

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration,
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
Economics and Statistics Service
World Food and Agricultural Outlook and Situation Board

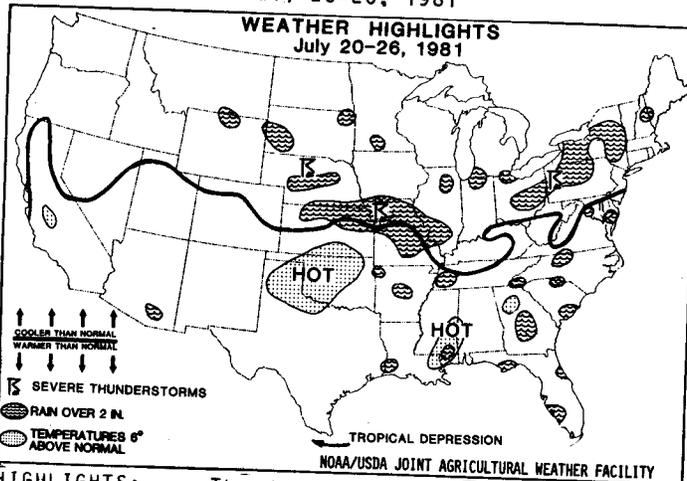
Volume 68, No. 30

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July 28, 1981

National Weather Summary

July 20-26, 1981



HIGHLIGHTS: Thunderstorms provided some precipitation for nearly all of the United States east of the Plateau. Exceptions were northern Texas and central Oklahoma where little or no rain fell. Heavy rain deluged parts of South Dakota, Nebraska, Kansas, and Missouri. An area from northern Indiana to western Pennsylvania suffered local flooding from heavy thunderstorms. Average temperatures were warmer than normal in central California and across the South to the Carolinas. Parts of Kansas and Oklahoma were 6 to 9 degrees warmer than normal. At week's end, a tropical depression brought rain to the lower Rio Grande Valley.

MONDAY...A warm front triggered heavy thunderstorms over western Pennsylvania early in the afternoon. Later, storms developed in the upper Mississippi Valley, the Ohio Valley, and along the central gulf coast and the Atlantic coast. Locally heavy rain in northeastern Washington State brought some flooding. It was sunny and hot from central and southern California across the South. Meridian, Miss., recorded a record high temperature of 103°.

TUESDAY...Thunderstorms moved through the Plains to the Mississippi River. Tornadoes were reported in Nebraska and large hail struck in Arkansas. The northeast corner of the Nation had widely scattered thunderstorms with some severe storms along the mid-Atlantic coast from New Jersey to the Carolinas. Hot weather continued across the South with some 100° readings reaching into the central Plains. At Meridian, Miss., the mercury climbed to 103° for the 4th day in a row.

WEDNESDAY...Strong southerly winds whipped across the southern Plains and temperatures rose to well over 100° as far north as Kansas. It was much cooler to the North. Scattered thunder-

storms lingered most of the day over the eastern gulf coast and in Florida. Late in the day severe weather broke out in South Dakota and Nebraska and spread eastward to Minnesota and Missouri. Widely scattered thunderstorms continued from New Mexico to western Kansas. Hot weather again reached across the South but some cooler air pushed into the Southeast.

THURSDAY...Thunderstorms continued through the night in Missouri and then spread into the lower Ohio Valley and western Tennessee. Later, heavy thunderstorms with hail covered the Dakotas and adjacent States. Widely scattered thunderstorms were also over the Rocky Mountains, the west central Plains and the southern Atlantic coast. One hundred degree temperatures came early in the day from southern California through Mississippi. Some record low temperatures were recorded in the northeastern quarter of the Nation.

FRIDAY...Thunderstorms were still active from Missouri to North Dakota but subsided during the day. Afternoon and evening thunderstorms broke out from Alabama to Minnesota and along the mid-Atlantic Coast. Locally heavy thunderstorms swept through the central Plains late in the day. A sharp contrast in temperatures occurred in Kansas. The southern portion was well over 100° while points in the northeast stayed in the seventies.

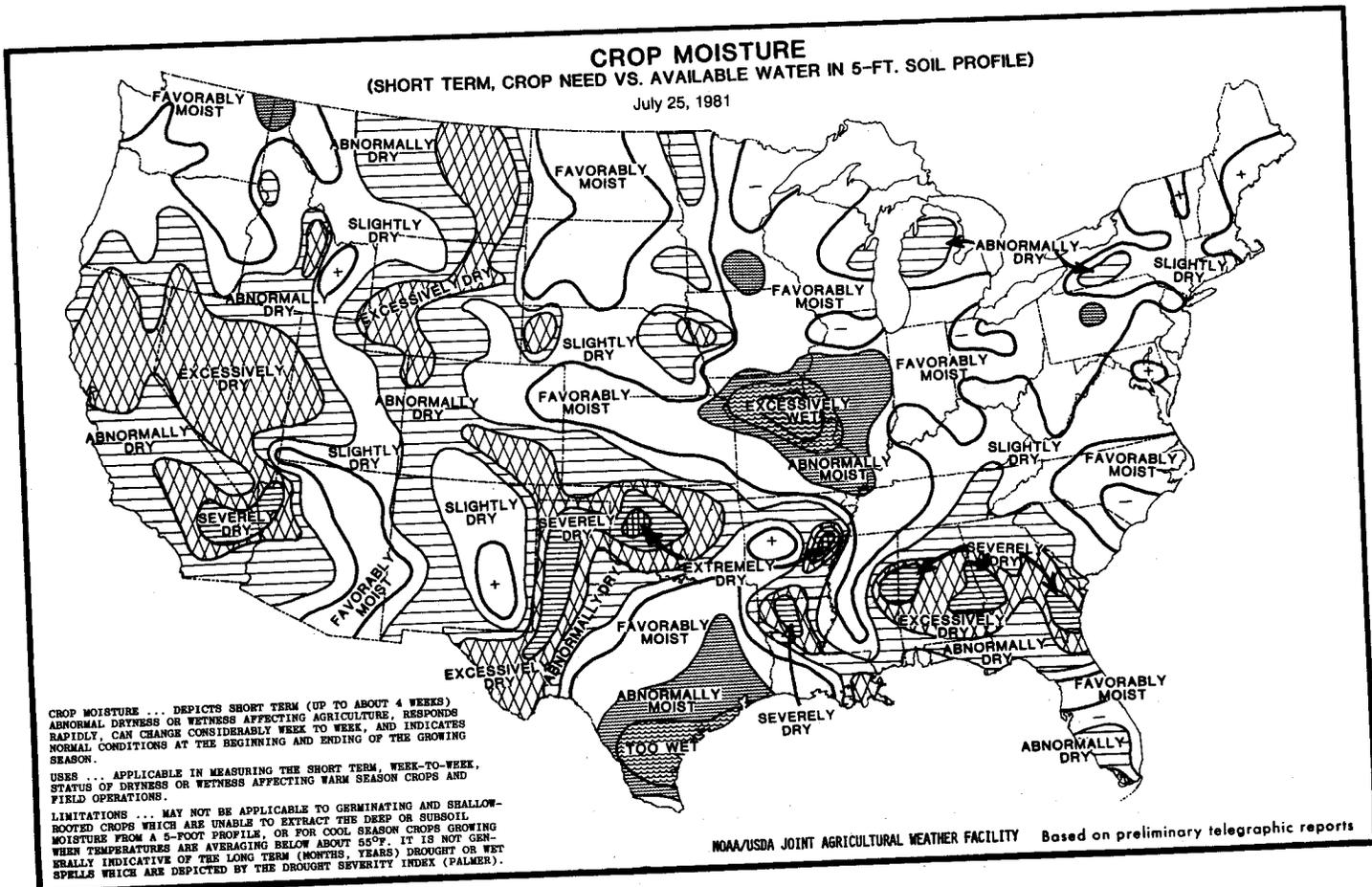
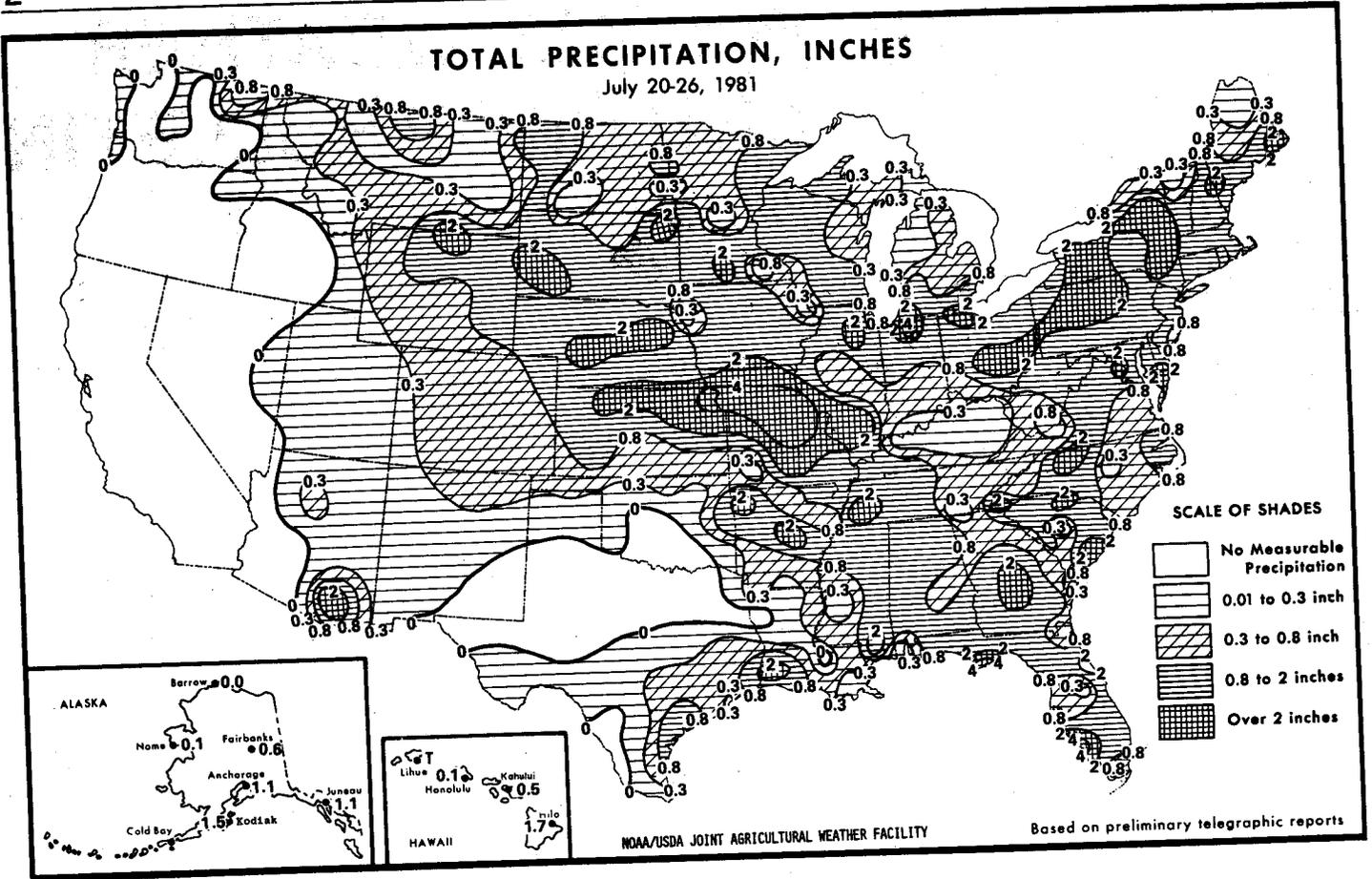
SATURDAY...It was another hot day over the South. Meridian, Miss., had its twelfth consecutive day with temperatures over 100° but thunderstorms cooled the area late in the day. Severe thunderstorms, with hail and tornadoes, spread out ahead of a slow-moving cold front that reached through Illinois and into central Colorado. Thunderstorms were scattered through the gulf coast States.

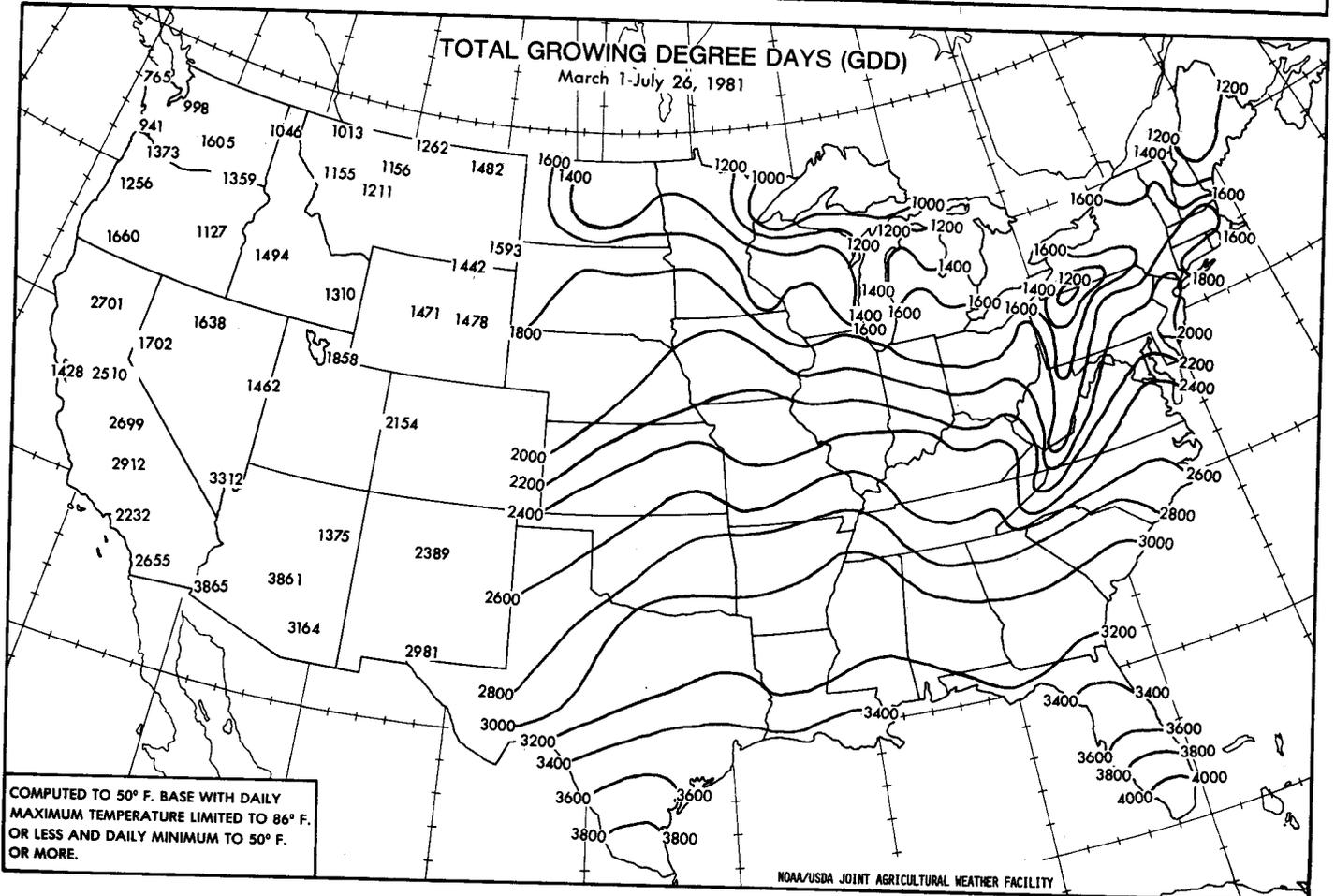
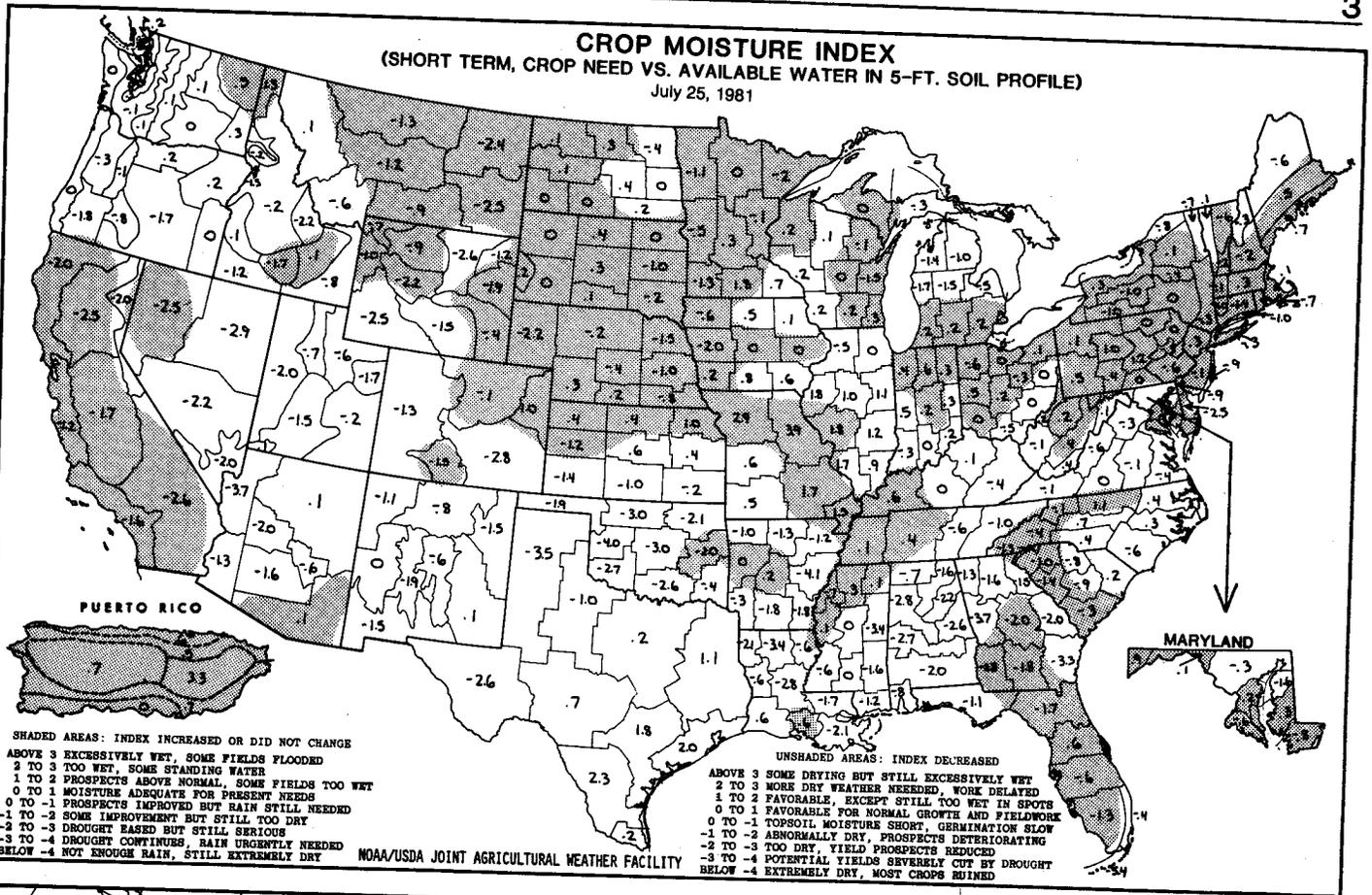
SUNDAY...The cold front moved to a line through Ohio to Missouri, Oklahoma, and New Mexico and spread thunderstorms and heavy rain along and ahead of it. Heavy rains caused flooding in northern Indiana and western Pennsylvania. Hail and high wind damaged areas as far east as

