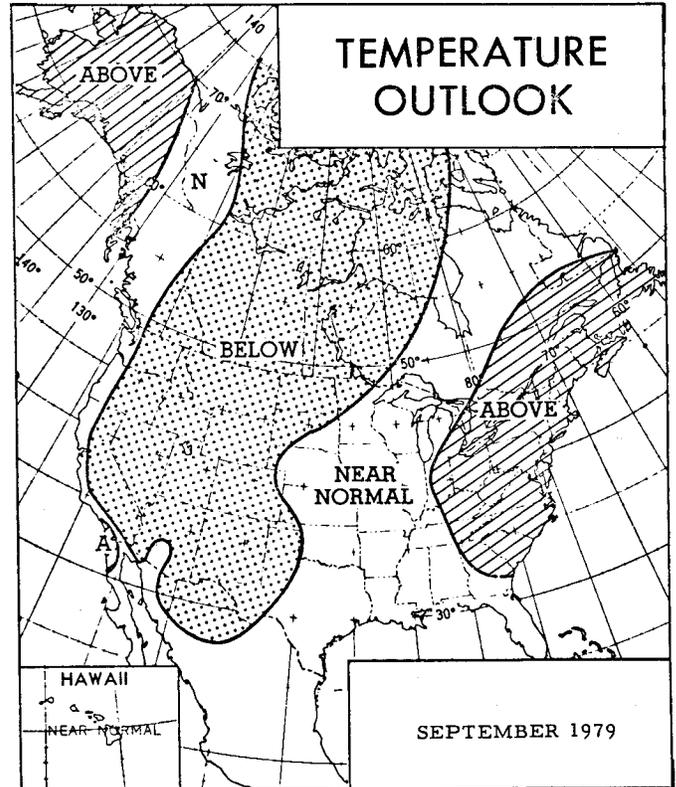
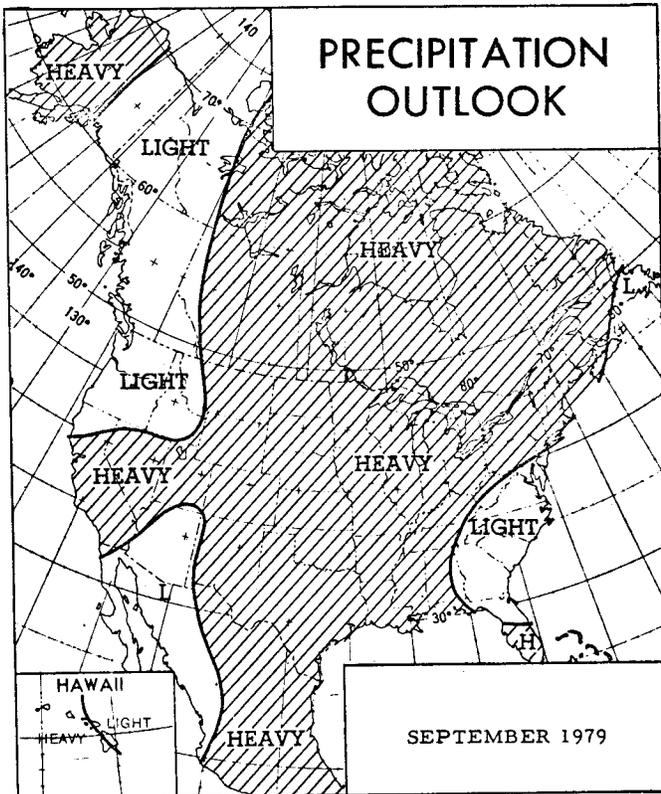


**CANADA.** Grain harvesting continued in the early stages with some disruption by scattered rains. Harvest conditions continued much better than last year, but fair weather will be required for harvest to proceed normally.

