

# WEEKLY WEATHER AND CROP BULLETIN

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

U.S. DEPARTMENT OF AGRICULTURE  
Statistical Reporting Service  
and World Agricultural Outlook Board

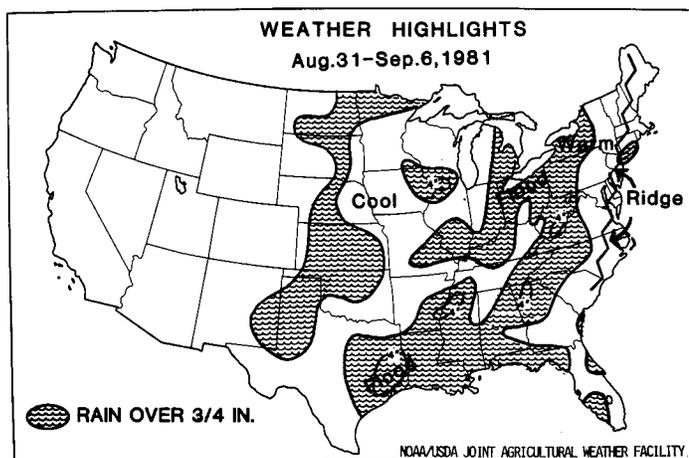
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Sept. 9, 1981

## National Weather Summary

Aug. 31-Sept. 6, 1981



**HIGHLIGHTS:** Showers and thunderstorms covered most of the Nation, with the exception of California and much of the central Plateau. Heavy downpours caused flooding along the southeastern Texas coast, and in southeastern Michigan and northern Ohio. A ridge of high pressure persisted along the east coast and kept showers inland. Temperatures at the end of the week were much cooler in the northern Rockies and most of the Plains.

**MONDAY...**Torrential rains continued in the southern Texas coastal area. Huge amounts were reported between San Antonio and Houston. Several tornadoes were spotted and local flooding covered some small towns. Other heavy thunderstorms occurred throughout the Mississippi Valley, from the central Rockies to Missouri, through the Ohio and Tennessee Valleys to Virginia and Pennsylvania, and along the northeastern coast. Light showers pushed into the Pacific Northwest and cooler air spread through the northern and central Rockies and Plains.

**TUESDAY...**A cold front pushed eastward and southward to Michigan, Indiana, Arkansas, and central Texas to New Mexico. Showers and thunderstorms accompanied and preceded the front and were scattered from the southern Plains across the eastern third of the Nation. The heaviest rain was west of the Appalachians while the eastern slopes only had light showers. The feel of fall settled over the central and northern Plains as cool air trailed the cold front.

**WEDNESDAY...**Thunderstorms were again reported from central Texas through Alabama and along and west of the Appalachians. The heaviest rain fell along the west central gulf coast, and in Kentucky. Only light showers crossed the Appalachians to the eastern slopes. Another cold front picked up moisture

and triggered thunderstorms from northeastern Utah into Nebraska.