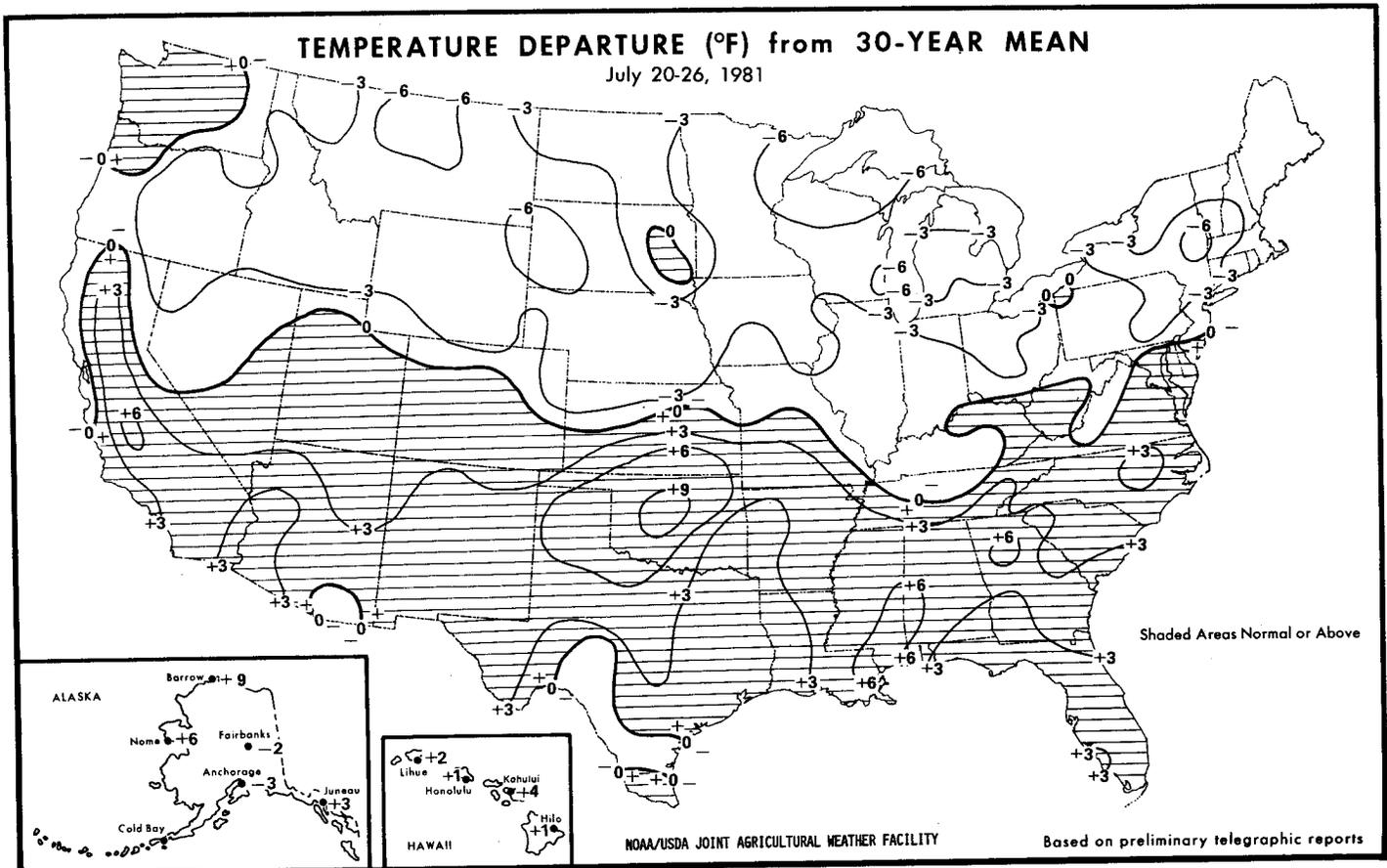
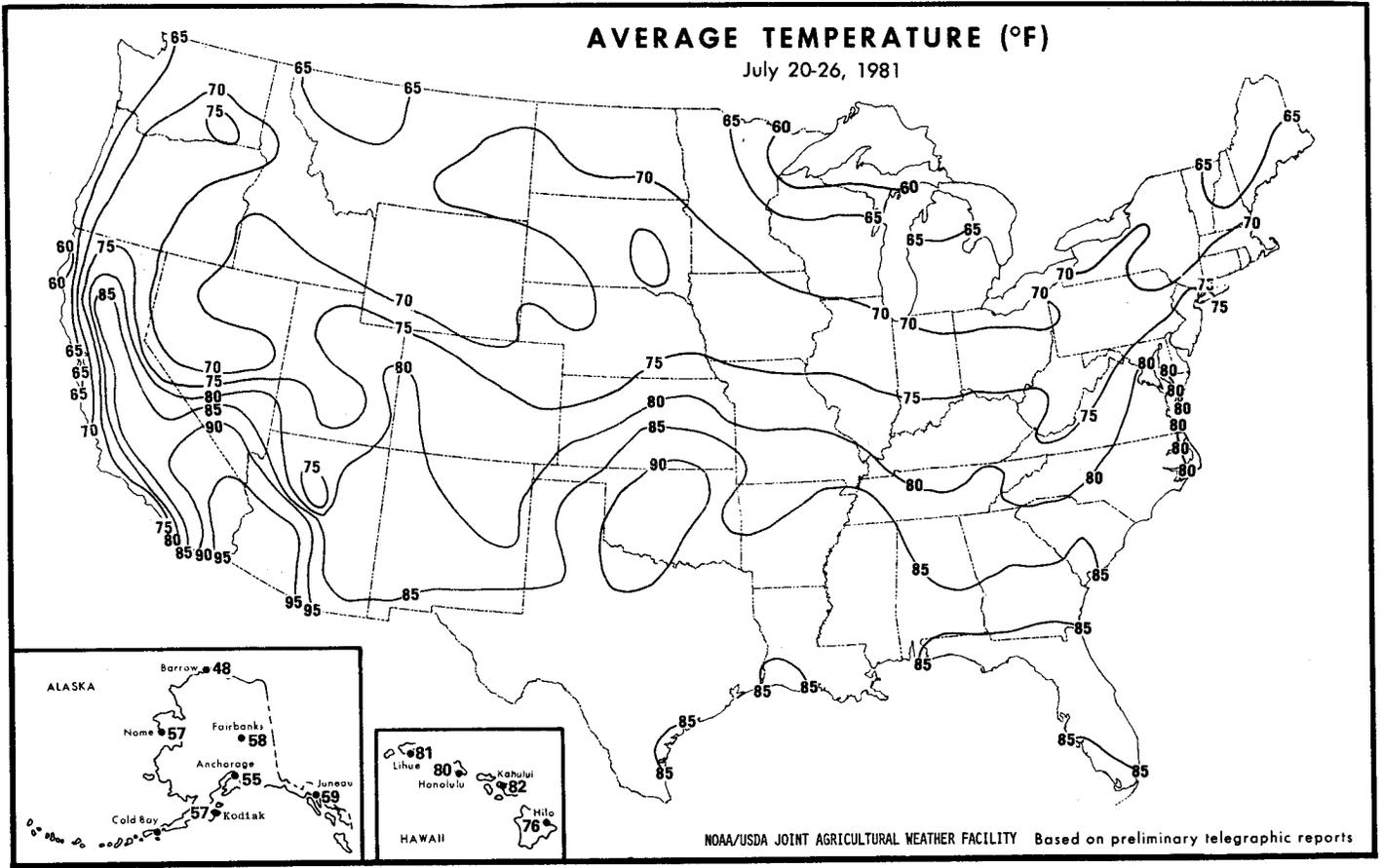
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Irrigation is still on the rise

Despite water shortages in some areas, irrigation is on the increase. In 1958, only 37 million farm acres were irrigated. By 1967, the figure was up to 44 million, and by 1977, according to definitions used in the National Resource In-

ventories, the total was 58 million acres. The rate of change to irrigation accelerated to 1.4 million acres a year during the last decade.

In many parts of the West, crops can't be grown without irrigation. In sections of the Great Plains, irrigated farming replaced dryland farming with

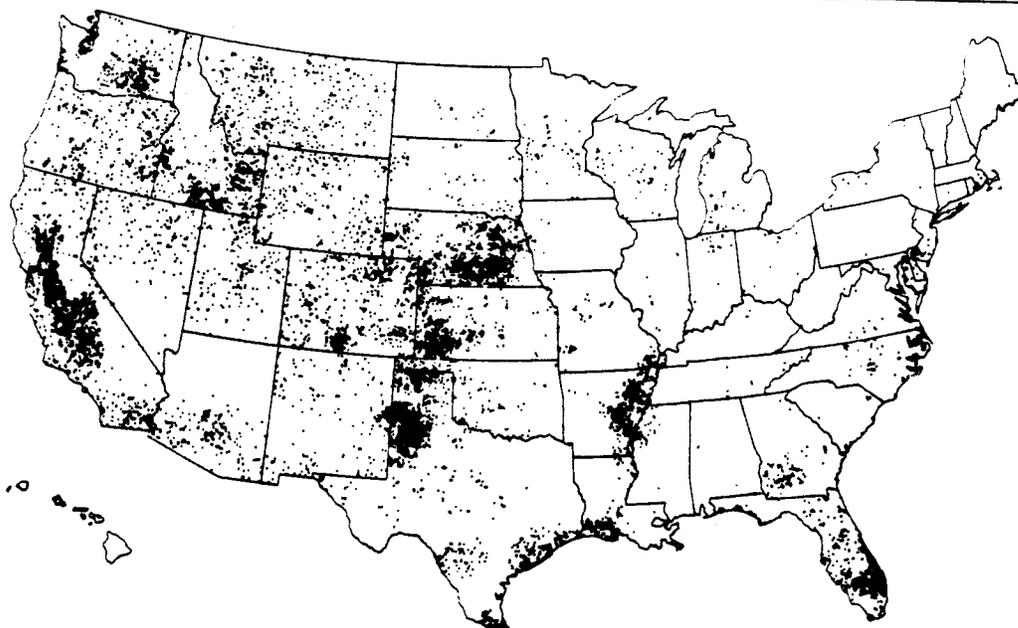
invention of the center-pivot sprinkler, which is responsible for those half-mile circles of green seen from the air. Now the trend toward more irrigation is accelerating in humid areas, like southern Georgia

and the Gulf Coast, where crops may need supplementary water in late summer.

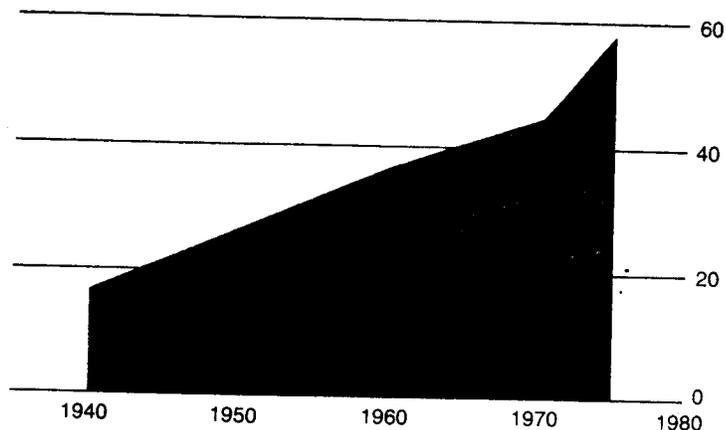
Three-fifths of irrigated acres use gravity systems; another 32 percent are irrigated under pressure, and 5 percent use both.

Irrigated Acreage: 1977

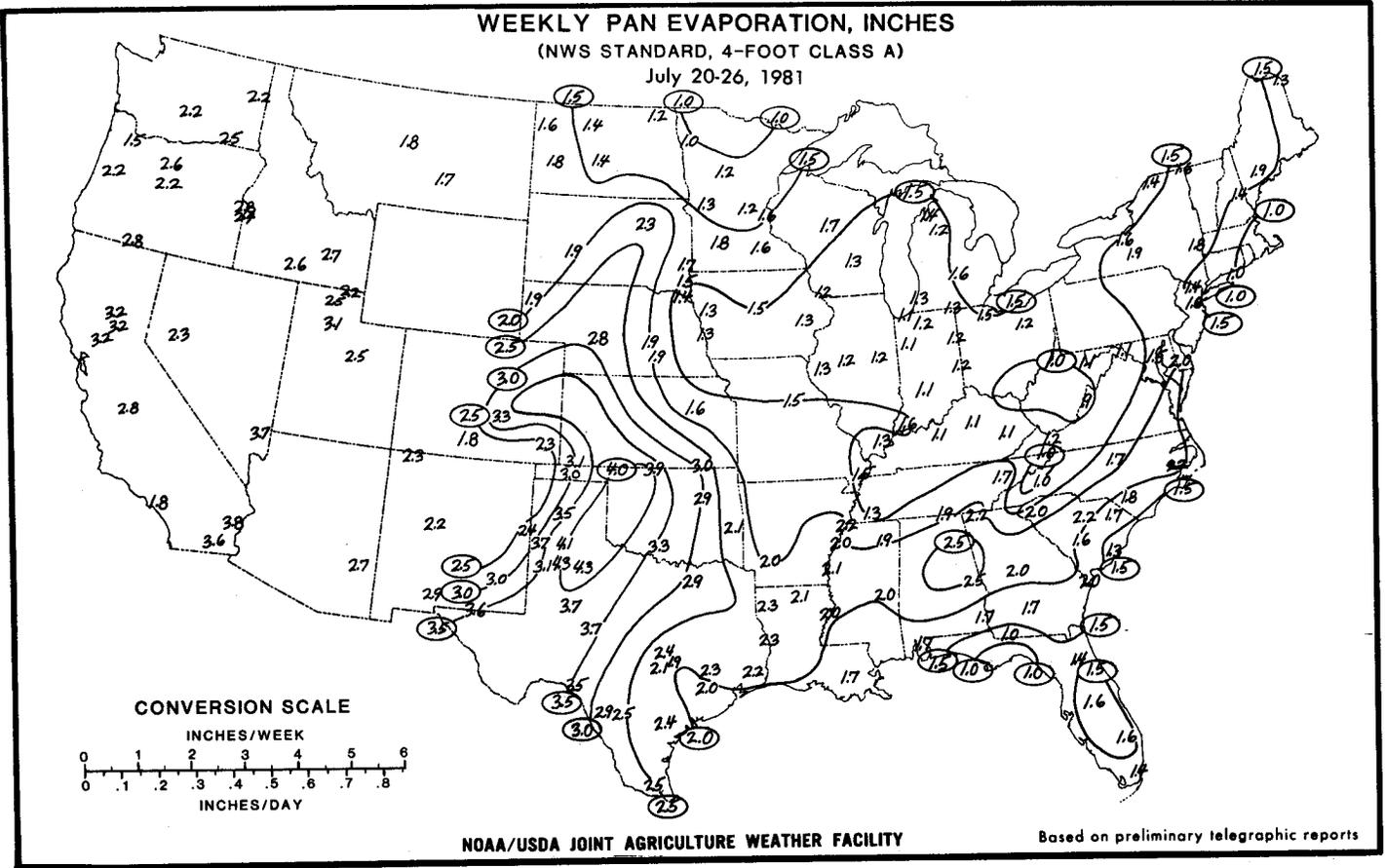
Total for United States is 58 million acres
Data for Alaska not available
1 dot - 8,000 acres



Increase in Irrigated Land
million acres



Reproduced from "America's Soil and Water: Condition and Trends," page 25, December 1980, USDA Soil Conservation Service



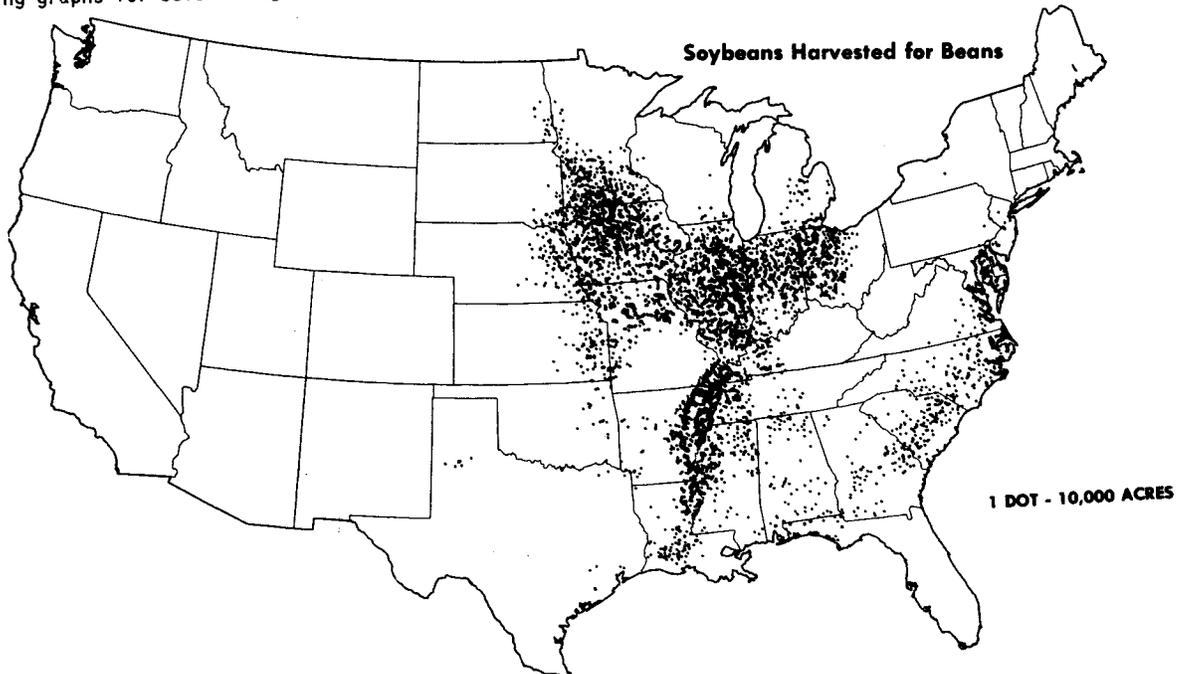
Pan Evaporation: Guide to Estimating Water Requirements of Soybeans and Peanuts

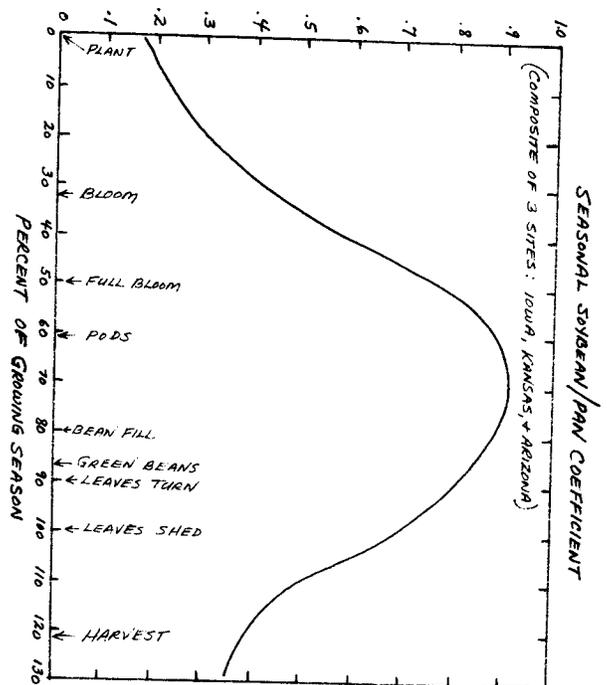
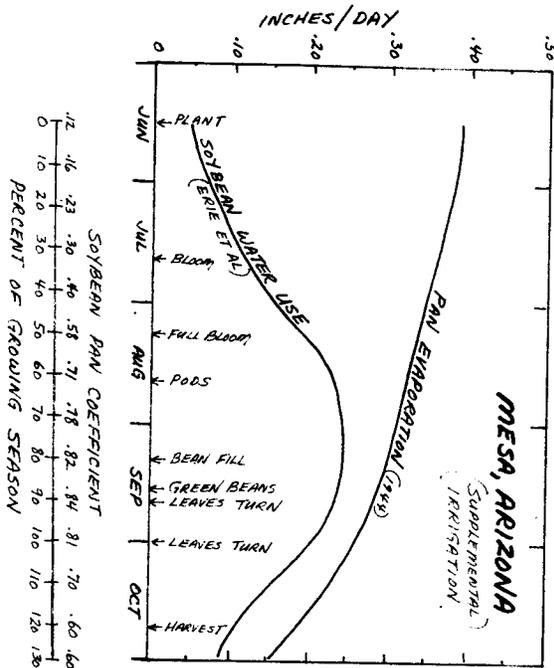
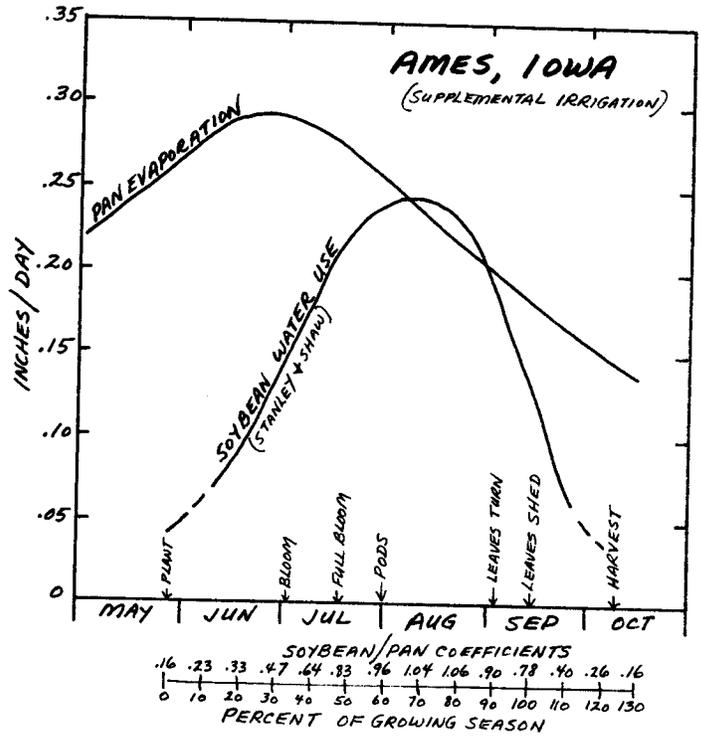
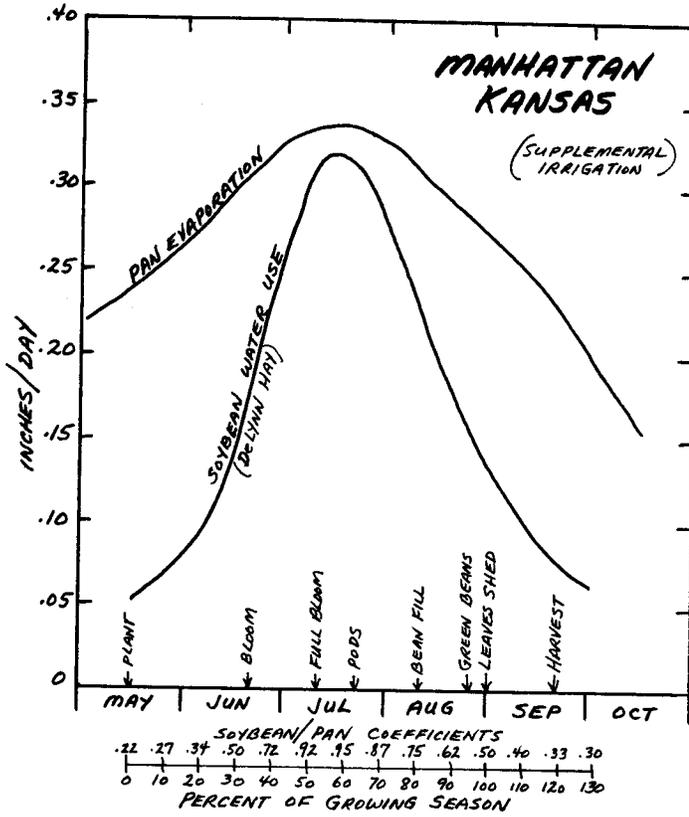
Estimates of water requirements are helpful when assessing the current status of crops and calculating how much irrigation water is needed. Crop water needs can be estimated from pan evaporation by using a crop/pan coefficient. This type of information is presented in accompanying graphs for several soybean and peanut-produc-