MEXICO. Tropical weather systems triggered very heavy rains on the southwestern coasts and mountains, as well as in the extreme northeastern section of Mexico. Up to 330 mm of rain in the Colima area may have hurt some lime orchards. The Montemorelos/Linares citrus area finally received beneficial amounts (about 60 mm) after a prolonged hot, dry spell. Citrus in the Rio Verde, Jalapa, and Vera Cruz districts received 30 to 60 mm. Moderate rains fell in the mountainous watershed of the west coast, which supplies irrigation water to nearby vegetable areas. The Culican tomato and vegetable district had some sprinkles, but heavier rains fell to the east and south. Culican's afternoon temperatures averaged 32°C with a relative humidity of 65%; overnight lows hovered around 27°C with humidity of 85%.



**Average Monthly Weather Outlook**



CROP DEVELOPMENT  
FOR WEEK ENDING SEPTEMBER 2

	CORN DENT STAGE		
	1979	1978	AVG.
COLO	34	37	NA
GA	NA	NA	NA
ILL	60	66	76
IND	45	55	60
IOWA	33	81	72
KANS	50	60	65
KY	67	NA	NA
MICH	20	55	45
MINN	NA	NA	NA
MO	67	45	73
NEBR	25	55	70
NC	83	NA	NA
OHIO	40	55	65
PA	20	25	25
S DAK	24	38	54
VA	NA	NA	NA
WISC	10	50	40

SOYBEANS SETTING PODS

	1979			1978			AVG.
	1979	1978	AVG.	1979	1978	AVG.	
ALA	89	79	NA	NA	NA	NA	NA
ARK	74	NA	NA	NA	NA	NA	NA
GA	NA						
ILL	NA						
IND	100	100	90	NA	NA	NA	NA
IOWA	NA						
KANS	100	100	100	NA	NA	NA	NA
KY	NA						
LA	92	95	NA	NA	NA	NA	NA
MICH	NA						
MINN	NA						
MISS	91	92	84	NA	NA	NA	NA
MO	79	84	83	NA	NA	NA	NA
NEBR	NA						
NC	50	NA	NA	NA	NA	NA	NA
OHIO	NA						
SC	86	82	77	NA	NA	NA	NA
TENN	91	87	79	NA	NA	NA	NA

GRAIN SORGHUM COLORING

	1979		1978		AVG.
	1979	1978	1979	1978	
COLO	NA	NA	NA	NA	NA
KANS	30	30	35	NA	NA
MO	NA	NA	NA	NA	NA
NEBR	30	40	55	NA	NA
OKLA	NA	NA	NA	NA	NA
S DAK	42	41	44	NA	NA
TEX	76	NA	NA	NA	NA

COTTON OPEN BOLLS

	1979		1978		AVG.
	1979	1978	1979	1978	
ALA	6	14	NA	NA	NA
ARIZ	NA	NA	NA	NA	NA
ARK	5	12	13	NA	NA
CALIF	17	NA	NA	NA	NA
GA	31	31	NA	NA	NA
LA	5	26	15	NA	NA
MISS	4	57	27	NA	NA
MO	10	16	12	NA	NA
N MEX	NA	NA	NA	NA	NA
NC	15	NA	NA	NA	NA
OKLA	NA	NA	NA	NA	NA
SC	39	38	30	NA	NA
TENN	6	16	13	NA	NA
TEX	17	NA	NA	NA	NA

HARVEST PROGRESS  
FOR WEEK ENDING SEPTEMBER 2

	SPRING WHEAT		
	1979	1978	AVG.
IDAHO	60	55	55
MINN	32	75	78
MONY	40	40	55
N DAK	72	89	89
S DAK	85	100	100
5 STATES	60	77	81

THESE 5 STATES PRODUCED 95%  
OF THE 1978 SPRING WHEAT  
CROP EXCLUDING DURUM.  
N DAK INCLUDES SWATHED ACRES

	RICE		
	1979	1978	AVG.
ARK	1/	5	NA
CALIF	0	0	0
LA	74	77	71
MISS	4	7	5
TEX	98	97	93
5 STATES	31	33	29

THESE 5 STATES PRODUCED 99%  
OF THE 1978 RICE CROP.