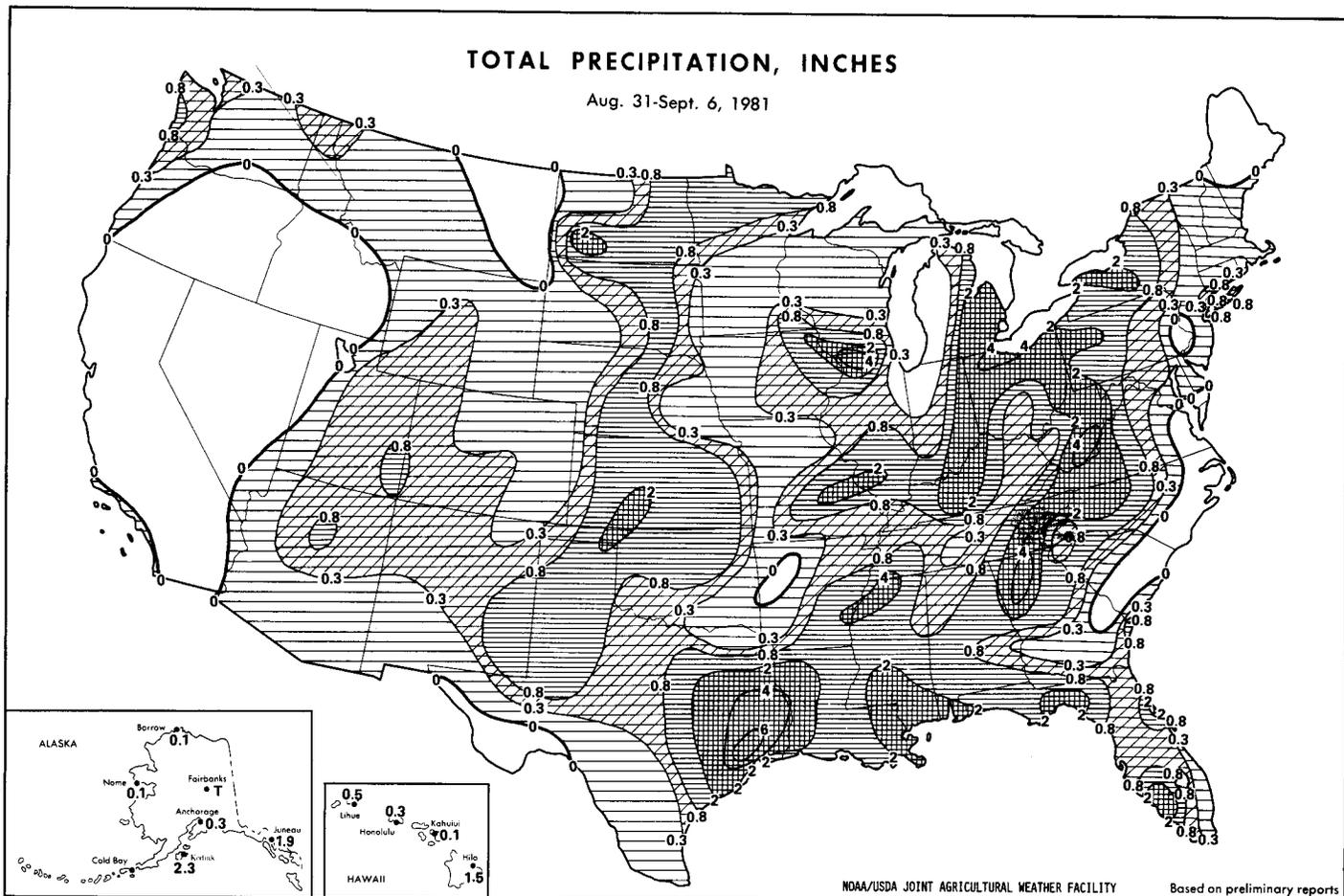
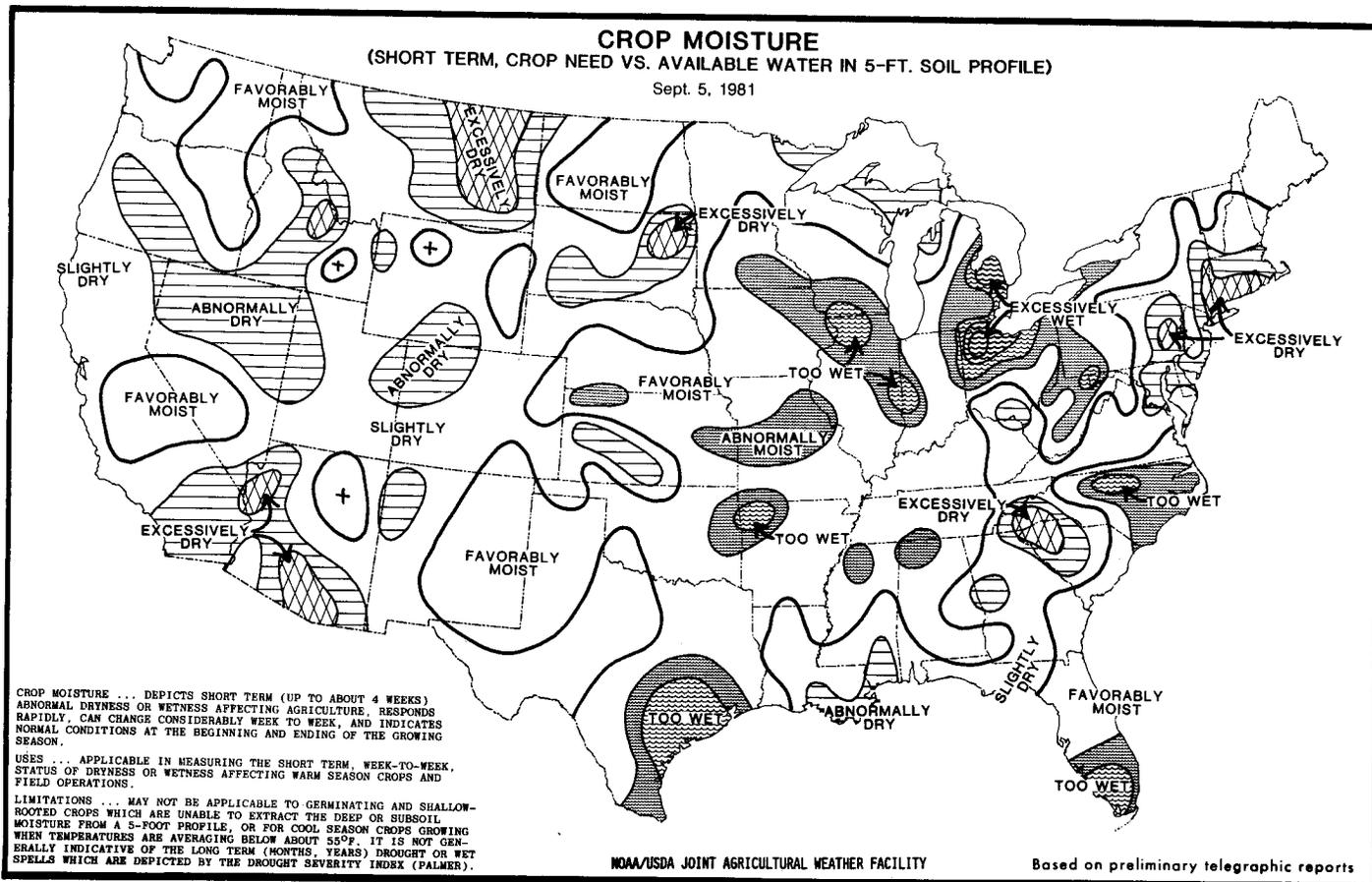
**THURSDAY...**Cool air continued to push eastward but a ridge of high pressure along the east coast kept the cooler air along and west of the Appalachians. Some heavy thunderstorms occurred along and west of the mountains. A wave on the cold front produced very heavy rain in southeastern Michigan and northern Ohio. The latest cold front triggered thunderstorms from the central Rockies to Iowa. Very cool air pushed into the Plains with low temperatures generally in the 40's in the northern Plains.