Don Haddock, Chief of NOAA Section
NOAA/USDA Agricultural Weather Facility

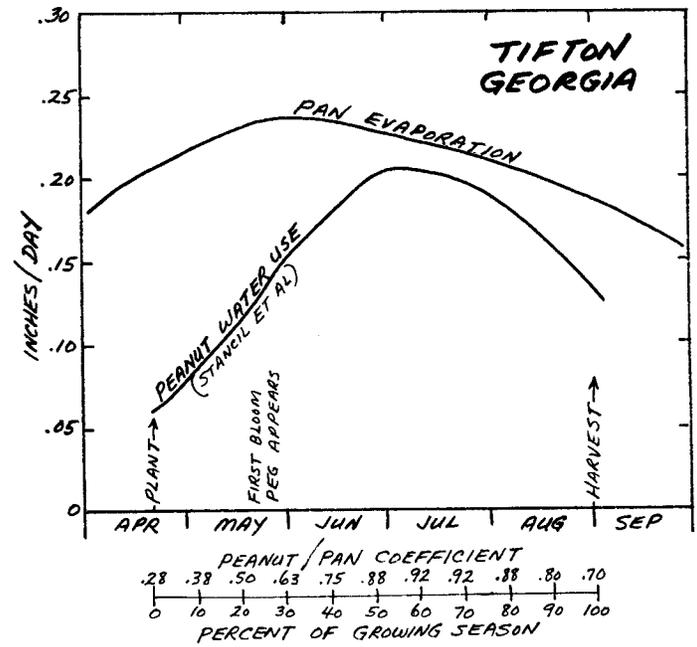
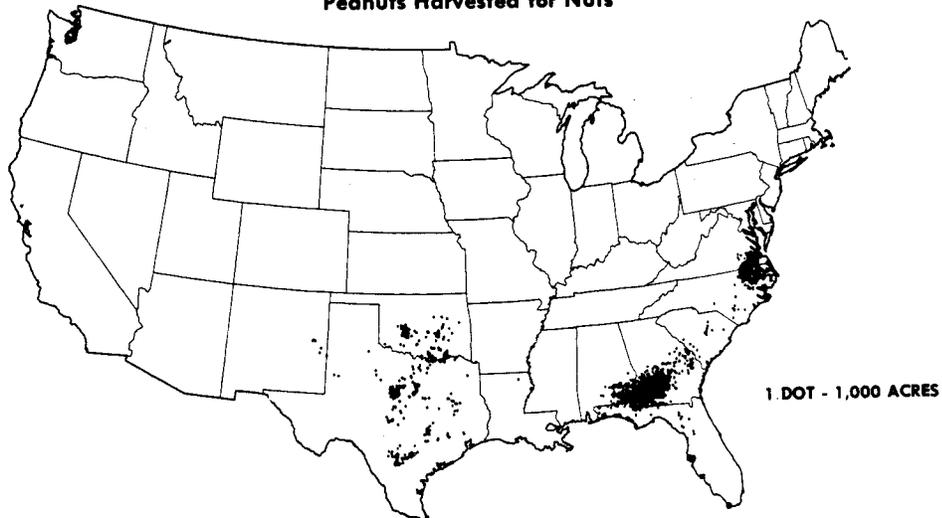
ing sites, ranging from the semi-arid central and southwestern United States to the humid East.

Both soybeans and peanuts use very little moisture during the early stages of growth, then the moisture needs increase rapidly and reach a peak during the reproductive period. As the crop matures, water needs decrease.

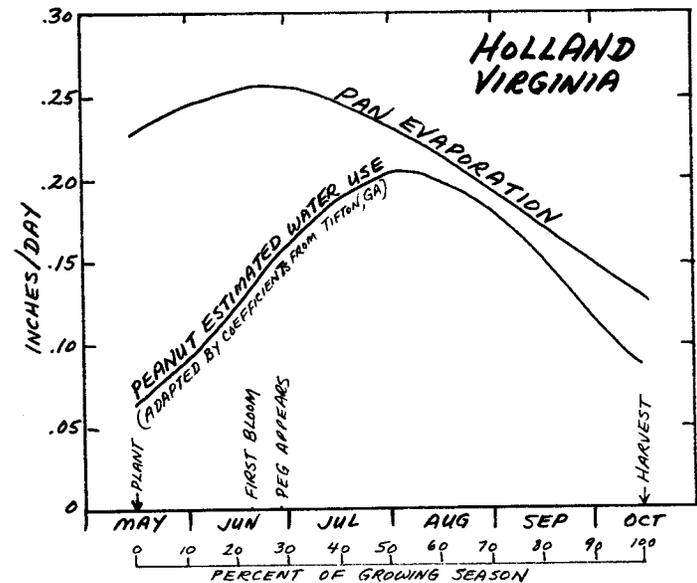
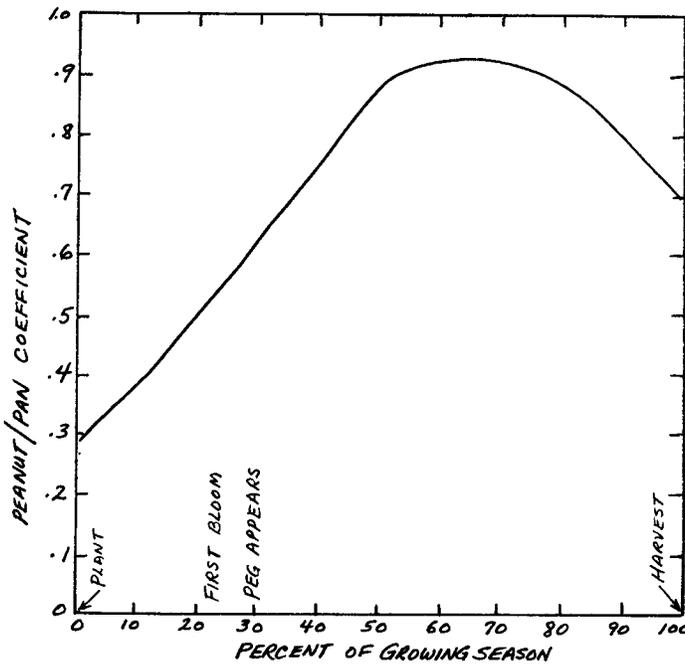




Peanuts Harvested for Nuts



SEASONAL PEANUT/PAN COEFFICIENT - TIFTON, GA



Weather Data for the Week Ending July 26, 1981

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 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	52 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	97	71	102	69	84	4	1.0	-.2	.6	6.1	72	24.5	74	85	38	7	0	2	1
AL MOBILE	96	76	99	73	86	4	T	-.2	.6	11.5	83	38.0	94	84	43	7	0	1	0
AL MONTGOMERY	96	73	98	70	85	4	.7	-.5	.6	6.9	80	29.8	97	90	45	7	0	2	1
AK ANCHORAGE	62	47	65	11	55	-3	1.1	-.6	.5	4.7	168	7.8	132	91	68	0	1	5	1
AK BARROW	58	40	69	28	49	10	0	-.2	0	2.1	191	--	--	97	65	0	1	0	0
AK FAIRBANKS	68	48	77	40	58	-2	.6	.1	.3	3.9	130	5.4	100	99	55	0	1	0	0
AK JUNEAU	66	52	76	48	59	3	1.1	0	.6	5.3	77	21.7	90	89	63	0	0	3	1
AK KODIAK	62	53	65	50	58	3	1.5	.7	1.0	4.2	59	40.8	140	99	82	0	0	0	0
AK NOME	63	51	72	47	57	6	.1	-.6	T	2.6	90	8.0	119	84	67	0	0	5	1
AZ FLAGSTAFF	84	55	89	51	70	3	.7	0	.6	3.8	141	12.6	127	81	29	0	0	3	0
AZ PHOENIX	107	88	111	86	97	5	T	-.2	T	.7	100	3.8	123	44	21	7	0	0	1
AZ TUCSON	98	73	103	68	85	-1	2.2	1.6	1.3	4.4	210	9.4	209	80	26	6	0	6	2
AZ WINSLOW	95	66	98	65	81	2	T	-.3	T	2.5	192	4.6	121	11	--	7	0	6	2
AZ YUMA	110	83	114	81	96	1	0	.1	0	T	0	1.1	69	49	19	7	0	1	0
AR FORT SMITH	95	73	99	71	84	1	1.2	.5	1.2	5.9	88	21.8	83	92	48	7	0	1	1
CA BAKERSFIELD	97	75	100	69	86	4	2.0	1.3	2.0	8.2	137	30.8	102	88	54	7	0	1	1
CA EUREKA	105	72	107	64	89	4	0	0	0	0	0	4.4	110	40	11	7	0	0	0
CA FRESNO	60	51	60	51	56	-1	0	0	0	0	0	0	0	110	40	11	7	0	0
CA LOS ANGELES	106	68	109	67	87	6	0	0	0	6	75	19.0	81	97	81	0	0	0	0
CA LOS ANGELES	77	64	81	64	71	2	0	0	0	0	0	0	0	107	58	12	7	0	0
CA RED BLUFF	107	68	112	66	88	5	0	0	0	T	0	0	0	54	12	7	0	0	0
CA SAN DIEGO	81	71	85	69	76	5	0	0	0	T	0	16.3	119	54	12	7	0	0	0
CA SAN FRANCISCO	72	50	82	49	61	-2	0	0	0	T	0	12.2	99	91	47	0	0	0	0
CA STOCKTON	99	59	103	55	79	2	0	0	0	0	0	9.2	102	73	18	7	0	0	0
CO DENVER	91	60	100	57	76	2	.5	.1	.4	1.7	49	9.5	92	62	20	5	0	2	0
CO GRAND JUNCTION	95	65	102	62	80	1	.3	.1	.2	.6	67	4.5	115	52	19	6	0	3	0
CO PUEBLO	95	62	106	58	78	1	.5	.1	.3	1.5	48	3.8	49	75	24	5	0	4	0
CT BRIDGEPORT	79	65	86	60	72	-3	1.3	.5	.8	6.1	113	17.1	80	86	55	0	0	2	2
CT HARTFORD	81	62	91	54	71	-2	1.1	.3	1.0	5.2	81	18.1	75	88	51	1	0	3	1
DC WASHINGTON	86	75	97	68	81	2	3.1	2.1	1.1	8.6	125	19.2	88	87	57	2	0	5	3
FL APALACHICOLA	91	76	92	74	83	1	5.2	3.4	4.8	12.6	105	21.4	70	97	67	5	0	2	1
FL DAYTONA BEACH	92	74	96	73	83	2	2.6	1.1	1.0	6.1	49	16.9	65	89	55	7	0	3	2
FL FORT MYERS	93	78	96	74	86	3	4.1	2.2	3.9	19.0	116	25.9	89	94	59	6	0	3	1
FL JACKSONVILLE	94	74	95	73	84	3	.4	-.1	.3	4.8	39	17.7	63	98	56	7	0	4	0
FL KEY WEST	91	81	92	78	86	1	.6	-.3	.5	2.0	25	6.4	36	91	69	5	0	3	1
FL MIAMI	92	77	95	74	85	2	.7	-.8	.4	8.1	54	19.8	64	92	58	7	0	5	0
FL ORLANDO	93	74	95	71	84	2	.3	-.5	.2	15.6	109	24.3	85	94	52	7	0	2	0
FL TALLAHASSEE	90	74	93	72	82	1	.9	-.1	.7	11.1	77	32.8	89	99	60	5	0	4	1
FL TAMPA	91	74	94	72	83	0	.7	-.2	.3	10.8	80	20.0	73	99	60	5	0	6	0
FL WEST PALM BEACH	93	74	95	71	83	1	1.8	.5	1.3	7.4	54	20.7	69	93	57	7	0	6	1
GA ATLANTA	96	73	99	70	84	6	.6	-.6	.5	5.1	64	22.5	73	79	38	7	0	2	1
GA AUGUSTA	97	69	101	64	83	2	.4	-.8	.4	8.7	109	24.9	92	96	44	7	0	1	0
GA MACON	98	72	100	67	85	3	2.0	1.0	1.8	10.4	135	28.9	103	89	35	7	0	2	1
GA SAVANNAH	96	76	99	74	86	5	.2	-.1	.1	4.4	35	16.2	55	97	51	7	0	3	1
HI HILO	83	70	85	66	76	1	1.7	-.7	1.1	5.4	40	--	--	87	59	0	0	4	1
HI HONOLULU	86	73	88	72	80	1	.1	-.1	.1	.4	50	4.8	36	84	54	0	0	1	0
HI KAHULUI	89	75	93	73	82	4	T	-.1	T	T	0	--	--	72	48	2	0	0	0
HI LIHUE	87	75	88	73	81	2	.6	-.1	.2	4.2	127	--	--	85	61	0	0	4	0
ID BOISE	89	52	91	50	71	-5	0	0	0	.9	75	8.9	116	56	15	5	0	0	0
ID LEWISTON	90	58	91	55	74	-1	T	-.1	T	2.8	108	8.9	106	67	22	4	0	1	0
ID POCATELLO	88	49	92	45	69	-4	T	-.1	T	1.0	59	8.6	128	59	17	3	0	0	0
IL CAIRO	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IL CHICAGO	79	62	88	55	70	-2	.5	-.2	.4	7.7	108	22.7	116	90	58	0	0	3	0
IL MOLINE	81	63	88	56	72	-3	1.3	.3	.9	8.0	95	17.3	79	91	59	0	0	5	1
IL PEORIA	81	66	87	64	74	-2	.7	-.1	.4	11.3	161	26.4	123	97	67	0	0	2	0
IL ROCKFORD	79	61	86	56	70	-3	.4	-.5	.4	6.7	83	17.1	80	91	60	0	0	1	0
IL SPRINGFIELD	83	67	90	63	75	-1	.5	-.3	.3	12.3	162	27.8	130	94	65	1	0	3	0
IN EVANSVILLE	86	67	93	61	77	-2	.2	.7	.1	6.2	91	26.7	100	89	59	2	0	2	0
IN FORT WAYNE	79	62	84	56	70	-3	1.3	.4	.9	10.3	141	24.5	110	83	51	0	0	2	0
IN INDIANAPOLIS	82	65	87	56	73	-2	.6	-.2	.3	5.5	74	25.2	104	87	59	0	0	3	0
IN SOUTH BEND	77	60	82	55	68	-4	3.0	2.2	1.5	10.3	151	26.0	123	97	62	0	0	3	0
IA BURLINGTON	80	67	86	63	74	-2	1.6	.8	.9	15.6	202	28.0	136	94	71	0	0	3	3
IA DES MOINES	80	67	86	63	74	-2	1.2	.5	.9	10.1	129	16.5	85	91	64	0	0	3	1
IA DUBUQUE	77	63	83	60	70	-2	.2	-.7	.2	7.8	87	17.7	75	96	62	0	0	2	0
IA SIOUX CITY	80	64	87	57	72	-4	.2	.5	.1	7.0	95	12.0	74	86	58	0	0	2	0
KS CONCORDIA	86	67	95	62	76	-3	3.7	3.0	2.2	12.1	155	22.5	130	97	56	2	0	4	2
KS DODGE CITY	97	71	105	66	84	4	.9	.2	.9	5.7	95	14.4	110	85	36	7	0	2	1
KS GOODLAND	84	62	94	59	73	-4	.8	.2	.5	2.2	42	18.9	172	91	46	3	0	3	1
KS TOPEKA	89	71	94	67	80	1	3.4	2.6	1.7	14.7	156	24.8	118	92	57	4	0	4	2
KS WICHITA	102	76	109	72	89	8	.5	.4	.5	5.4	65	14.9	80	76	27	7	0	1	1
KY LEXINGTON	84	66	90	58	75	-1	.1	-.9	.1	6.6	79	23.3	82	96	63	1	0	2	0
KY LOUISVILLE	87	69	92	64	78	1	T	-.8	T	6.7	92	20.8	75	89	57	3	0	2	0
LA BATON ROUGE	96	77	98	74	86	4	0	-.1	T	8.8	95	26.7	80	94	50	7	0	0	0