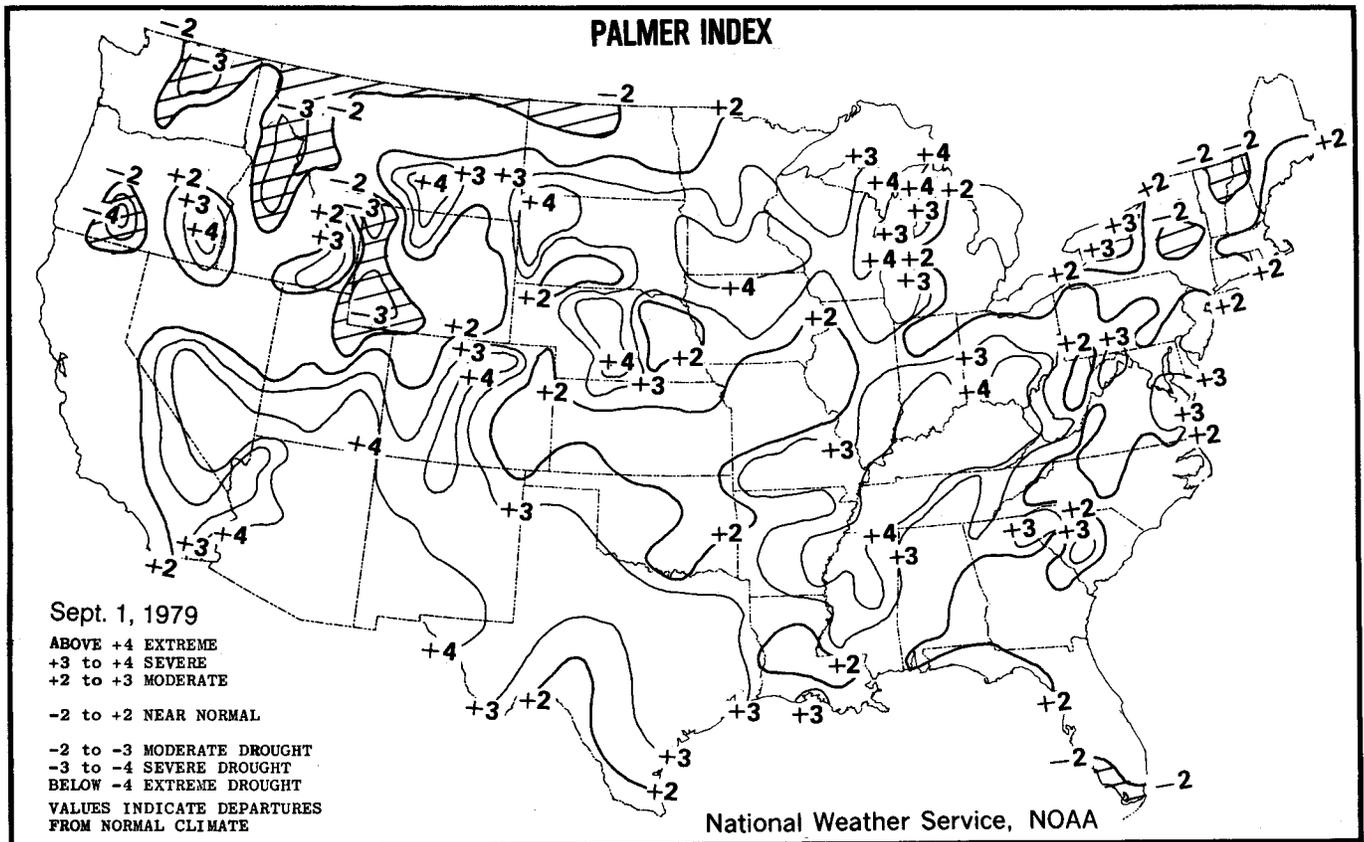
NA NOT AVAILABLE  
1/ LESS THAN 5%

(continued from page 12)

95%. Lodged grain and heavy weed growth slowing combining. Some second crop hay spoiled by poor drying weather, third crop growth very good. Pasture conditions well above normal. Warmer temperatures and sunshine helpful for corn and soybeans. Corn 50% dough, 1978 80%, normal 75%. Early corn starting to dent. Corn 10% in dent, 1978 50%, normal 40%. Corn needs all of September without frost to mature for grain. Soybeans look very good, also need continuation of favorable maturing weather. Pod fill good on soybeans. Tobacco harvest gaining momentum with drier weather, crop had big growth with August rains but some damage from storms. Vegetable harvest hampered by rains and soft fields. Cherry harvest complete, early apples being picked. Soil moisture adequate to surplus. Little plowing being done on harvested fields of wheat and vegetables.

WYOMING: Precipitation slightly below normal with exception of eastern quarter above normal. Temperatures near normal. Highs in 80's and low 90's. Lows in 30's and 40's.

Topsoil moisture adequate. Winter wheat 96% harvested. Spring wheat 88% mature, 58% harvested. Oats 84% mature, 56% harvested. Barley 96% mature, 61% harvested. Malt barley damaged from grain sprouting in head in Big Horn Basin; some will be used as feed barley. Dry beans setting pods 94%; windrowed 18%; combined 8%. Winter wheat for 1980 planted 16%, emerged 14%. Corn for grain 34% dented, 8% mature. Second cutting alfalfa 65% complete; few areas on third cutting. Other hay harvest 86% completed. Calf and lamb weights about the same as last year, lighter in a few areas. Stock water adequate most areas. Live-stock shipments about the same as usual except cattle are being held later in a few areas.



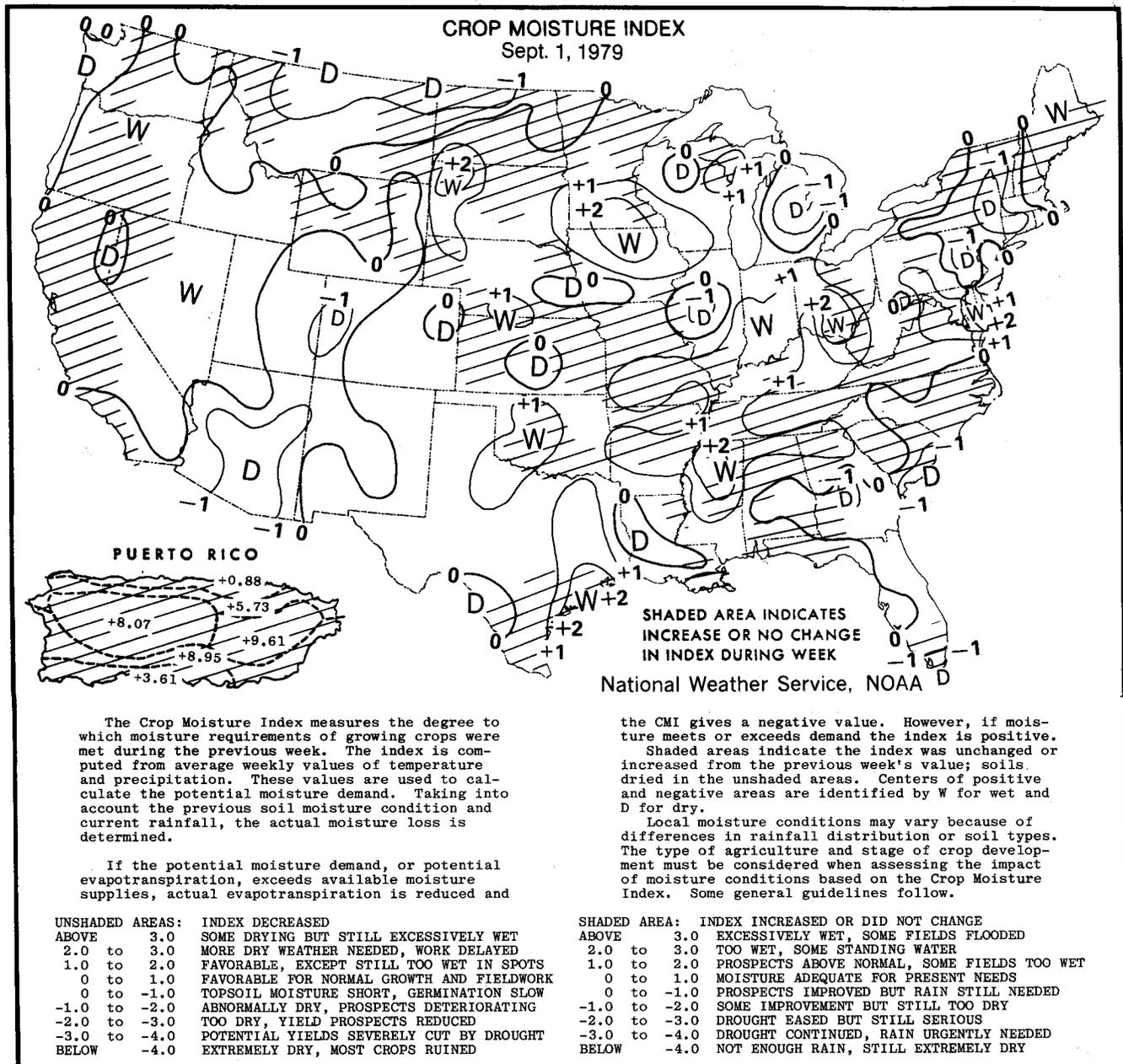
The Palmer Index

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

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

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

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



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

If the potential moisture demand, or potential evapotranspiration, exceeds available moisture supplies, actual evapotranspiration is reduced and

the CMI gives a negative value. However, if moisture meets or exceeds demand the index is positive.

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

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

THE WET AREAS OF IOWA AND MINNESOTA ARE DRYING OUT, BUT PERSISTENT DRY WEATHER IS NEEDED. SOME DRY SPOTS ARE EVIDENT IN CENTRAL ILLINOIS, MICHIGAN, NEW ENGLAND AND THE SOUTHEASTERN UNITED STATES. MUCH OF THE LATTER DRYNESS WILL DISAPPEAR WITH THE PROSPECT OF HEAVY RAINS FROM HURRICANE DAVID. ELSEWHERE, SOME PARTS OF THE SOUTHWEST AND CENTRAL ROCKIES ARE GETTING DRY, WHILE PARTS OF NORTHERN MONTANA AND NORTH DAKOTA NEED MORE MOISTURE.