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

+100 = NORMAL & ACTUAL NEAR THE SAME

Weather Data for the Week Ending July 26, 1981

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 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERA- TURE °F		PRECIPI- TATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
LAKE CHARLES	93	76	95	73	84	1	2.5	1.0	2.3	20.6	194	34.8	107	97	58	6	0	2	1
NEW ORLEANS	97	78	101	77	88	6	T	1.5	T	9.5	91	29.2	86	94	50	7	0	1	0
SHREVEPORT	98	74	99	72	85	2	0	.6	0	8.3	143	28.7	103	94	49	7	0	0	0
ME CARIBOU	75	53	81	46	64	-2	.1	.8	.1	6.1	91	19.2	103	91	49	0	0	1	0
PORTLAND	76	57	85	51	67	-2	1.3	.8	1.0	8.3	157	23.5	78	94	59	0	0	4	1
MD BALTIMORE	85	69	96	62	77	0	.8	.1	.5	8.8	126	19.1	83	86	50	2	0	3	0
MA BOSTON	80	66	91	62	73	-1	1.0	.4	.7	4.6	85	17.0	72	87	50	1	0	3	2
CHATHAM	74	62	77	59	68	--	1.4	--	1.1	7.7	--	23.7	--	96	74	0	0	3	1
MI ALPENA	76	50	83	42	63	-3	.4	.2	T	3.3	65	11.3	74	98	47	0	0	1	0
DETROIT	79	59	84	50	69	-4	1.6	.9	.7	6.5	108	17.0	91	89	50	0	0	3	1
FLINT	78	57	86	48	68	-2	.7	0	.5	5.9	100	16.7	97	90	49	0	0	2	0
GRAND RAPIDS	80	59	88	50	70	-2	1.3	.6	1.2	7.1	113	25.2	134	93	51	0	0	3	1
HOUGHTON LAKE	75	55	83	44	65	-2	.3	.4	.1	5.7	93	15.4	96	92	47	0	0	3	0
LANSING	80	57	87	49	68	-3	.6	0	.4	4.4	76	17.3	96	98	51	0	0	4	0
MARQUETTE	71	47	76	40	59	-8	.4	.2	.3	7.1	97	19.2	99	95	53	0	0	3	0
MUSKEGON	78	58	83	49	68	-2	.1	.5	.1	5.1	119	16.2	94	93	52	0	0	2	0
SAULT STE. MARIE	72	48	76	39	60	-5	.2	.3	.2	6.3	113	15.1	95	94	51	0	0	1	0
MN DULUTH	68	49	77	42	59	-7	1.8	1.0	1.1	9.0	117	17.4	100	95	59	0	0	3	1
INT'L FALLS	75	51	83	43	63	-4	.5	.4	.5	5.6	78	11.3	82	94	52	0	0	2	0
MINNEAPOLIS	75	61	83	57	68	-4	.8	0	.5	8.4	118	15.8	100	90	59	0	0	4	0
ROCHESTER	74	59	80	53	67	-4	.1	.7	.1	13.7	173	21.7	131	95	67	0	0	2	0
SAINT CLOUD	76	58	83	48	67	-4	T	.7	T	8.6	118	16.1	99	87	56	0	0	1	0
MS JACKSON	98	75	100	71	86	4	T	1.0	T	10.2	142	28.6	92	91	43	7	0	0	0
MERIDIAN	102	73	104	70	88	7	1.0	.2	1.0	5.2	63	28.0	87	90	33	7	0	1	1
MO COLUMBIA	86	70	91	66	78	0	6.3	5.5	3.4	19.4	246	35.9	157	94	64	2	0	4	2
KANSAS CITY	86	69	90	66	78	-1	3.4	2.5	1.8	12.3	134	25.9	117	100	61	1	0	5	2
SAINT LOUIS	85	70	92	67	78	-1	3.5	2.7	1.7	13.9	178	29.9	133	99	61	2	0	5	2
SPRINGFIELD	92	73	95	67	83	4	.1	.7	.1	10.7	135	24.9	103	94	56	7	0	1	0
MT BILLINGS	82	57	96	52	70	-4	.4	.3	.4	3.2	97	13.1	141	69	36	3	0	4	0
GLASGOW	81	55	90	46	68	-4	.1	.2	.1	3.6	90	6.4	89	77	28	1	0	2	0
GREAT FALLS	78	51	84	48	64	-6	T	.2	T	2.3	52	10.8	103	77	31	0	0	0	0
HAVRE	77	52	87	49	65	-6	1.1	.8	.7	2.9	74	6.4	82	84	36	0	0	2	1
HELENA	78	54	87	52	66	-3	.7	.6	.7	2.6	79	10.9	149	72	31	0	0	2	1
KALISPELL	78	51	82	46	64	-1	.1	.1	.1	4.2	124	13.5	133	83	36	0	0	2	0
MILES CITY	84	59	94	55	71	-5	T	.2	T	2.9	62	6.4	67	74	31	2	0	1	0
MISSOULA	82	48	86	45	65	-3	.3	.3	.3	3.8	127	10.9	130	81	25	0	0	2	0
NE GRAND ISLAND	83	65	95	60	74	-3	1.8	1.3	.9	3.8	54	12.9	82	98	60	1	0	5	1
LINCOLN	83	68	94	63	75	-3	.9	.2	.4	4.0	51	11.1	66	95	64	1	0	4	0
NORFOLK	82	65	91	59	73	-3	3.3	2.7	2.6	7.2	94	12.7	79	95	51	2	0	5	1
NORTH PLATTE	80	60	90	57	70	-5	2.8	2.2	1.3	7.1	111	18.0	134	96	59	1	0	3	2
OMAHA	84	63	100	46	73	-2	1.7	.9	1.5	5.7	70	12.7	70	92	60	1	0	4	1
VALENTINE	82	58	95	52	70	-5	1.3	.8	.4	6.0	103	10.1	83	89	44	1	0	6	0
NV ELY	92	46	95	43	69	0	T	.1	T	.4	29	5.9	118	41	9	6	0	1	0
LAS VEGAS	108	79	110	77	94	3	0	0	0	T	0	2.2	96	16	5	7	0	0	0
RENO	92	44	96	42	68	-2	0	0	0	T	0	2.5	53	58	9	5	0	0	0
WINNEMUCCA	94	48	96	43	71	-1	0	0	0	T	0	4.1	77	35	8	6	0	0	0
NH CONCORD	81	58	87	46	69	-1	1.1	.4	.7	7.0	115	22.4	113	97	51	0	0	3	1
NJ ATLANTIC CITY	89	66	99	59	78	2	.3	.7	.2	6.0	86	21.1	83	89	44	3	0	2	0
TRENTON	83	68	89	60	75	0	1.6	.5	1.6	7.9	111	20.9	91	97	58	0	0	1	1
NM ALBUQUERQUE	99	67	102	65	83	4	.1	.2	.1	1.3	81	3.7	95	53	15	7	0	1	0
ROSWELL	98	69	101	66	83	4	0	.5	0	9.9	354	14.8	260	61	20	7	0	0	0
NY ALBANY	76	57	81	45	67	-6	2.1	1.4	1.1	6.1	109	16.4	89	95	57	0	0	3	2
BINGHAMTON	74	58	78	48	66	-4	1.5	.6	.7	5.1	77	15.8	75	89	58	0	0	3	2
BUFFALO	77	61	83	48	69	-2	2.0	1.3	1.9	7.4	161	19.3	102	85	52	0	0	2	1
NEW YORK	82	69	92	65	76	-2	1.1	.2	.9	6.7	108	20.0	87	86	51	1	0	3	1
ROCHESTER	77	59	82	50	68	-4	2.3	1.6	2.2	6.3	129	16.1	91	93	58	0	0	3	1
SYRACUSE	80	60	83	51	70	-2	1.9	1.2	1.1	4.0	71	13.7	68	88	51	0	0	3	1
NC ASHEVILLE	86	65	93	62	76	2	.2	.9	.1	6.0	76	24.1	91	99	54	2	0	3	0
CHARLOTTE	89	71	92	69	80	1	1.6	.5	1.0	6.7	86	18.7	72	90	49	3	0	3	2
GREENSBORO	89	69	93	66	79	1	3.6	2.7	3.1	9.6	128	20.3	85	92	56	3	0	3	2
HATTERAS	87	71	88	67	79	0	1.9	.5	1.0	11.2	114	24.3	84	94	63	0	0	2	2
RALEIGH	92	72	95	70	82	4	.2	1.0	.1	5.8	73	17.5	72	95	51	6	0	2	0
WILMINGTON	90	73	93	70	81	0	.4	1.6	.1	4.7	37	18.3	60	92	60	3	0	4	0
ND BISMARCK	81	58	88	51	69	-3	.2	.2	.1	5.2	95	7.4	68	92	44	0	0	4	0
FARGO	78	56	83	49	67	-4	.3	.5	.1	5.1	84	10.4	85	92	50	0	0	4	0
WILLISTON	84	57	93	47	70	-1	1.3	.9	.5	5.9	116	8.2	86	84	37	2	0	4	1
OH AKRON-CANTON	79	61	83	51	70	-2	1.0	.1	.6	9.1	136	28.8	130	89	53	0	0	3	1
CINCINNATI	84	66	89	59	75	-1	.5	.4	.5	6.6	89	23.2	93	94	60	0	0	2	0
CLEVELAND	77	59	85	49	68	-4	1.7	.9	.9	8.7	138	20.7	96	88	52	0	0	3	1
COLUMBUS	79	60	84	51	70	-4	2.2	1.3	1.2	9.3	119	27.8	116	90	63	0	0	3	2
DAYTON	82	64	87	56	73	-2	.7	.1	.5	10.8	157	25.6	115	90	59	0	0	3	1
TOLEDO	79	58	85	47	69	-4	2.2	1.5	1.8	11.4	181	21.4	113	88	51	0	0	2	1
YOUNGSTOWN	78	61	83	47	69	-2	1.2	.3	.8	5.8	84	21.5	94	83	52	0	0	3	1
OK OKLAHOMA CITY	103	78	106	73	91	9	0	.5	0	8.0	123	17.8	89	66	26	7	0	0	0

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

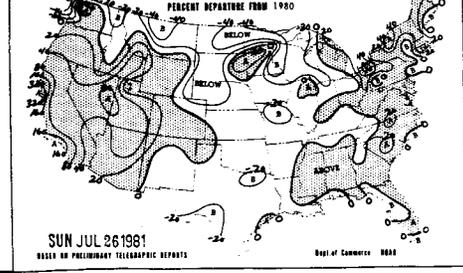
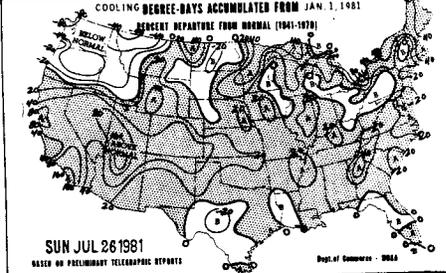
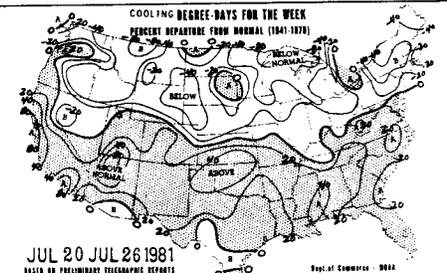
Weather Data for the Week Ending July 26, 1981

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 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
OR TULSA	102	79	107	74	90														
OR ASTORIA	67	57	81	56	62	2	.3	.5	.3	4.3	56	17.0	74	77	38	7	0	1	0
OR BURNS	84	47	93	39	65	-5	.1	.1	T	6.8	206	34.1	97	86	66	0	0	3	0
OR MEDFORD	95	52	100	49	73	0	0	0	0	.7	54	7.1	106	77	18	7	0	0	0
OR PENDLETON	85	56	88	53	71	-4	0	0	0	.9	75	6.3	57	77	18	7	0	0	0
OR PORTLAND	79	60	95	58	70	2	0	0	0	2.4	200	9.0	120	67	23	0	0	0	0
OR SALEM	82	55	96	52	68	2	0	0	0	3.5	175	15.4	78	86	48	1	0	0	0
PA ALLENTOWN	80	62	85	53	71	-3	0	0	0	1.1	189	16.7	75	92	41	1	0	0	0
PA ERIE	78	63	83	53	71	1	1.7	.6	.8	8.4	117	22.7	94	94	55	0	0	0	0
PA HARRISBURG	83	65	93	55	74	-2	3.2	2.4	1.9	9.2	151	21.2	100	91	55	1	0	4	2
PA PHILADELPHIA	84	67	91	59	76	-1	1.7	.8	1.7	8.8	124	22.1	97	92	53	1	0	4	2
PA PITTSBURGH	81	62	87	53	72	0	1.9	1.0	1.5	11.0	167	24.6	110	96	58	0	0	1	1
PA SCRANTON	78	62	81	50	70	-3	1.7	.8	.9	7.6	109	23.5	116	86	57	0	0	3	1
RI PROVIDENCE	84	63	95	58	73	0	1.3	.6	.8	5.5	110	17.7	77	95	49	1	0	5	2
SC CHARLESTON	94	76	97	71	85	5	3.8	2.0	2.4	17.8	135	29.4	95	95	61	7	0	4	2
SC COLUMBIA	95	73	100	70	84	2	.2	-1.1	.1	8.6	101	21.0	78	90	43	6	0	2	0
SC GREENVILLE	92	70	96	66	81	3	1.2	.3	1.1	5.5	73	18.0	63	94	49	6	0	3	1
SD ABERDEEN	84	61	89	56	73	0	.4	-.1	.4	6.1	100	10.3	82	91	41	0	0	3	0
SD HURON	87	62	95	57	75	0	1.4	1.0	.7	3.6	63	6.5	51	96	38	5	0	6	1
SD RAPID CITY	79	56	89	52	67	-7	2.3	1.9	1.3	6.3	111	9.8	77	92	50	0	0	7	2
SD SIOUX FALLS	84	64	92	57	74	0	1.2	.6	.9	7.8	110	11.2	70	81	43	2	0	5	1
TN CHATTANOOGA	94	71	97	67	83	4	.2	-.9	.2	7.8	86	26.3	85	88	40	7	0	1	0
TN KNOXVILLE	93	72	98	68	83	5	.7	-.3	.7	7.5	97	22.9	79	89	44	7	0	1	0
TN MEMPHIS	95	76	99	73	86	4	.9	-.1	.4	4.5	70	25.2	81	84	50	7	0	2	1
TN NASHVILLE	90	68	95	66	79	-1	.7	0	.5	11.2	167	27.9	96	96	52	3	0	4	0
TX ABILENE	101	76	104	75	89	5	0	-.5	0	4.4	90	13.9	97	70	24	7	0	0	0
TX AMARILLO	101	71	105	69	86	7	T	.6	T	1.9	32	7.2	64	54	18	7	0	1	0
TX AUSTIN	97	78	99	77	87	3	.4	0	.4	18.3	381	34.2	176	85	40	7	0	1	0
TX BEAUMONT	94	77	97	75	85	2	1.4	0	1.4	17.8	182	32.5	107	97	58	6	0	2	1
TX BROWNSVILLE	95	76	97	75	86	1	.2	0	.2	4.8	130	17.2	155	91	47	7	0	1	0
TX CORPUS CHRISTI	93	75	95	73	84	-1	-.9	.4	.9	9.1	212	25.5	177	95	53	6	0	1	0
TX DEL RIO	100	74	102	72	87	0	-.1	-.1	T	5.8	200	17.7	189	83	38	6	0	1	0
TX EL PASO	103	71	105	68	87	5	0	.4	0	1.4	70	4.7	124	61	15	7	0	0	0
TX FORT WORTH	100	75	103	73	88	3	0	-.4	0	9.7	206	24.1	119	84	33	7	0	0	0
TX GALVESTON	91	80	94	78	86	2	.2	-.8	.2	15.1	189	23.5	108	90	65	5	0	0	0
TX HOUSTON	96	77	99	75	86	2	.4	.5	.3	14.1	174	32.0	121	92	48	7	0	1	0
TX LUBBOCK	97	71	101	68	84	4	0	-.5	0	1.9	40	7.3	67	64	25	7	0	0	0
TX MIDLAND	102	70	103	68	86	3	0	-.4	0	.7	23	6.8	93	70	20	7	0	0	0
TX SAN ANGELO	98	72	100	68	85	0	0	-.3	0	4.7	157	17.4	178	83	28	7	0	0	0
TX SAN ANTONIO	96	77	98	74	86	1	T	-.3	T	8.9	207	23.5	151	92	43	7	0	0	0
TX VICTORIA	95	75	97	73	85	0	1.1	-.5	1.1	13.4	235	27.8	152	97	51	7	0	2	1
TX WACO	100	76	101	73	88	2	.1	-.2	-.1	7.4	180	18.1	94	88	36	7	0	1	0
TX WICHITA FALLS	106	78	109	76	92	5	0	.4	0	5.7	110	18.6	108	63	23	7	0	0	0
UT BLANDING	90	62	98	59	76	2	T	-.2	T	3.1	258	7.7	143	51	20	3	0	1	0
UT SALT LAKE CITY	94	64	98	61	79	1	T	-.1	T	1.3	68	9.1	94	46	13	6	0	1	0
VT BURLINGTON	79	59	82	49	69	-1	.3	-.5	.1	5.5	86	19.7	116	84	44	0	0	4	0
VA LYNCHBURG	85	68	92	64	77	1	1.5	.5	1.4	10.3	149	20.5	94	92	55	3	0	2	1
VA NORFOLK	88	72	97	68	80	1	.6	-.8	.5	10.1	122	20.2	83	91	52	3	0	2	0
VA RICHMOND	89	71	97	66	80	2	.6	-.8	.5	7.5	91	22.3	94	91	56	3	0	3	1
VA ROANOKE	85	67	92	61	76	0	.3	-.6	.1	4.8	74	16.6	76	91	53	2	0	4	0
WA COLVILLE	80	56	85	52	68	-1	1.6	1.4	1.3	6.5	295	15.5	165	88	57	0	0	3	1
WA OMAK	90	62	91	57	76	--	T	--	T	1.3	--	6.4	--	57	27	1	0	0	0
WA QUILLAYUTE	68	52	82	49	60	0	T	-.5	T	9.8	178	54.6	98	99	70	0	0	3	0
WA SEATTLE-TACOMA	74	57	86	55	65	0	.1	0	.1	3.8	181	16.0	82	88	53	0	0	1	0
WA SPOKANE	83	53	84	52	68	-3	0	-.1	0	2.5	139	9.5	89	84	29	0	0	0	0
WA WALLA-WALLA	88	62	91	60	75	-1	T	-.1	T	3.4	200	14.0	139	61	22	2	0	0	0
WA YAKIMA	89	57	93	52	73	1	T	0	T	.7	70	3.2	74	73	28	4	0	0	0
WV BECKLEY	80	63	83	54	71	1	-.1	-.9	T	8.0	98	21.1	80	87	52	0	0	4	0
WV CHARLESTON	88	67	93	60	77	2	-.6	-.6	.6	8.4	109	23.8	94	88	47	3	0	2	1
WV HUNTINGTON	86	67	92	61	76	0	-.2	-.7	.2	9.0	127	28.1	116	97	55	1	0	2	0
WV PARKERSBURG	82	65	86	56	74	-2	1.0	-.1	.6	8.3	106	21.0	86	91	53	0	0	4	1
WI GREEN BAY	77	55	87	46	66	-4	.3	.4	.3	3.1	50	11.1	70	92	50	0	0	2	0
WI LA CROSSE	77	62	83	56	69	-4	.7	-.1	.4	10.2	136	19.3	109	100	66	0	0	2	0
WI MADISON	78	58	85	51	68	-3	1.0	.2	.6	9.2	119	16.1	89	91	52	0	0	2	0
WI MILWAUKEE	71	57	80	51	64	-6	1.2	.4	1.1	5.9	91	17.4	102	97	64	0	0	3	1
WY CASPER	84	50	95	49	67	-5	.4	-.2	.3	1.7	77	8.4	112	75	26	4	0	3	0
WY CHEYENNE	79	53	91	51	66	-4	.7	.3	.4	4.4	107	11.8	116	88	36	1	0	4	0
WY LANDER	83	53	93	49	68	-4	.8	.7	.4	.9	38	8.1	85	63	26	2	0	3	0
WY SHERIDAN	83	53	94	50	68	-4	2.7	2.5	1.5	5.0	128	11.0	98	76	33	3	0	2	2
PR SAN JUAN	89	78	93	76	84	3	3.0	1.5	1.7	12.1	110	35.8	123	91	68	3	0	4	2

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING JUL. 26, 1981.
BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JAN 1, 1981.

Table with 12 columns: STATES AND STATIONS, WEEKLY TOTAL, WEEKLY DEPARTURE*, SEASONAL ACCUMULATION TOTAL, SEASONAL DEPARTURE* FROM 1980, STATES AND STATIONS, WEEKLY TOTAL, WEEKLY DEPARTURE*, SEASONAL ACCUMULATION TOTAL, SEASONAL DEPARTURE* FROM 1980, STATES AND STATIONS, WEEKLY TOTAL, WEEKLY DEPARTURE*, SEASONAL ACCUMULATION TOTAL, SEASONAL DEPARTURE* FROM 1980.



National Agricultural Summary

July 20-26, 1981

HIGHLIGHTS: Heavy rainfall in Iowa, Missouri, Illinois, and Kansas delayed harvesting operations and caused localized flooding in some areas. Timely rains fell in the Southeast and helped relieve dry conditions although more moisture is needed for good crop development. Only farmers in Illinois and Missouri had less than 4 days suitable for fieldwork. In the West, up to 6 days were available. Soil moisture supplies were short to adequate in all areas of the Nation except in parts of the northern Plains, the Southeast, and the Delta where dry weather caused short supplies. Rain in some of these areas helped relieve the dryness, but more is needed to replenish soil moisture. Corn was in fair to mostly good condition; 65% of the crop had silked and 10% was in or past the dough stage. Harvesting became more active in southern areas. Soybeans were fair to mostly good. Blooming reached 50% complete and 17% of the crop was setting pods. Cotton condition continued fair to good. Squaring neared completion and 55% of the acreage had set bolls. Winter wheat combining was 83% finished. Harvesting was completed in Indiana, Oklahoma, and Texas. Oats harvest generally progressed ahead of schedule. Grain sorghum was heading as far north as South Dakota. Rice heading reached 42% complete; harvesting became more active in Louisiana and Texas. Peanuts were in good to excellent condition. Pastures and ranges continued in fair to good condition except in the Southwest and parts of the Southeast where dry weather caused poor to fair conditions. Dry weather in most of the West increased fire risk.

CORN: Corn was in fair to mostly good condition, although some poor stands were reported in Georgia due to the extremely dry weather. In the 17 major producing States, 65% of the crop was in or past the silking stage and 10% was in or past the dough stage. Silking was 30 percentage points behind average in Indiana and Ohio. In the South, most of the acreage had reached the dent stage. Harvesting extended from Texas to Florida and as far north as South Carolina.