(continued from page 2)

While Hibbing, northeastern Minnesota, noted 2.5 inches of rain, one to two inches dampened Birmingham, Ala., and Daytona Beach, Fla.

By day's end, David was less than 400 miles from Miami, and Frederic achieved hurricane status in the South Atlantic.

Far to the north, Caribou, northern Maine, dipped to a record low 37°.

On Sunday, David brewed about 100 miles off Florida's East Coast, and Frederic ominously edged northwestward.

Thunderstorms occupied the Pacific Northwest, middle Mississippi Valley, and the South and East.

Quillayute, western Washington, managed more than an inch of rain, and Monett, southwestern Missouri, reported 1.4 inches. In the South, Lake Charles, southwestern Louisiana, tallied 1.1 inches. In New York State, Binghamton and Utica both received about an inch and one-half.



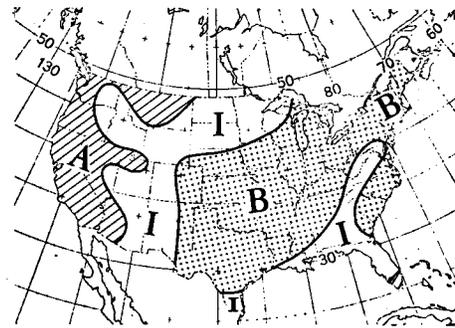
# FIRST CLASS MAIL

## OUTLOOK FOR FALL AVERAGE TEMPERATURES

September through November 1979

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Above Normal, 60% chance of occurrence



Below Normal, 60% chance of occurrence



I Indeterminate, 50% chance of Above Normal  
50% chance of Below Normal

The two categories Above and Below are to be compared to the long-term average or "normal" temperatures of the years 1941-70. Each category has a natural climatic frequency or probability of 50%. Each carries a 60% probability of occurring where forecast (shaded area), based on the verification scores of twenty years of experimental seasonal predictions.

NOAA, National Weather Service  
Climate Analysis Center

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