SOYBEANS: Soybeans were in fair to mostly good condition. Blooming was widespread and reached the 50% mark in the 18 major producing States, 9 points behind a year earlier. Fields in nearly all areas were setting pods. In the major States, 17% of the acreage was podding, compared to 21% last year. Due to late plantings, crop progress in Indiana and Ohio was far behind normal. Timely rains fell in the Southeast to help maintain crop conditions.

COTTON: Cotton was in fair to good condition. Squaring neared completion and 59% of the acreage had set bolls, slightly ahead of last year's progress of 55%. Boll set ranged from 15% complete in Oklahoma to 98% in South Carolina. In Texas, 7% of the bolls had opened. Some fields in Texas were defoliated and harvest will begin soon. Arizona cotton continued to develop ahead of normal.

SMALL GRAINS: Winter wheat combining in the 15 major producing States reached 83% complete, compared with 85% a year earlier. Harvesting was finished in Indiana, Oklahoma, and Texas and nearly complete in California, Illinois, Kansas,

Nebraska, and Ohio. Combining picked up momentum in the Northwest.

Oats harvest started in Wisconsin, Minnesota, and New York. In other producing areas, combining generally progressed ahead of average.

OTHER CROPS: Grain sorghum was heading as far north as South Dakota. In the seven major producing States, 38% of the acreage was headed, equal to a year ago. Harvesting in Texas progressed northward in the Blacklands and was nearing completion in southern areas.

In the five major States, 42% of the rice acreage had headed, 4 points ahead of last year. Heading was most advanced in Louisiana (74% headed) and Texas (95% headed). Harvest was active in Louisiana and Texas where 12% and 24% of the crop, has been harvested.

Tobacco harvesting reached 42% in Georgia, 35% in South Carolina, and 24% in North Carolina. Topping was active in other growing areas. Blue mold presented problems in parts of Tennessee.

Peanuts were in good to excellent condition. Pegging ranged up to 98% complete in Alabama and 93% in Georgia. Growth was good in Texas, with irrigation active in some areas.

Idaho potatoes began to turn color and over half the crop was closing the middles. In New England, growers were hilling, cultivating the crop, and applying insecticides. Early potatoes were harvested on Long Island and in Washington and Michigan.

FRUITS AND NUTS: Deciduous fruit harvests became more active in northern production areas. Peach harvest in the Southeast was about 75% finished.

The Michigan tart cherry harvest was 70% complete.

Florida citrus growers continued pruning deadwood from freeze-damaged trees. Scattered showers brought relief to most orchards in the citrus belt. California growers harvested nectarines, peaches, pears, plums, and early apples. The almond hull split continued. Arizona citrus groves were in good condition with new crop prospects encouraging.

VEGETABLES: Increasing supplies of summer crops were harvested by northern growers. In southern areas, growers prepared land for planting as harvests declined seasonally.

In Florida, a limited supply of summer vegetables and watermelons continued to move through local markets.

California growers harvested a wide variety of vegetables including broccoli, cauliflower, carrots, celery, lettuce, green peppers, and tomatoes.

PASTURES AND LIVESTOCK: Pastures and ranges continued in fair to good condition except in the Southwest and parts of the Southeast where dry weather caused poor to fair conditions. However, recent rainfall in the Southeast should encourage grass growth. The threat of fire continues in many western areas because of extremely dry range conditions. In Idaho, over 200,000 acres of rangeland has already burned. Livestock were showing signs of heat stress in many areas on the Great Plains. Some death loss was reported in Kansas.

CROP PROGRESS
FOR WEEK ENDING JULY 26, 1981

	WINTER WHEAT % HARVESTED		
	1981	1980	AVG.
CALIF	96	95	NA
COLO	89	92	91
IDAHO	4	4	4
ILL	99	100	100
IND	100	100	97
KANS	99	100	99
MO	82	100	100
MONT	5	10	10
NEBR	97	99	90
OHIO	97	95	95
OKLA	100	100	100
OREG	16	14	NA
S DAK	77	94	67
TEX	100	100	100
WASH	12	7	14
15 STATES	83	85	NA
EXCL. STATES WITH NA	85	86	85

THESE 15 STATES PRODUCED 88% OF THE 1980 WINTER WHEAT CROP.

NA - NOT AVAILABLE

	CORN % SILKING		
	1981	1980	AVG.
COLO	38	31	37
GA	100	100	NA
ILL	83	93	81
IND	35	70	65
IOWA	83	78	70
KANS	55	70	60
KY	75	73	75
MICH	45	35	41
MINN	78	87	76
MO	70	79	62
NEBR	65	70	60
N C	97	88	NA
OHIO	40	75	70
PA	25	23	24
S DAK	29	36	35
VA	84	64	NA
WIS	32	51	32
17 STATES	65	73	NA
EXCL. STATES WITH NA	63	72	64

THESE 17 STATES PRODUCED 93% OF THE 1980 CORN CROP.

NA - NOT AVAILABLE

	CORN % DOUGH		
	1981	1980	AVG.
COLO	1	5	NA
GA	98	92	NA
ILL	25	27	22
IND	0	15	15
IOWA	0	0	4
KANS	10	15	15
KY	15	8	10
MICH	1	0	2
MINN	0	0	4
MO	21	32	NA
NEBR	5	5	NA
N C	72	66	NA
OHIO	2	8	5
PA	0	0	0
S DAK	0	0	0
VA	39	16	NA
WIS	0	0	0
17 STATES	10	12	NA
EXCL. STATES WITH NA	6	8	9

THESE 17 STATES PRODUCED 93% OF THE 1980 CORN CROP.

NA - NOT AVAILABLE

	COTTON % SETTING BOLLS		
	1981	1980	AVG.
ALA	84	66	53
ARIZ	96	90	93
ARK	85	91	78
CALIF	60	25	NA
GA	90	97	96
LA	76	82	80
MISS	68	69	60
MO	66	68	50
N MEX	50	50	45
N C	76	71	NA
OKLA	15	10	10
S C	98	91	84
TENN	45	62	43
TEX	52	52	NA
14 STATES	59	55	NA
EXCL. STATES WITH NA	68	68	61

THESE 14 STATES PRODUCED 99% OF THE 1980 COTTON CROP.

NA - NOT AVAILABLE

	SORGHUM % HEADED		
	1981	1980	AVG.
COLO	12	10	NA
KANS	10	10	15
MO	33	43	34
NEBR	30	40	25
OKLA	35	35	30
S DAK	10	18	9
TEX	76	70	NA
7 STATES	38	38	NA
EXCL. STATES WITH NA	19	23	20

THESE 7 STATES PRODUCED 92% OF THE 1980 SORGHUM CROP.

NA - NOT AVAILABLE

	SOYBEANS % BLOOMING		
	1981	1980	AVG.
ALA	45	39	38
ARK	22	23	NA
GA	38	36	NA
ILL	64	80	70
IND	35	75	65
IOWA	82	82	79
KANS	30	45	30
KY	20	40	36
LA	52	39	54
MICH	30	40	38
MINN	74	84	80
MISS	61	55	47
MO	31	56	42
NEBR	70	80	NA
N C	32	24	NA
OHIO	45	70	70
S C	23	17	25
TENN	35	39	43
18 STATES	50	59	NA
EXCL. STATES WITH NA	53	64	59

THESE 18 STATES PRODUCED 95% OF THE 1980 SOYBEAN CROP.

NA - NOT AVAILABLE

	SOYBEANS % SETTING PODS		
	1981	1980	AVG.
ALA	19	19	NA
ARK	10	12	NA
GA	14	10	NA
ILL	23	34	32
IND	5	20	25
IOWA	45	40	38
KANS	4	5	10
KY	4	7	5
LA	28	17	NA
MICH	5	3	8
MINN	12	20	23
MISS	18	18	17
MO	10	16	7
NEBR	20	35	20
N C	0	0	NA
OHIO	10	30	40
S C	1	2	NA
TENN	12	9	12
18 STATES	17	21	NA
EXCL. STATES WITH NA	19	25	24

THESE 18 STATES PRODUCED 95% OF THE 1980 SOYBEAN CROP.

NA - NOT AVAILABLE

	RICE % HEADED		
	1981	1980	AVG.
ARK	15	12	NA
CALIF	12	8	NA
LA	74	68	70
MISS	39	15	23
TEX	95	100	NA
5 STATES	42	38	NA
EXCL. STATES WITH NA	64	53	56

THESE 5 STATES PRODUCED 98% OF THE 1980 RICE CROP.

NA - NOT AVAILABLE

State Weather and Crop Update

ILLINOIS

The 1981 planting season brought a turnaround in moisture conditions. The main concern in Central and Southern Illinois in early April was sufficient moisture for germination. Central Illinois received heavy rains the last half of April and early May, and, the heavy rains started in Southern Illinois on May 9.

Planting was completed in the northern one-fourth of the State, about on schedule or slightly early. The 1981 crop was plagued with cutworms and a heavy storm about mid-June which caused considerable flooding. Nearly half of the corn in Central and Southern Illinois was planted near the normal time, but the remainder (and considerable replanting) was two weeks to a month beyond optimum planting dates.

By mid-June, soybean planting was 78% finished, well behind the average of 94%. Soybeans are particularly late in extreme Southern- and Southeastern Illinois where planting was only one-fourth to one-half finished by June 15.

Planting progress was ahead of 1974--the most recent really late year. In 1981, 84% of the corn was planted by May 30 compared with 68% in 1974. This year 86% of the soybean acreage was planted by June 20 compared with 60% in 1974. Planting progress in 1981 was quite similar to 1978, although a little more corn was planted early this year but soybean planting finished up later.

The Northwest District has received the least precipitation of any area in Illinois from April through mid-July, but timely rains came before dryness became too pronounced. At mid-July, the East Southeast District was becoming dry but received relief about July 20.

Corn and soybeans show a wide variation in size, reflecting the long planting season. Drowned out spots are prevalent throughout the State, even in parts of the Northwest District reflecting the heavy rains about mid-June.

In the July "Crop Production" report, corn yield was forecast at 113 bushels per acre, compared to the record of 128 in 1979 and the five-year average of 109 bushels. Production was forecast at 1.28 billion bushels, up 20 percent from last year. A record wheat yield of 51 bushels per acre was harvested, 3 bushels above the previous high in 1980. Wheat harvest finished on schedule with about half of the crop harvested between June 27 and July 3. Cattle and calves on feed July 1, 1981 for slaughter market totaled 430,000 head, 4 percent below a year earlier.

MISSOURI

The 1980 drought and record high temperatures across Missouri resulted in sharply lower farm income and placed numerous farms in severe financial trouble. By year's end, some communities had recorded annual rainfall as low as 1/3 to 1/2 of normal. All counties were declared disaster areas by the President and Farmers Home Administration. The Small Business Administration disaster loan program was placed in effect.

Last fall, Missouri farmers seeded 3.2 million acres of winter wheat, the largest acreage in 45 years. Excessive rain since May 1, 1981 first caused increased disease problems and now is causing serious harvesting problems in the Northern and Central counties. These same counties were hardest hit by the 1980 drought. Lower soft wheat price (96% of Missouri's wheat is soft red winter) and very heavy dockage due to low test weights and sprouting has reduced returns from acreage harvested thus far. Much wheat is still in the field. Sprouting, lodging, shattering and weeds are continuing to place at least 600,000 to 800,000 acres of unharvested wheat in serious jeopardy. For harvest to resume, at least a week and, in some cases, two weeks of good drying weather will be needed. Some farmers have already decided to abandon their wheat acreage.

Excessive moisture since early May has also had a disastrous effect on planting both single-crop and double-crop soybeans (Missouri's leading crop) and grain sorghum. As of June 1, farmers intended to plant 4.5 million acres of single-crop soybeans, 1.15 million acres of soybeans following wheat, and 1.15 million acres of grain sorghum. Over 10 percent of the intended single-crop soybeans and grain sorghum in Northeast, West Central, Central and East Central districts were not planted by July 19 and most of this ground will remain idle, further reducing potential farm income for 1981. About half of the double-crop soybeans are in areas where wheat harvest has been delayed, sharply reducing the acreage of double-crop soybeans from earlier intentions.

On the positive side, corn is generally in good condition and higher hog prices have improved the economic situation for Missouri pork producers. Also, pastures are extremely good for this time of year and hay production, although of low quality due to frequent rains, is still better than last year.

VIRGINIA

The persistent drought that began in 1980 continued into 1981 with below normal rainfall experienced throughout the winter and spring. However, timely rains kept topsoil moisture conditions favorable for growth of small grains and spring planted crops. As a result, farmers will harvest a record winter wheat crop and have the highest barley yields in history. Winter wheat production was forecast in the July "Crop Production" at 15.4 million bushels, up 46 percent from last year and nearly triple the 1979 production due to increased acreage harvested and higher yields. Barley yield is forecast at 61 bushels per acre, up 10 bushels from a year ago. Condition of corn, soybeans, peanuts, and tobacco is generally excellent but final production will depend heavily on adequate and timely rainfall during the remainder of the growing season. This is particularly critical this year since the subsoil moisture has not been recharged, leaving moisture reserves short.

Small grain harvest and planting of soybeans following small grain harvest is nearly complete. Flue-cured tobacco harvest is just beginning.

State Summaries of Weather and Agriculture

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

ALABAMA: Temperatures 2° above normal. Widely varied amounts of rainfall up to 2.00 in.

Fieldwork: 5.7 days. Activities: row crop cultivation; treating row crop pests; harvesting fruits, vegetables, corn. Corn: dented 83%, 53% 1980, 52% average, mature 44%, 24% 1980; harvested 7%. Soybean blooming 45%, 39% 1980, 38% average, setting pods 19%, 19% 1980. Cotton setting bolls 84%, 66% 1980, 53% average. Peanuts pegging 98%, 73% 1980, 87% average. Conditions: cotton good; corn, soybeans, peanuts, sorghum, pastures fair.

ARIZONA: Scattered thundershowers eastern two thirds of State, mostly sunny, hot western third. Heaviest amounts southeast between 0.75 and 1.25 in., localized flash flooding. Mogollon Rim, White Mountains mostly between 0.10 and 0.50 in. Average temperatures ranged 1° below to 8° above normal.

Cotton better than average progress, about 3 week ahead normal, fields setting bolls rapid rate, 96% with bolls compared 90% last year, bolls maturing rapidly stubbed cotton, pesticides applied as needed. Early planted sorghum maturing rapidly, later plantings all stages. Sugar-beet harvest steady. Yields, sugar content declining due extreme heat. Corn for grain, mostly Cochise County, excellent progress during week, some corn received hail damage. Alfalfa haying active, ahead normal, substantial rain damage cut hay Yuma County. Commercial harvest cantaloups, potatoes, dry onions, grapes, citrus complete. Few honeydews remained western area. Watermelon harvest active. Citrus groves good condition new crop progress encouraging. Continued rainfall very beneficial especially mid-to-higher elevations. Desert ranges still mostly very dry. Stock water, soil moisture steadily improving. Browse greening up, Some north, central, northeastern higher elevations still very dry, water hauling, supplemental feeding required. Livestock remained mostly fair, good condition much State.

ARKANSAS: Warm, humid week. Scattered showers. Highest temperatures 103°, lowest 65°. All departures from normal +1 to +5°. Most rainfall 2.65 in., least zero.

All crops good condition. Rice headed 15%, 12% 1980. Soybean bloom 22%, 23% 1980. Setting pods 10%, 12% 1980. Cotton setting bolls 85%, 91% 1980, 78% average. Seven days suitable for fieldwork. Grains in good condition. Soil moisture supplies short to adequate. Forage cover on pastures slightly above average. Livestock good condition.

CALIFORNIA: Average temperatures Statewide a few degrees above normal but isolated localities within each region a few degrees below normal. South Coast average temperatures normal to as much as 6° above. All regions with 100° or higher temperatures except Cascade-Sierra. No rain Statewide although coastal fog drizzled a trace of precipitation at Salinas.

Wheat 6% harvested, 95% 1980. Rice 12% headed, 8% 1980. Cotton squaring 93% complete, 85% 1980. Bolls 60% set, 25% 1980. Sunflowers, field corn developing normally. Alfalfa harvest continues. Safflower turning color, some seeds hardening. Gravensteins continued, Sebastopol; quality excellent. Apricots about finished. Avocado demand weak. Dates packed. Grape peak Arvin, to increase

Delano, Fresno. Nectarine, peaches in good supply. Pears second picked, River district, more for processing. Plums at peak. Prunes turn color. Valencias slowing central areas, Navel show good size. Almond hull split continues. Walnut husk flies baited. Broccoli, cauliflower harvest active Central Coast. Cantaloup volume still light San Joaquin Valley. Carrot harvest slowing Kern, active Salinas Valley. Celery, lettuce good supply Central Coast. Green pepper harvest near peak San Joaquin Valley. Market tomato harvest finishing Cutler-Orosi, active Stockton, Merced, coastal areas. Processing tomato harvest very active San Joaquin Valley. High summer ranges need rain. Fire hazard high lower elevations. Cattle continue good condition. Stock water supplies being depleted earlier than usual.

COLORADO: Hot temperatures and widely scattered thunderstorms were a daily occurrence. Hottest temperatures of the year on the 21st with 108° in the southeast which also received 2.00 in. of rain for the week. The San Luis Valley also reported 1.00 in.

Winter wheat turned color 98%, 99% 1980, 99% average, ripe 97%, 96% 1980 97% average; harvested 89%, 92% 1980, 91% average. Barley turned color 66%, 60% 1980; ripe 41%, 49% 1980; harvested 30%, 32% 1980, 30% average. Corn average height 67 in., 63 in. 1980, 67 in. average; silked 38%, 31% 1980, 37% average; dough 1%, 5% 1980. Sorghum emerged 100%, 100% 1980, 100% average; headed 12%, 10% 1980. Dry beans flowered 45%, 40% 1980, 50% average. Alfalfa 1st cutting 95%, 95% 1980, 99% average; 2nd cutting 47%, 46% 1980, 47% average. Ranges and pastures fair condition. Livestock good condition. Six days suitable for fieldwork.

FLORIDA: Showers and thunderstorms were scattered across the State. Most rainfall amounts less than 1.00 in. However, a few places had much heavier amounts. Temperatures mostly in the 90's except for some 80's in rain areas; lows mostly in the 70's to the low 80's.

Soil moisture short most areas, adequate in scattered localities in southwest and western Panhandle. Showers helpful. Corn harvest continues, progress slow, early corn low yields, more corn going for silage. Tobacco harvest, marketing active. Hay harvest continues, yields low. Soybeans fair condition. Young beans showing some stress from heat and dry soils. Peanuts, sugarcane fair progress, more moisture needed. Scattered showers maintained growth of pastures many areas. Grazing conditions Panhandle, extreme southern Peninsula mostly good, elsewhere, generally poor to fair. Condition of cattle fair to good. Scattered afternoon rain showers in most areas of the citrus belt. Flush of new growth abundant on most trees. Pruning of deadwood from cold damaged trees still the crucial task of growers. The season mostly complete for vegetable crops. Limited supply vegetables, watermelons continue, mostly for local markets. Land preparation active for fall vegetable crops.

GEORGIA: Hot generally 2 to 4° above normal, mid 70's mountains, mid 80's central and south. Rainfall less than 0.25 in. north and east central and 1.00 to 1.50 in. west central and south. Temperatures hot 25th and 26th with

highs in 90's to near 100° and lows mostly in 60's in mountains and 70's over rest of State. Rainfall throughout the State. Afternoon and evening thundershowers produced amounts between 0.50 to 1.00 in. many areas.

Soil moisture very short to short, slightly improved over the weekend but variable. Six days suitable for fieldwork. Corn poor to fair, 98% dough, 92% last year, 87% dent, 76% last year, 64% mature, last year 40%, 9% harvested, 7% last year. Soybeans fair to good, 38% blooming, 36% last year, 14% setting pods, last year 10%. Peanuts fair to good, 99% blooming, last year and average, 93% pegging, 94% last year, 97% average. Cotton fair to good, 90% setting bolls, 97% last year, 96% average, 1% open. Tobacco fair to mostly good, 42% harvested, 44% last year, 60% average. Peaches mostly fair to good, 78% picked, 90% last year, 92% average. Apples mostly fair to good, 12% picked, 15% last year. Water-melons poor to mostly fair, 83% harvested, 79% last year, average 86%. Vegetables fair. Pecans fair to good. Pastures and hay crops poor to fair. Cattle and hogs fair to good.

HAWAII: More rains brought relief to the drought stricken areas. Irrigation reservoirs replenished to ease the critical water shortage Waimea District, Island of Hawaii. However, water use still restricted in the Lalamilo and Puukapu sections. New plantings have resumed in Puukapu area. Rains also added much needed moisture to the sugarcane fields and pastures. Spraying frequent some parts of the Island chain to control insects and diseases.

Vegetables: Supplies, leafy crops down. Others adequate. Bananas: Light harvest will continue. Showers were beneficial. Papayas: Seasonal decline in harvest. Showers added more moisture in the major orchards. Pineapples: Harvesting very active, all producing sections. Sugar: Steady harvesting. Pastures: Rains added moisture in the dry Hamakua, south Kohala and Ka'u districts, Island of Hawaii. However, federal emergency feed programs continuing.

IDAHO: Temperature range normal to 4° subnormal. High 97° at Burley, low 27° at Stanley. Precipitation from 0.01 in. at Salmon to 0.96 in. at Porthill.

Winter wheat harvest 4%, 4% 1980 and 4% average. Spring wheat 1%, 0 in 1980 and average. Spring barley 2%, 0%, 2%. Alfalfa hay 1st cut 98%; second cut 15%. Mint 6%. Potatoes 5% turning color, 55% closing the middles. Water supplies tightening. Range fires have burned over 200,000 acres this year.

ILLINOIS: Temperatures 2 to 4° below normal. Precipitation 0.20 to 0.50 in. north, 0.69 to 1.50 in. central, 0.50 to 2.00 in. south.

Corn condition 25% excellent, 61% good, and 14% fair; 83% silked, 93% 1980, and 81% average; 25% dough, 27% 1980, and 22% average. Soybeans 64% blooming, 80% 1980, 70% average; 23% setting pods, 34% 1980, 32% average; condition 14% excellent, 67% good, 19% fair. Oats 97% ripe, 95% 1980, 89% average; 65% combined, 52% 1980, 59% average. Alfalfa condition 8% excellent, 74% good, 18% fair; second cutting 83% complete, 84% 1980, 81% average. Pastures 25% excellent, 61% good, 14% fair. Soil moisture 15% short, 47% adequate, 38% surplus. Fieldwork: 3.8 days suitable.

INDIANA: Below normal daytime temperatures, highest 93°. Normal night temperatures, lowest 51°. Frequent showers. Heaviest: 6.00 in. at Waterford Mills in one day. Area rainfall averages from 0.50 in. south, 1.10 central, and 1.30 north. Below normal soil temperatures.

Fieldwork averaged 4 days. Topsoil and subsoil moisture adequate. Wheat 100% harvested, 1980 100%, average 97%. Oats 75% combined, 1980 55%, average 60%. Rye 98% harvested. Corn and soybean condition improved, still fair to good. Corn 35% silked, 1980 70%, average 65%. Corn 0% in dough, 1980 15%, average 15%. Soybeans 35% blooming, 1980 75%, average 65%. Soybeans 5% setting pods, 1980 20%, average 25%. Soybeans 15 in. tall, 1980 22 in. Wheat land 5% plowed, averaged 5%. Alfalfa hay 65% cut second time, 1980 80%, average 75%. Pasture condition fair to good.

IOWA: A cool, cloudy and wet week excepting light spotty showers over some northeast, west central, and northwest counties. Localized flooding was reported 25th in some localities including Denison where nearly 3.00 in. of rain fell in 10 minutes and Follets (Clinton County) where 4.50 in. of rain fell in 1.5 hours. A few wind storms caused localized damage.

Topsoil moisture: 21% short, 59% adequate, 20% surplus. Subsoil moisture: 33% short, 54% adequate, 13% surplus. Corn tasseled: 1981 95%, 1980 96%, normal 88%. Corn silked: 1981 83%, 1980 78%, normal 70%. Soybeans bloomed: 1981 82%, 1980 82%, normal 79%. Soybeans setting pods: 1981 45%, 1980 40%, normal 38%. Oats harvested: 87% complete, 1980 80%, normal 74%. Second cut alfalfa hay harvested: 83% complete, 1980 82%, normal 79%. Second crop clover hay harvested: 54% complete, 1980 55%, normal 47%. Fieldwork: 4.4 days suitable. Crop conditions: pasture, winter wheat, alfalfa hay, clover, oats, corn and soybeans mostly good. Livestock mostly good condition.

KANSAS: Precipitation averaged 2.00 in. northeast, 1.00 in. northwest and north central, 0.25 in. to 0.50 in. south. Local heavy rains northeast over 4.00 in. Temperatures averaged 76° northwest, 85° southeast, 86° south central, 1 to 3° below normal northwest and north central, 3 to 5° above normal south.

Wheat harvested 99% complete, 100% last year, 90% average. Corn 55% silked, 70% last year, 60% average; 10% dough, 15% last year and average. Soybeans 30% bloomed, 45% last year, 30% average; 4% setting pods, 5% last year, 10% average. Sorghum 10% headed, 10% last year, 15% average. Alfalfa second cutting 97% complete, third cutting 25% complete. Pasture and range conditions good to excellent except southwest poor to fair. Heat, high humidity southwest contributed stress to livestock, some death loss.

KENTUCKY: Temperatures averaged near seasonal normals with cooler readings first of week and above normal temperatures over weekend. Rainfall averaged 0.75 to 1.25 in., falling in thunderstorms, mostly first of week. Individual stations varied from zero to 2.59 in.

Days suitable for fieldwork: 4.7. Soil moisture 17% short, 72% adequate, 11% surplus. Most surplus in west, most short in east. Early planted corn good to excellent. About 75% corn acreage silked, slightly ahead of last year but comparable with average. About 15% has advanced to dough stage. Heavy armyworm infestations on late corn. Soybeans fair to good, with 20% blooming or beyond compared with 40% last year, average 36%. Stands generally good on late planted soybeans. Conditions burley tobacco highly variable. Some tobacco damaged by wind. Best tobacco that which was set early on well-drained soils. Nearly 30% burley blooming, some blooming very short. Pastures good to excellent.

LOUISIANA: Rainfall sparse except southwest. Temperatures 3 to 4° above normal.

Soil moisture short, particularly in north.

Days suitable: 6.2. Corn dough stage 95%, 82% 1980, 88% average; mature 65%, 30% 1980, 43% average; condition good. Rice headed 74%, 68% 1980, 70% average; ripe 21%, 18% 1980, 19% average; harvested 12%, 10% 1980, 7% average; condition good. Cotton setting bolls 76%, 82% 1980, 80% average; condition good. Soybeans blooming 52%, 39% 1980 54% average; setting pods 28%, 17% 1980; condition fair to good. Sorghum headed 80%, 55% 1980, 73% average; turning color 50%, 14% 1980; condition good. Sugarcane condition good. Sweetpotato condition good, harvested 5%. Vegetables fair to good. Peach harvest 91%, 90% 1980. Pastures rated fair to good. Live-stock good condition.

MARYLAND AND DELAWARE: Temperatures 1° below normal. Highs averaged upper 80's, lows upper 60's. Precipitation in Maryland averaged 0.93 in. Mostly around midweek. Delaware's rainfall generally smaller.

Dryness reducing corn potential from poor pollination. Maryland: Corn silked 80%, last year 55%, soybeans in bloom 10%, last year 20%. Both rated fair condition. Oats harvest 65% completed in north. Alfalfa: 3rd cutting 10%, last year 85%. Other hays 2nd cutting 68%, last year 75%. Vegetable harvest nearing half way point. Peaches 15% harvested. Delaware: Corn silked 85%, last year 90%, soybeans bloomed 15%, last year 6%. Both rated poor to fair. Alfalfa: 3rd cutting 85%, last year 40%; other hays 80%, last year 100%. Vegetable about 40% harvested.

MICHIGAN: A relatively cool week with temperatures averaging 2 to 5° below normal. Precipitation light across much of the State. The only significant rainfall fell over the southern portions which averaged 1.20 to 1.70 in.

Dry conditions persisted throughout the State stalling corn progress. Second cutting of hay active with 35% cut. About 6 days were suitable for fieldwork. Blooming occurred in 45% of dry beans, ahead of last year and normal. Soybean blooming stands at 30%, 40% last year and normal. Corn 45% silked, 35% last year, 41% normal. Potato harvest underway. Summer apples 20% picked. Sweet cherry harvest 85% complete, 75% last year, 83% normal. Tart cherry harvest 70% complete, 50% last year, 68% normal. Vegetable progress continues to be normal.

MINNESOTA: Temperatures averaged normal to 5° below normal. Extremes: 90° at Pipestone, 37° at Hibbing. Precipitation averaged 0.15 to 0.50 in. below normal except northwest and north central and some sections southeast, near normal elsewhere except 2.00 to 4.00 in. above normal parts of south central. Precipitation totals 0.50 to 4.00 in., except less than 0.50 in. in extreme northwest and some sections southeast and locally over 4 in. south central.

Rains last two weeks beneficial to most crops. Enough moisture to carry crops to maturity. Crops suffering in some areas, too much rain. Topsoil moisture rated 6% short, 73% adequate, and 21% surplus. Row crops need sunshine for proper development. Crops turning yellow from excessive water. Small grain harvest slowed by wet fields. Lodging and rust reported in many areas. Tasseling: field corn 78%, 1980 87%, normal 76%. Blooming: soybeans 74%, 1980 84%, normal 80%; sunflowers 32%, 1980 63%, normal 35%. Turning ripe: spring wheat 76%, 1980 81%, normal 67%; oats 85%, 1980 90%, normal 78%; barley 94%, 1980 93%, normal 77%. Swathed: spring wheat 8%, 1980 17%, normal 23%; oats 21%, 1980 41%, normal 39%; barley 29%, 1980 47%, normal 38%; winter wheat 46%, 1980 76%, normal 61%; rye 41%, 1980 70%, normal 60%. Combined: spring wheat 2%, 1980

5%, normal 11%; oats 6%, 1980 14%, normal 21%; barley 4%, 1980 18%, normal 18%; winter wheat 13%, 1980 34%, normal 35%; rye 12%, 1980 18%, normal 30%.

MISSISSIPPI: Temperatures about 3° above normal. Extremes: 64 and 103°. Rainfall 3 days in north to none in south. Greatest 24-hour precipitation 2.10 in.

Soil moisture short to very short. Six days were suitable for fieldwork: Cotton 92% blooming, 91% last year, 83% average; 68% setting bolls, 69% last year, 60% average; condition good to fair. Soybeans 61% blooming, 55% last year, 47% average; setting pods 18% this year and last, 17% average; condition fair to good. Corn 99% silking, 95% last year, 92% average; 90% in dough stage, 71% last year; 54% dented, 36% last year; condition good. Sorghum 55% headed, 35% last year. Rice 39% headed, 15% last year, 23% average; condition good. Hay 75% harvested; peaches 68%; watermelons 69%; corn silage 39%. Pasture condition fair to good.

MISSOURI: Rainfall was heavy averaging from 4.00 to 5.00 in. in the north and 2.00 to 3.00 in. in the south. Flooding was especially bad in north central and eastern parts of the State. Temperatures cooled to 2 to 3° below normal except in the extreme southern portions.

Fieldwork: 2.1 days suitable. Corn 79% tasseled, last year 89%, corn 70% silking, last year 79%, normal 62%. Grain sorghum 33% headed, last year 43%, normal 34%. Double-crop soybeans 91% planted, last year 100%. Soybeans 31% blooming, last year 56%, normal 42%. Soybeans 10% setting pods, last year 16%. Wheat 82% harvested, last year 100%, normal 100%. Oats 77% harvested, last year 97%. Alfalfa hay 2nd cutting 81% harvested, last year 94%. Alfalfa hay 3rd cutting 13% harvested, last year 20%. Other hay 78% harvested, last year 97%. Cotton 86% squaring, last year 97%. Cotton 66% setting bolls, last year 68%. Corn, grain sorghum and pasture in good condition. Soybeans in fair to good condition. Cotton in fair condition. Topsoil moisture supplies adequate to surplus.

MONTANA: Temperatures were cooler over State and ranged from 1 to 5° below normal. Temperatures were very warm first part of week with very cool temperatures at end of week. Highest 96° at Billings, lowest 32° at West Yellowstone. Precipitation was generally light over west and southwest and mostly moderate to heavy elsewhere. Some areas received from 1.00 to 1.50 in. of rain late in week. Again there were areas that had damaging hail with thundershowers.

Topsoil moisture short to adequate, subsoil moisture adequate except short in eastern third. Fieldwork: 6 days suitable. Winter wheat condition good to excellent, harvest underway. Spring small grains fair to good condition. Harvest started in very limited areas. Sugarbeet condition good to excellent. Corn and potatoes condition good. Crop progress compared with last year and average: winter wheat harvest 5, 10, 10; spring wheat turning or ripe 50, 70, 55; barley turning or ripe 45, 60, 55; oats turning or ripe 60, 65, 60; wild hay harvested 70, 60, 65. Range feed and stock water supplies adequate except short eastern third.

NEBRASKA: Temperatures: 2 to 5° below normal. Precipitation: thunderstorms throughout week, 1.00 to 2.00 in. accumulation across State.

Winter wheat 97% harvested, 99% last year and 90% average. Dryland corn fair. Irrigated corn good. Silking 65%, 70% last year and 60% normal. Dough 5%, same as last year. Sorghum fair to good. Heading 30%, 40% last year and 25% normal.

Soybean crop fair to mostly good. Blooming 70%, 80% last year. Setting pods 20%, 35% last year and 20% normal. Second cutting of alfalfa 85%, 90% last year and 85% normal. Alfalfa mostly fair. Pasture and range feed supplies short to adequate. Topsoil moisture mostly adequate. Subsoil moisture short to adequate. Best moisture conditions statewide since May. Days suitable: 4.3.

NEVADA: Clear skies with windy days west, few scattered thundershowers eastern border. Hot, dry afternoon wind caused Mercury to soar central and south, 4 to 5° above average. Extremes: 110 to 32°.

Hot dry weather aiding alfalfa and wild hay harvest. Small grain combining full swing. Ranges showing effect hot dry weather. Fire hazard extreme.

NEW ENGLAND: Warm front early, cold front later during week. Temperatures generally around normal; daytime, 70's and 80's; evening, 50's and 60's. Hottest days: 20th and 22nd. Precipitation: 19th night, 20th and 21st with fronts. Most reports totaled over 0.50 in. with many exceeding 1.00 in.

Fieldwork: 4.9 days favorable. Soil moisture: 6% short, 94% adequate. Hay harvested: first crop, 91%, second crop 28%. Potatoes: hilling, cultivating and applying insecticides. Oats growing well, headed, some wind damage. Apples: scab, sizing well. Vegetables: harvesting, growing well, many insects. Cranberries: fruit-worm treatment, good prospects. Raspberries: harvest starting, yields variable. Sweet corn approaching harvest. Good conditions: corn, potato, oats, vegetables, cranberries, raspberries. Fair condition: apples, blueberries. Grazing adequate.

NEW JERSEY: Temperatures averaged 1 to 2° below normal. Extremes: 48° at Newton on 23rd and 99° at Pomona on 22nd. Rainfall averaged 2.64 in. north, 1.41 in. central, and 0.42 in. south. Heaviest 24-hour total was 2.77 at Newton on 20th to 21st. Estimated soil moisture, in percent of field capacity, averaged: 71 north, 57 central and 27 south. Four inch soil temperature averaged: 73 north, 75 central and 75 south. Total sunshine at Trenton was 43% of possible hours.

Fieldwork: 5.8 days suitable. Soil moisture widely varied by areas. Summer vegetable volume increasing. Irish potato volume light but some increase expected this week. Blueberry supplies good but declining. Peaches increasing in supply. Wheat combining complete. Rye harvest nearing completion. Oat harvest begun. Second cutting of hay continues active. Field corn and soybeans in need of a good rain in many areas. Pastures could also use a good soaking.

NEW MEXICO: Intermittent showers occurred in most areas throughout the week and temperatures averaged 5° warmer than normal.

Soil moisture in short supply. Insect damage has been minimal so far, but activity increasing in cotton and alfalfa. The main farming activities consisted of hay cutting, irrigating, and cultivating. Cotton in good condition with progress about even with last year. Cotton setting bolls 50%, 1980 50%, average 45%. Alfalfa in good condition with some increase in insect activity. The third cutting well underway in the south and progressing towards the north. Grain sorghum in fair to good condition. Corn condition indicates prospects for a good crop. Chile and onions in good condition. Peanuts progressing well. Pecans in good condition. Ranges in poor to fair condition. Cattle and sheep in good flesh.

NEW YORK: Temperatures below normal, rainfall above normal.

Good fieldwork conditions during middle of week. Second cutting alfalfa 35% in, 31% in 1980, 38% average. Corn crop looks very good with some silking reported. Wheat harvest becoming more active. Harvest of oats for grain just underway. Vegetable crops mostly good to excellent. Some early potatoes being harvested on Long Island. Lettuce, celery and snap bean harvest continues in volume. Tart and sweet cherry harvest complete. Harvest of early peaches underway.

NORTH CAROLINA: Temperatures: 2 to 4° above normal across the State to near normal along the coast. Precipitation: 0.02 in. at New Bern to 3.53 in. at Greensboro.

Fieldwork: 5.9 days suitable. Soil moisture: 6% very short, 51% short, 43% adequate. Conditions: pasture fair to good; field tobacco, corn, cotton, peanuts, and soybeans mostly good; hay fair to good; Irish potatoes, sweetpotatoes, apples, peaches, and truck crops mostly good. Harvest: flue-cured tobacco 24%, 1980 23%, 17% average; peaches 68%, 1980 69%, 70% average; hay 74%, 1980 72%, 72% average. Phenological stages: cotton squared 93%, 1980 89%; cotton setting bolls 76%, 1980 71%; corn silked 97%, 1980 88%; corn dough stage 72%, 1980 66%; corn dent stage 46%, 1980 30%; soybeans blooming 32%, 1980 24%.

NORTH DAKOTA: Showers and thunderstorms over entire State. Rainfall in excess of 1.00 in. many locations. Driest in north central and northeast with generally less than 0.25 in. Above normal moisture elsewhere. Temperatures below normal. Extremes from 98 northwest to 38° northeast.

Harvest of barley and early small grains underway but delayed by cool, damp weather. Early harvested fields showing some lowered test weight and quality due to previous heat stress and disease problems. Overall, conditions remains mostly good. Scattered showers left areas west and north central still short of soil moisture. Topsoil moisture short or very short in 40% of state compared to 36% last week, 88% last year and 66% average. Small grain harvest near average pace. Harvest of hard red spring wheat ranged from 11% combined or swathed south central district to nothing swathed northern districts. Corn and sunflower development lagging behind normal. Variety of insects in sunflower fields. Some spraying underway. Rust a concern in dry beans. Percentage of acreage swathed or combined with last year and average hard red spring wheat 5, 12, 9; durum 1, 4, 3; barley 26, 23, 20; oats 14, 15, 14; rye 52, 61, 52; winter wheat 37, 61, 44. Percent in bloom or beyond with last year and average; sunflower 11, 16, 26; flax 70, 56, 73; potatoes 86, 68, 82.

OHIO: Below normal temperatures north and central resulted from several unseasonably cool nights. Low temperatures on 23rd dipped into upper 40's north. South maintained normal temperature pattern. High temperatures remained below 90°. Growing degree day accumulations north and central up to 15 degree days below normal; southern totals pushed slightly above normal. Totals ranged from 130 northeast to 175 southwest. Precipitation variable. Maximum total nearly 2.25 in.; 1.50 in. above normal. Driest location 0.12 in. There was no pattern to rainfall; locally heavy amounts scattered throughout State. On seasonal basis drier areas continue to be northeast, north central; those receiving most rain this season south, west central.

Corn condition fair. Quality and maturity vary widely. Some farmers cultivating corn fields while watching other fields tassel and silk. European corn borer has done some damage, but insects have not generally been major problem. Soybeans rated fair. Japanese and Mexican bean beetles pose a

threat in August and September. The winter wheat harvest approaching completion. Combining losses from lodging were less than had been anticipated, but test weights were low due mainly to disease. Corn silked 40%, 75% 1980, 70% average. Soybeans blooming 45%, 70% 1980, 70% average. Soybeans pods setting 10%, 30% 1980, 40% average. Wheat harvested 97%, 95% 1980, 95% average. Oats harvested 50%, 25% 1980, 40% average. Alfalfa harvested (2nd cut) 55%, 60% 1980, 70% average. Other hay harvested (2nd cut) 35%, 40% 1980, 40% average. Days favorable: 5.0. Pasture condition fair to good. Soil moisture 24% short, 72% adequate, 4% surplus.

OKLAHOMA: Precipitation received northern third and east central division. Rainfall ranged from 0 to 0.65 in. Temperatures averaged 5 to 8° above normal. Enid recorded record high 109° on 21st surpassing previous high of 108° set in 1918.

Row crops in good to fair condition but more rain needed. Soil moisture supplies short. Wheat harvested: 100%, 100% 1980, 100% average. Sorghum grain heading: 35%, 35% 1980, 30% average. Sorghum grain milk to dough: 10%, 5% 1980, 7% average. Cotton squaring: 75%, 70% 1980, 65% average. Cotton setting bolls: 15%, 10% 1980, 10% average. Days suitable for fieldwork: 6.4.

OREGON: High temperatures in 80's and 90's throughout the State. Some 100° temperatures in southeastern section.

Soil moisture short to adequate except extremely short in southwest. Winter wheat poor to good west; good to excellent east; 16% harvested; 14% 1980. Barley, grass seed, hay and sparmint harvest continuing. Cherry and raspberry picking winding down rapidly. Early peach harvest started in most areas. Gravenstein apples being picked; yellow transparents and Lodi ripe. Marion, Blue and Black Caps being picked. Filberts good. Norgolds being dug in full swing around Hermiston-Boardman; Reds being dug in Malheur County. Green peas about over; snap beans very active; sweet corn tasselling. Livestock good. Range and pastures mostly good but gradually deteriorating.

PENNSYLVANIA: Unseasonably cool, sunny and dry 21st through 23rd. Increasing cloudiness warmer and more humid with scattered showers and thunderstorms 24th and on through the weekend. Damaging winds and several tornadoes southwest mountains 26th. Coolest week since end of June with temperatures averaging 1 to 5° below normal. Extremes: 93 and 37°. Showers and thundershowers 20th and again on the weekend produced 1.00 to 3.00 in. of rainfall most areas with up to 4.00 in. in parts of the central mountains for the wettest week, Statewide, since early June. Only southeast counties reported 0.75 in. rainfall.

Four days suitable. Topsoil moisture adequate to short. Activities: Making hay; harvesting small grains; baling straw; harvesting apples and peaches; harvesting sweet corn, snapbeans, green peas, and potatoes; clipping pastures. Average corn height 64 in.; last year 51 in. Barley 8% ripe and 89% harvested; last year 11% ripe and 89% harvested. Wheat 6% turning yellow, 23% ripe, and 71% harvested; last year 43% ripe and 55% harvested. Oats 8% headed, 34% turning yellow, 34% ripe, and 23% harvested; last year 9% headed, 40% turning yellow, 35% ripe, and 15% harvested. Second cutting alfalfa 65% complete; last year 52%. Feed from pasture average to below average.

PUERTO RICO: Island average rainfall 2.26 in. or 0.81 in. above normal. Highest weekly total 5.84 in. Temperatures averaged about 82° on Coasts and 79 to 78° Interior Divisions. Extremes: 94 and 61°.

SOUTH CAROLINA: Hot and humid with scattered showers, thunderstorms mostly during last part.

Soil moisture short to adequate. Five days available for working fields. Corn fair condition; 92% dough stage, 73 year ago, 79 average; 45% mature, 21 year ago, 35 average; insect pressure increasing. Cotton condition good, moth flights increasing and most growers maintaining regular sprays; 98% set bolls, 91 last year, 84 average. Earliest soybeans blooming reached 23%, 17 last year, 25 average; pods 1% set, 2 year ago. Conditions fair to good with some lapping middles; difficult to control sicklepeas, coffeeweeds, morning glory in localized areas. Tobacco topped, curing to bright leaf under good conditions, 35% harvested, 20 year ago, 45 average. Peaches good condition with Piedmont irrigating. Ridge harvesting Blakes, starting Jeffersons; Statewide 73% harvested, 70 last year, 75 average. Watermelons fair to good condition, 80% harvested, 78 last year, 81 average.

SOUTH DAKOTA: Temperatures 4° below normal. Extremes: 96 and 30°. Precipitation over most of State. Up to 5.00 in. northeast; mainly 1.00 to 2.00 in. Severe hail damage scattered throughout State. Topsoil moisture critically short in parts of north central, central and east central. Short in northwest and much of west central, southwest, central, east central and parts of north central and southeast. Adequate elsewhere. Small grain harvest ahead of normal. Four days suitable. Row crop condition below normal. Range and pasture condition 61% of normal. Second crop alfalfa 40% cut, wild hay 45%. Winter wheat harvested 77%, 1980 94%, average 67%. Winter rye harvested 59%, 1980 66%, average 55%. Oats harvested 57%, 1980 61%, average 42%. Spring wheat harvested 28%, 1980 44%, average 26%. Barley harvested 54%, 1980 58%, average 45%. Corn tasseled 55%, 1980 66%, average 53%. Corn silked 29%, 1980 36%, average 35%. Sorghum headed 10%, 1980 18%, average 9%.

TENNESSEE: A weak cold front moved across the State during first part of the week and became stationary during midweek. Scattered thundershowers brought up to 4.00 in. of rain. Temperatures were near normal for the northern part and about 4° above normal in the southern part.

Fieldwork: 4.5 days suitable. Soil moisture adequate. Soybeans blooming 35%, 1980 39%, average 43%. Soybeans setting pods 12%, 1980 9%, average 12%. Insect and weed spraying continues. Cotton 98% squaring, 92% 1980, 90% average. Cotton setting bolls 45%, 1980 62%, average 43%. Corn 86% silked, 1980 78%, average 75%. Corn in dough stage 42%, 1980 35%, average 28%. Corn in dent stage 12%, 1980 6%, average 4%. Armyworms, corn borers and earworms causing damage on early planted corn. Burley tobacco topped 26%. Blue mold confirmed in at least 16 middle and east counties. Pastures in very good condition for this time of year. Lespedeza hay harvest 10%, 1980 11%, average 10%. Cattle in good condition but face flies and pinkeye are a problem. Blight on tomatoes reported. Thrips causing damage on snap beans and the Japanese beetle very destructive on most crops in eastern part of the State.

TEXAS: Weather: Persistent high pressure area 20th, 21st northwest Gulf of Mexico, scattered afternoon showers Southeast, Panhandle, Southwest Texas. Tropical depression onshore south Brownsville 26th, causing cloudy skies, scattered showers South Texas. Temperatures above normal. Rainfall below normal in most areas.

Commercial vegetables: Lower Rio Grande Valley, land preparation for fall active. Most harvesting activity completed. San Antonio-Winter Garden area, harvest virtually complete. Preparation for fall planting. Central Texas, harvest of watermelons continued. Tomato harvest also continued. East Texas harvest of tomatoes, peppers, squash continued. Sweetpotatoes developing well. Trans-

Pecos harvest of onions, potatoes continued. High Plains, onion, potato harvest active, good supplies. Yields for onions, potatoes good. Peach harvest continued, good yields. Quality good, supplies plentiful. Pecans continue to develop. Some droppage, stem blight. Production outlook good.

Range and livestock: Range, pastures beginning to show effect of dry, hot conditions. Grasses now drying, growth limited. Livestock showing signs of heat stress. Insect, disease problems minimal.

Crops: Generally hot, dry conditions blanketed State during week. Scattered showers some relief High Plains but additional moisture welcomed. Some crops southern High Plains showing signs of moisture stress. Farmers plowing under wheat stubble preparing land for fall planted grains. Some cotton fields Lower Valley, Coastal Bend defoliated, harvest begin soon. Blacklands stands making good growth, bolls open some areas. Low Plains some fields stressed lack of moisture. Statewide reported condition, 11% excellent; 62% good; and 27% fair. Sorghum harvest progressed northward Blacklands, where yields ranging good to excellent. Harvest nearing completion Lower Valley, Coastal Bend only low-lying wet areas left. Reported condition Statewide is 22% excellent; 68% good; and 10% fair. Corn make good progress High Plains. Irrigation operations stepped up some areas Panhandle. South Texas fields drying rapidly, harvest gaining momentum. Light harvest underway South Central Texas. Statewide, reported condition is 24% excellent; 64% good; and 12% fair. Peanut fields making good growth Cross-Timbers, irrigation active Edwards Plateau. Soybeans setting pods Panhandle. Along Coast, development very poor in fields damaged by earlier floods. Rice harvest underway along Coast. Early sunflower fields High Plains desiccated, harvest start soon. Cotton squaring 86%, 96% 1980. Cotton setting bolls 52%, 52% 1980. Cotton open bolls 7%, 10% 1980. Cotton harvested 0%, 2% 1980, 0% average. Rice headed 95%, 100% 1980. Rice turning color 76%, 71% 1980. Rice harvested 24%, 23% 1980, 19% average. Sorghum headed 76%, 70% 1980. Sorghum turning color 62%, 62% 1980. Sorghum mature 48%, 52% 1980. Sorghum harvested for grain 52%, 47% 1980, 36% average. Corn harvested 2%, 12% 1980, 6% average. Soybeans planted 97%, 100% 1980, 100% average. Sunflowers planted 97%, 100% 1980, 100% average.

UTAH: Few widely scattered afternoon and evening showers and thunderstorms becoming more general over weekend. Accumulated amounts moisture generally light to moderate. Average temperatures ranged from 2° below normal to 7° above.

Irrigation, grain harvest, and hay harvest major activities. Grain harvest well ahead of last year's yields running good except southwest where frost reduced crop prospects. Hay yields good most areas. Second crop about 45% cut. A few scattered areas have run short of irrigation water. Tart cherry and apricot picking active. Peaches to start in two weeks. Good crop expected.

VIRGINIA: High pressure dominated the area for most part causing temperatures to soar into 90's and precipitation to be spotty due to showers and thunderstorms. Highs in mountains only reached upper 70's while rest of State had temperatures well into the 90's. Lows dipped down to the 50's.

North, eastern State topsoil moisture short. Statewide topsoil moisture rated 60% short, 40% adequate. However, southwestern and south central areas mostly adequate. Fieldwork: 5.3 days suitable. Corn 84% silked, 39% dough compared with 64% silked 1980, 16% dough 1980. Crop good to excellent condition. Soybeans good condition, 21% blooming and just beginning to set pods. Peanuts

continued in excellent condition, growers are scouting for disease problems and spraying when necessary. Tobacco excellent condition, 11% of flue-cured crop harvested, 1% 1980, 4% average. Fire-cured tobacco harvest just beginning central. Pastures Statewide adequate to supply forage requirements; good condition, except in east. Hay fields good to excellent condition, haymaking continues active when weather is suitable. Leafhoppers causing problems in alfalfa fields in north. Peaches generally sizing well, harvest on schedule. Apples reported in good condition in southwest.

WASHINGTON: West: Skies were mostly cloudy with some scattered showers. Strawberry harvest neared completion. Raspberry harvest in full swing, blueberries just began. Crops harvested during the week included green peas, fresh market vegetables, and vegetable seeds. Sweet corn development was rated behind normal. Christmas trees shearing continued. Hay and pasture feeds adequate. Soil moisture mostly adequate.

East: Warm, dry weather throughout the week. Peach and apricot harvests were in full swing. Cherries and early apples were picked. Later apples were turning color and in good condition. Early variety potatoes were harvested. Green pea harvest neared completion. Dry pea and vegetables were harvested. Winter wheat harvest in southern counties was active and moving northward. Barley combining began in some areas. Grass seed harvest got underway. Second cutting of alfalfa continued with adequate supplies.

WEST VIRGINIA: Temperatures averaged near normal. High 97°, low 40°. Precipitation above normal in northeast and northwest and central; below normal elsewhere. Range 0.10 to 2.72 in.

Soil moisture adequate to short. Days worked: 4.4. Main activities: Hay harvesting, gardening, small grain harvesting. Wheat good to fair condition, 82% harvested; 59% in 1980. Barley good to fair condition, 96% harvested; 75% in 1980. Oats good to fair condition. Hay good to fair condition; 1st cutting 88% complete, 86% of normal; 91% and 93% in 1980; 2nd cutting 28% complete and 68% of normal; 26% and 83% in 1980. Tobacco fair to good condition. Fruit poor to fair. Pasture good to fair condition. Potatoes good to fair. Gardens fair to good.

WISCONSIN: Temperatures averaged 4° below normal as the State experienced moderate weather. Highs were mostly in the 80's and lows were mostly in the 40's. Warm spots in the State were Mondovi and Morse which reached 91° on 20th. Cool spot was Lake George which dipped to 39° on 22nd. Rainfall was heaviest in the southeast which averaged 1.20 in. Other districts averaged from 0.60 to 1.10 in. Fox Valley and Lakeshore areas in greatest need of precipitation.

Fieldwork: 5 days suitable. Sporadic rainfall aided crop conditions but slowed second crop hay harvest. Second crop hay harvest about 40% complete, 45% 1980, 28% average. In many areas the rainfall coupled with cloud cover and high humidity made haying very difficult. Corn continues to make very good progress, aided by recent precipitation. Corn 55% tasseled and 32% silked. In 1980 the corn crop was 51% silked with an average of 32%. Small grains being harvested, winter wheat in the south and oats in the southern half of the State. Potatoes and other irrigated crops look very good. Fruit and vegetable crops progressing as evidenced by the increasing variety available at farmer's markets and roadside stands. Topsoil moisture supplies rated 24% short, 60% adequate and 16% surplus.

WYOMING: Temperatures generally below normal. Highest temperature 100°. Lowest 34°. Most

stations received below normal precipitation. Largest amount 1.24 in.

Topsoil moisture short 74% State. Average 6 days suitable for fieldwork. Winter wheat mature: 90%; year ago 90%; 81% normal; harvested: 40%; year ago 60%; 46% normal. Spring wheat mature: 20%; year ago 30%; 24% normal; wheat harvested: 5%; year ago 10%. Oats mature: 15%; year ago 15%; 20% normal; harvested: 5%; year ago 5%. Barley mature: 30%; year ago 40%; 32% normal; harvested: 5%; year ago 5%. Corn tasseled: 35%; year ago 40%; 35% normal. Dry beans in bloom: 50%; year ago 55%; 62% normal. Potatoes in bloom: 45%; year ago 60%; 51% normal. First cutting alfalfa harvested: 90%; year ago 90%; 92% nor-

mal. Second cutting alfalfa: 5%; year ago 15%; normal 15%. Other hay harvested: 50%; year ago 45%; 49% normal. Row crops mostly good condition. Stock water supplies 55% adequate, year ago 78% adequate.

National Weather Summary (Continued from p. 1)

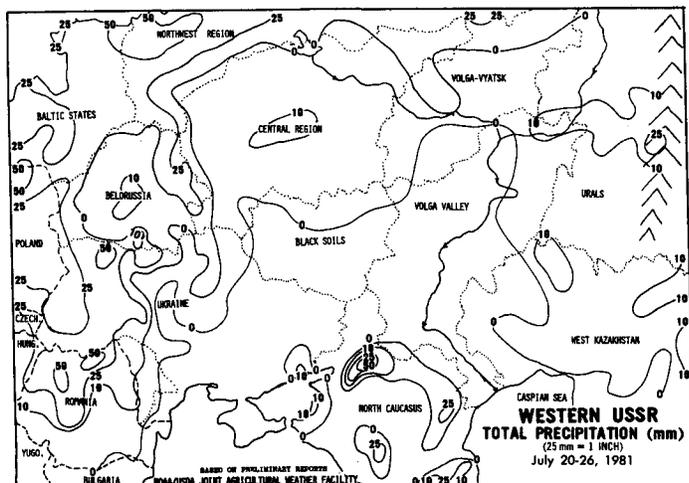
western Virginia. Hot weather continued south of the front but some record cool weather was recorded behind it. Some areas in the Plains never reached the 70° mark during the day. A tropical depression in the western Gulf of Mexico caused some showers and thunderstorms in the lower Rio Grande Valley of Texas.

International Weather and Crop Summary

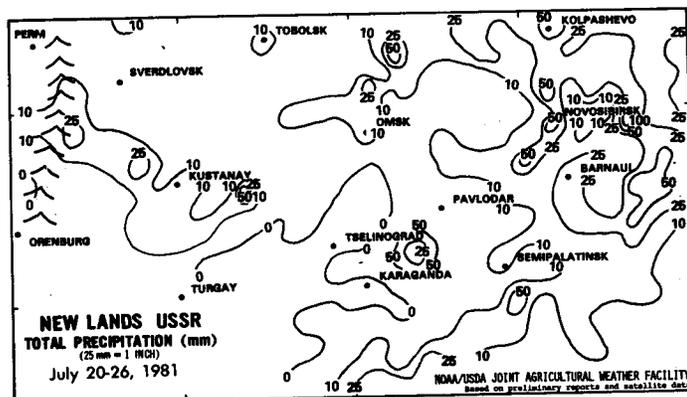
July 20-26, 1981

HIGHLIGHTS

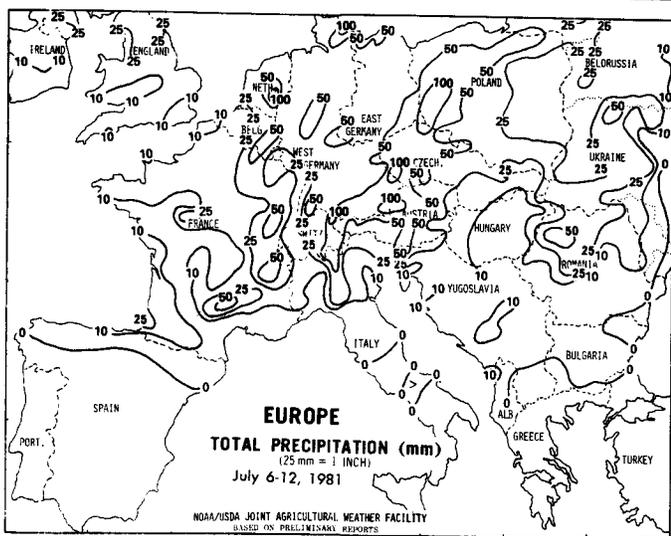
- EUROPE:** Continued wet weather in central areas; some rain in England; too dry in the southeast.
- USSR:** Hot and dry weather hurt spring-planted crops in eastern and southern European USSR. Beneficial rains continued in eastern New Lands.
- CHINA:** Heavy rains caused flooding along the southern coast. Beneficial rain in Inner Mongolia, but still too wet in Sichuan and Heilongjiang.
- INDIA:** Heavy rain in northwestern India and northern Pakistan caused some flooding but benefited agriculture overall.
- CANADA:** Showery weather aided crop growth in most areas as the crops advanced into heading and early grain-filling; some dryness persists in S.E. Saskatchewan.
- AUSTRALIA:** Abundant rainfall provided favorable soil moisture supplies for vegetative growth of wheat.
- SOUTH AMERICA:** Dry, cold weather prevailed, causing frost damage to coffee trees in Brazil.
- SOUTHEAST ASIA:** Monsoon showers occurred throughout Thailand benefiting crops and irrigation reservoirs.
- MEXICO:** Abundant showers helped southern Plateau corn, now in high water use stage.



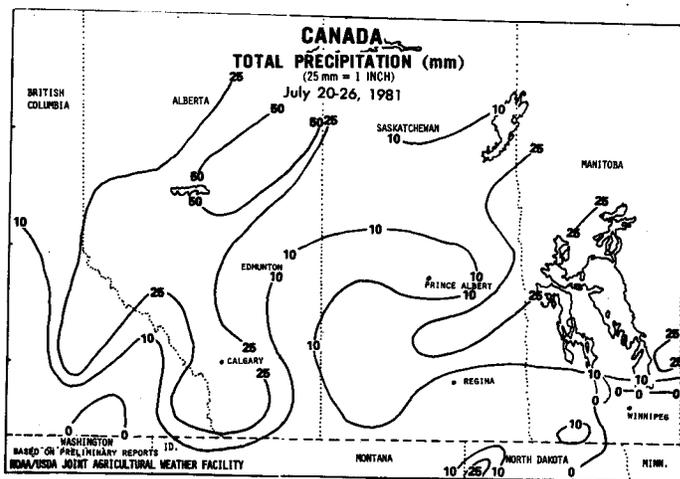
USSR: Hot and dry weather in advance of a slow-moving cold front stressed spring-planted crops in southern and eastern European USSR. A substantial portion of the corn crop in the Ukraine and Krasnodar Kray should have been in the flowering stage, and was adversely affected. Spring wheat and barley in these southern areas were nearly ready for harvest and thereby avoided damage. However, as the front drifted eastward, it brought very hot and dry weather to the middle and upper Volga Valley and the southern Urals. Late filling of spring wheat and barley was likely



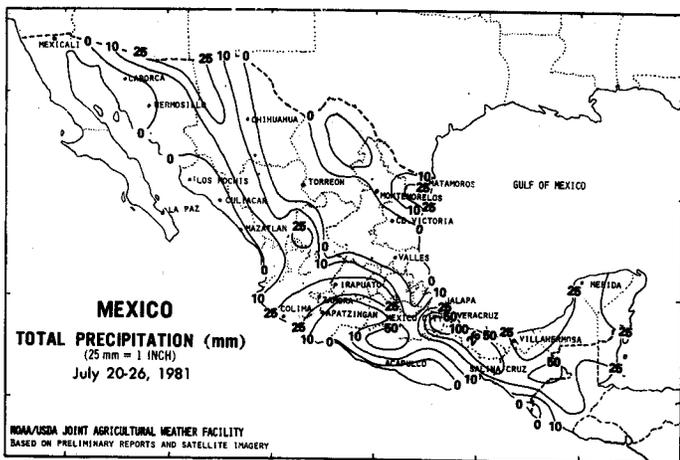
affected, for soil moisture was very low in the upper Volga Valley. Conditions in the southern Urals and western Kazakhstan may have been hot enough to damage nearly mature grains. Only in western parts of European USSR did widespread rainfall occur. In the New Lands, beneficial rains continued over some eastern portions, maintaining improved growing conditions. Spring grain yield losses in that area will depend on how much of the crop had passed into the heading stage before the rains began in mid-July. Many western parts of the New Lands received only light rain, but soil moisture remained good and temperatures stayed relatively low.



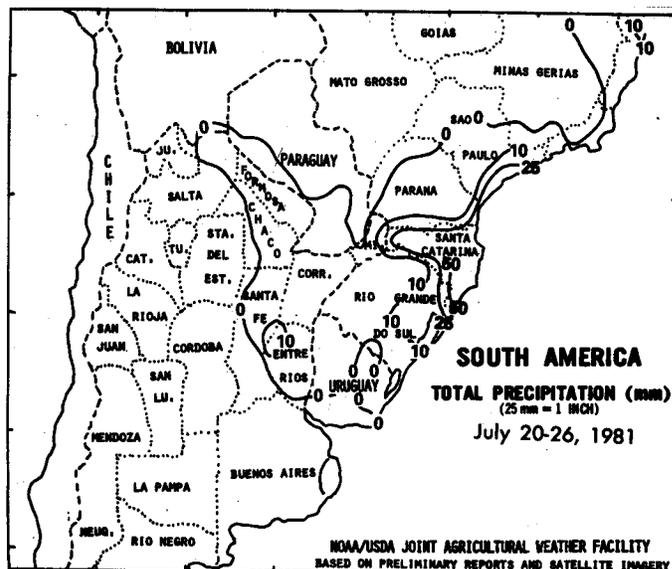
EUROPE: Wet weather continued over central portions of the region early in the week. Flooding was reported from West Germany eastward into Hungary. Wet conditions were not favorable for maturing winter grains. Moderate rainfall in England improved conditions for spring-planted crops, but soils remain unfavorably dry. Heavier rain in France was limited mostly to the east, with near-normal rainfall occurring over most crop areas. Southeastern countries received only light rainfall; crops should be coming under stress due to insufficient soil moisture since the situation has persisted since late June.



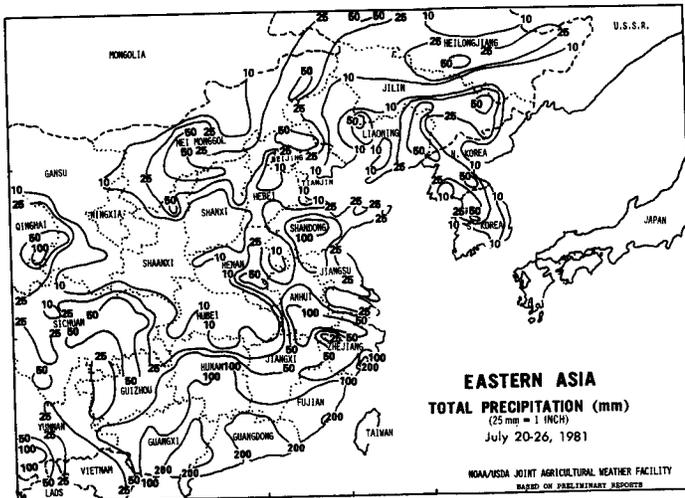
CANADA: Locally heavy showers, associated with the passage of a frontal system, produced mostly beneficial rain (from 10 to 25 mm) in the Prairie Provinces. Isolated reports of hail and heavier rain may have caused some lodging of grain crops. Crops are developing favorably except in southeastern Saskatchewan. Weekly rainfall in this area was generally less than 5 mm. With crops reaching their peak moisture requirements, some local crop stress may be occurring. Crops in the Prairie Provinces are now mostly in heading to early grain-filling stages.



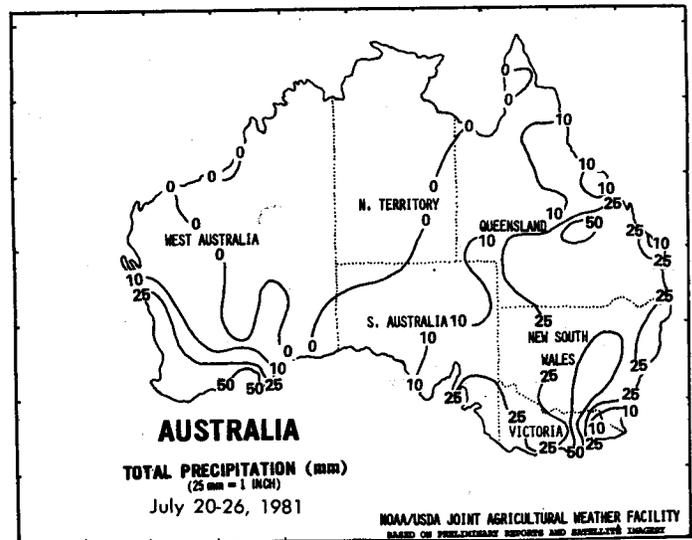
MEXICO: Localized heavy rains, generated by a weakening tropical depression, moved into north-eastern Mexico between Matamoros and Montemorelos and interfered with corn harvest but did not reach into the citrus area. Dryness during the past several weeks stressed non-irrigated orchards as far south as Valles. Generally adequate rains fell over southern Plateau corn, now in the peak-water need tasseling stage. Cotton in northern and west coast areas progressed under hot, dry weather while moderate showers fell over some northwestern watersheds.



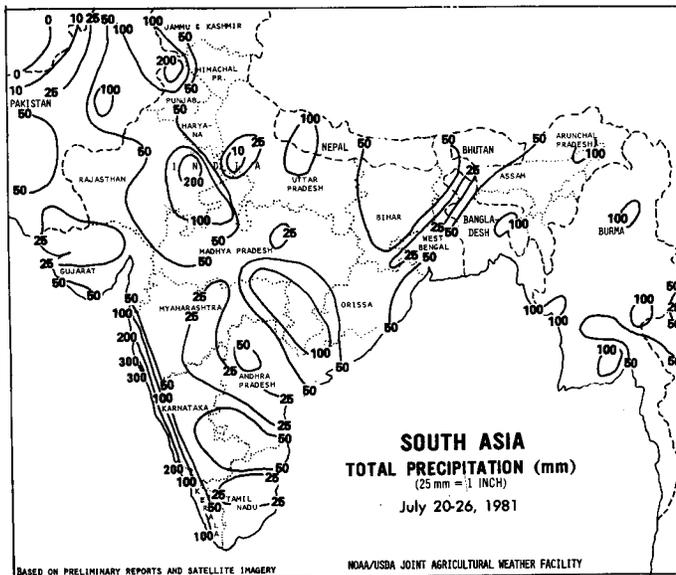
SOUTH AMERICA: A cold front advanced northward from Argentina into Brazil at the beginning of the week accompanied by mostly light rainfall except along portions of Brazil's coast. The cold air mass brought freezing temperatures and frost to Brazil's coffee-growing area from Parana to southern Minas Gerais on Monday and Tuesday mornings. At Londrina, Parana, the minimum temperature was 0° C on both mornings. Given the variable topography, cold air drainage under clear skies with light winds would have caused the most severe frost to be concentrated in lower-lying coffee areas. Initial assessments indicate that the widespread frost, although not as intense as the severe and devastating 1975 frost episode, damaged leaves, tips of branches and buds of coffee trees. Cold weather will reduce the coffee trees' blooming potential, resulting in reduced capacity to set coffee beans. This frost episode will impact on next year's coffee production. In northern crop areas some wheat may have been affected by the frost where the stage of development reached heading at the time of the frost.



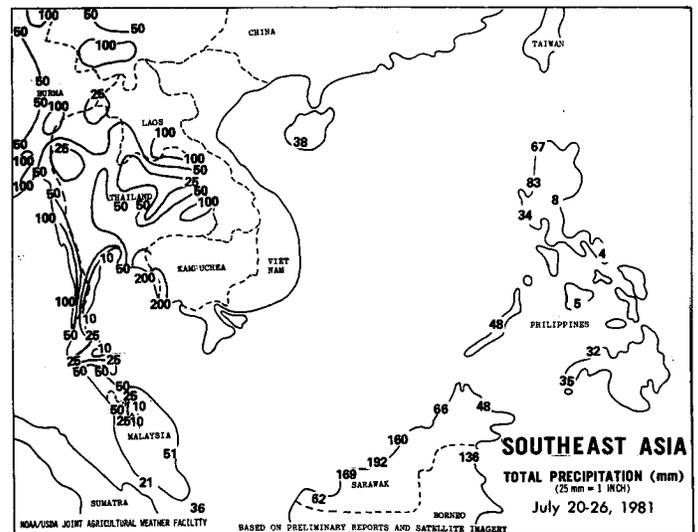
CHINA: Tropical weather disturbances dumped heavy rainfall along the southern coastal provinces. Early rice should have been nearly all harvested, but flooding likely caused some damage to other crops. Continued above-normal rainfall in the Sichuan Valley hampered recovery from flooding during the previous week. Above-normal rainfall over many eastern and northern areas was mostly beneficial, especially for Inner Mongolia. However, some eastern portions of the Manchurian Valley remained too wet. In South Korea, rainfall in most areas remained lighter than normal for the second consecutive week, but irrigation water supplies should still be quite adequate.



AUSTRALIA: Substantial rains fell throughout much of Australia's wheat belt. Weekly rainfall amounts ranged from 20 to 65 mm in nearly all major wheat and barley growing areas. Only the western portion of South Australia's crop area missed soaking rains; however, showers did produce some measurable amounts (mostly less than 10 mm) in this area. Soil moisture supplies, which are much improved over last year at this time, will enhance initial spring growth during the next few weeks. Although some planting delays have occurred due to plentiful rains in June and July, the outlook remains very optimistic for good crop yields.



SOUTH ASIA: Moderate rains continued in Bangladesh and northeastern India, but heavier amounts occurred in Pakistan and northwestern India. Flooding was reported in northern Pakistan and in Rajasthan State in India. Nevertheless, the above-normal moisture will benefit crops in these areas immensely. Cotton and peanuts in many western and southern parts of India benefited from increased rainfall. Previously dry areas of the south received generous rains. In spite of the uncertain start, the summer monsoon has been good so far this year.



SOUTHEAST ASIA: Significant rain fell throughout much of Thailand. In the major corn and rice growing area of the Central Plains, weekly rainfall amounts ranged from 50 to 100 mm. Precipitation was somewhat less in northeastern Thailand where 20-40 mm of rain fell. In the northern highlands, rainfall was variable but weekly totals generally ranged from 25 to 75 mm. Reservoirs have benefited from this year's monsoon activity and crop growth conditions remain favorable. With moisture supplies adequate for rice growth, periods of relatively dry weather would be favorable for the corn harvest.

Freeze Hits Brazilian Coffee Area
on July 20 and 21, 1981

Don Haddock, Ray Motha, Ray McInturff, Mike Halpert, and Rick Smelser
NOAA/USDA Agricultural Weather Facility

Frigid air surged through Brazil's coffee regions during the third week in July, killing bloom buds and potentially causing a significant reduction in 1982/83 production. Trade sources estimate a loss of about one-third of next year's crop based on initial assessments. The damage should not be as severe as in 1975 when coffee trees were killed. Affected Brazilian coffee areas are shown in Figure 1.

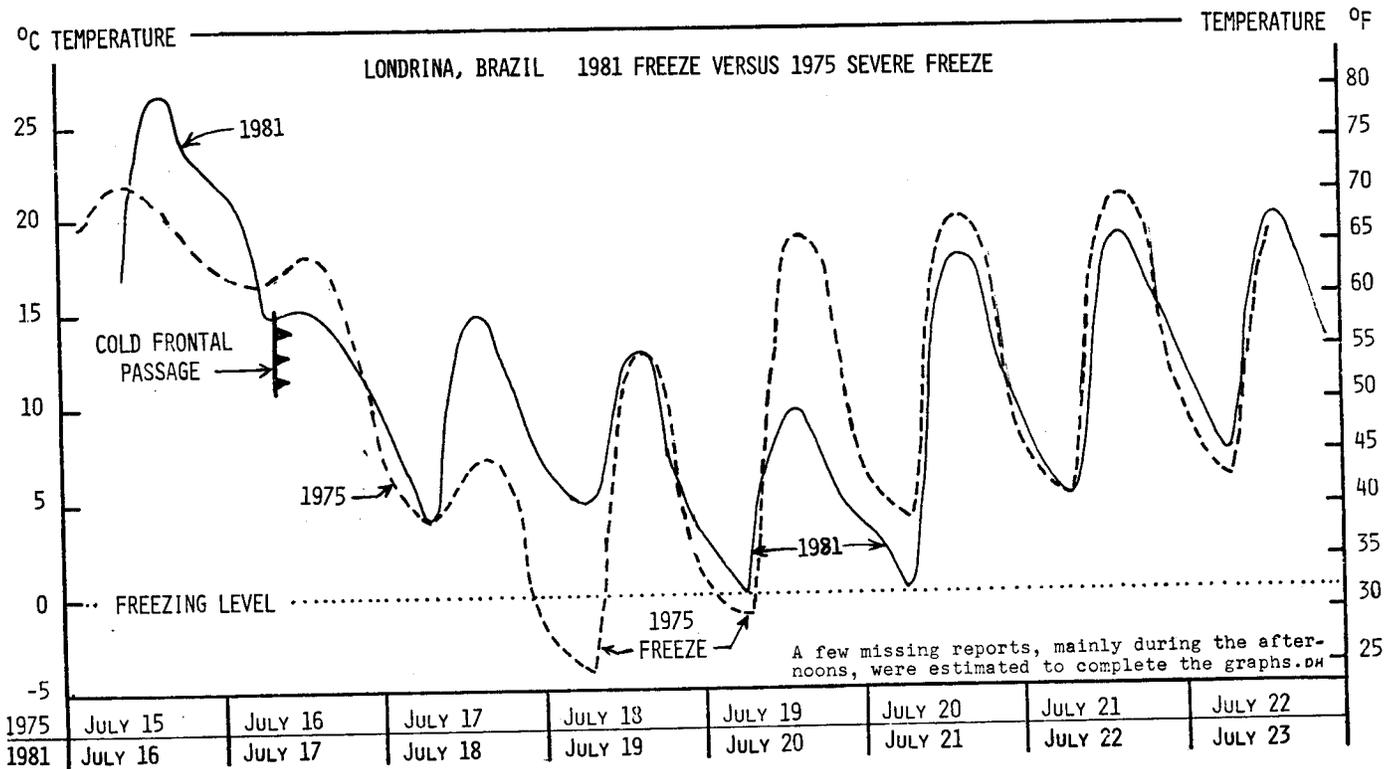
BRAZIL COFFEE



Meteorological Situation

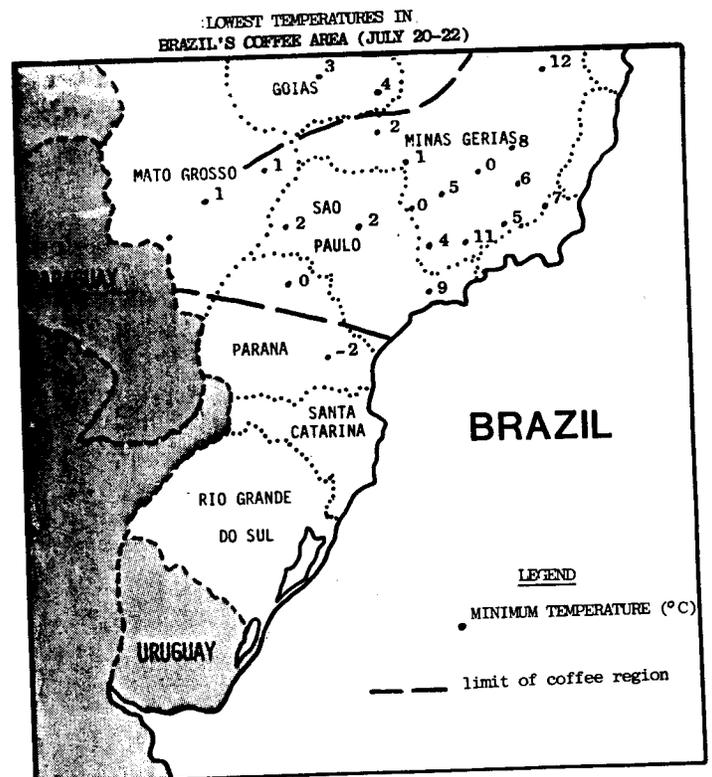
A typical "winter" circulation pattern for South America is the movement of a high pressure system across Chile and Argentina on a south-easterly track. Once into Argentina the movement shifts to a northeasterly direction. Moderation of cold temperatures usually takes place over the Atlantic before reaching or affecting Brazil's weather. Periodically the high pressure system remains over land and moves in a more northerly track. This allows the penetration of colder air into Brazil's vulnerable coffee-growing regions.

The path of this year's cold air movement into Brazil is depicted in Figure 2. A small high pressure center moved onto the southern tip of South America on July 14. It intensified to 1032 millibars while crossing Argentina (Figure 2), reached Paraguay on the 17th, and became stationary over the large Brazilian coffee region on the 21st.



Coldest temperatures were recorded around sunrise on the 20th and 21st. A detailed pattern of the cold wave at Londrina, a key weather station in the southern part of the coffee belt, is presented in Figure 3. The temperature graph also contains comparative data for 1975's severe freeze. Londrina chilled to -4°C then versus only a 0°C in 1981. After the 1975 freeze, part of the coffee area was shifted northward by expanded plantings into a generally warmer climatic zone, and by not replanting the southern fringes.

Lowest air temperatures from regularly reporting sites during the cold period in southern Brazil are shown in Figure 3. Coffee leaf and bud temperatures were probably about a degree or two colder. Also, coffee grove temperatures may have been slightly colder than those at the regularly reporting sites, usually at airports.



Coffee Adaptation

Coffee is grown widely throughout the tropics and warmer subtropics, but the crop is best suited to tropical highlands rather than rainforest climates. Coffee trees are grown on hilly or rolling uplands and require porous soils for drainage. Coffee is grown under a wide range of rainfall and temperature conditions; however, climate dictates where the crop will grow best. A good seasonal distribution of rainfall (about 1300-1900 mm, annually) is considered most favorable. Distinct wet and dry seasons are desirable. The dry period is important for root growth, maturation of branches formed during the wet season, flower initiation, and ripening of the coffee bean.

Day length is an especially important factor controlling floral development. Flower bud initiation is induced by short days. Flower opening, or anthesis, depends primarily on rainfall distribution and appears to be a response to rain following a dry period. However, heavy rain during the flowering season may reduce the crop considerably. Buds may or may not develop into flowers, depending upon external conditions. Whether an inflorescence or a vegetative shoot will originate from a bud cannot be ascertained until the bud reaches a certain stage of development.

In Brazil, there are usually three to four flowerings after the onset of the wet season, usually in September and extending into November or December. Harvesting of the coffee beans normally occurs from May through July. Two patterns contribute to the coffee crop calendar:

1) long days (over 13 hours) during the summer months inhibit flower bud initiation for 3 to 4 months; and 2) the rather well-defined wet and dry seasons dictate the pattern of bud and flower development.

Temperature is an important limiting factor in crop production. The optimum range of temperatures for coffee is between 18° and 24° C. High temperatures, especially in combination with high humidity, inhibit growth because, above 24° C, net photosynthesis begins to decrease and becomes negligible at about 35° C. This is a main reason why coffee is not recommended for equatorial lowlands. Temperatures below 12° C for long periods also inhibit growth, and freezing temperatures stop growth.

During Brazil's dry season from May to September, the coffee plant goes into a state of dormancy and coffee beans are harvested. While dormant, the physiology of the plant drops to minimum level during the coldest months which provides some natural protection from cold weather. However, cold winds and frost may cause severe damage to coffee trees.

The severity of frost damage depends on numerous factors. Air temperatures at or slightly above freezing may result in frost in low-lying areas due to cold air drainage under clear skies and light winds. Such a freeze would halt the growth of or destroy leaves, tips of branches, and buds of coffee trees located in the freeze area. A hard freeze, resulting from below-freezing temperatures for several hours duration, may kill coffee trees, however. Such a frost episode occurred in Brazil during the winter of 1975.