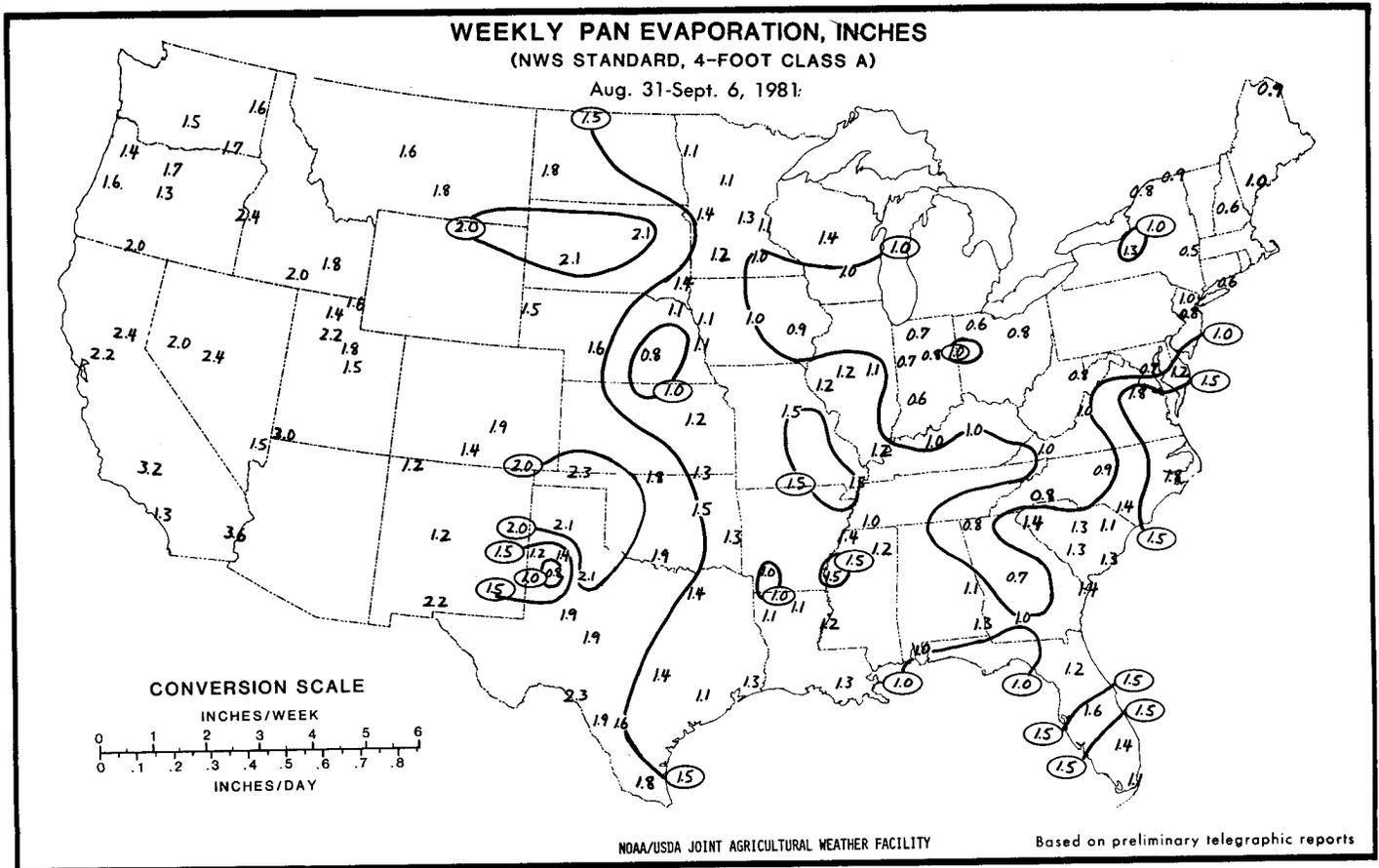
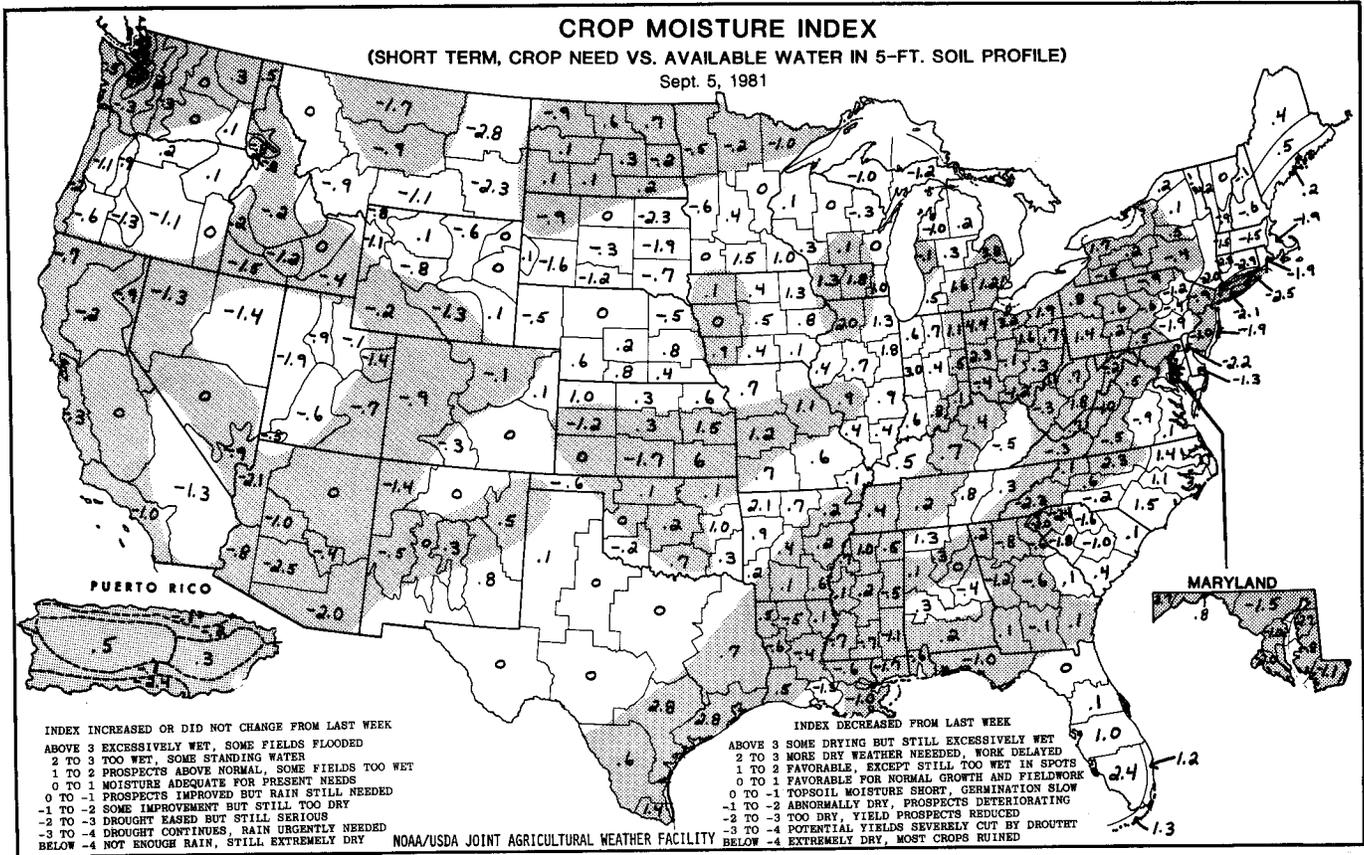
**FRIDAY...**Thunderstorms developed in western Arizona and moved into Nevada, posing threats of local flooding to this normally dry area. In the East, the high pressure ridge continued along the east coast. The showers and thunderstorms pushed eastward toward the coast and fell heavily from New York to Florida. Scattered showers fell in the central and southern Rockies.

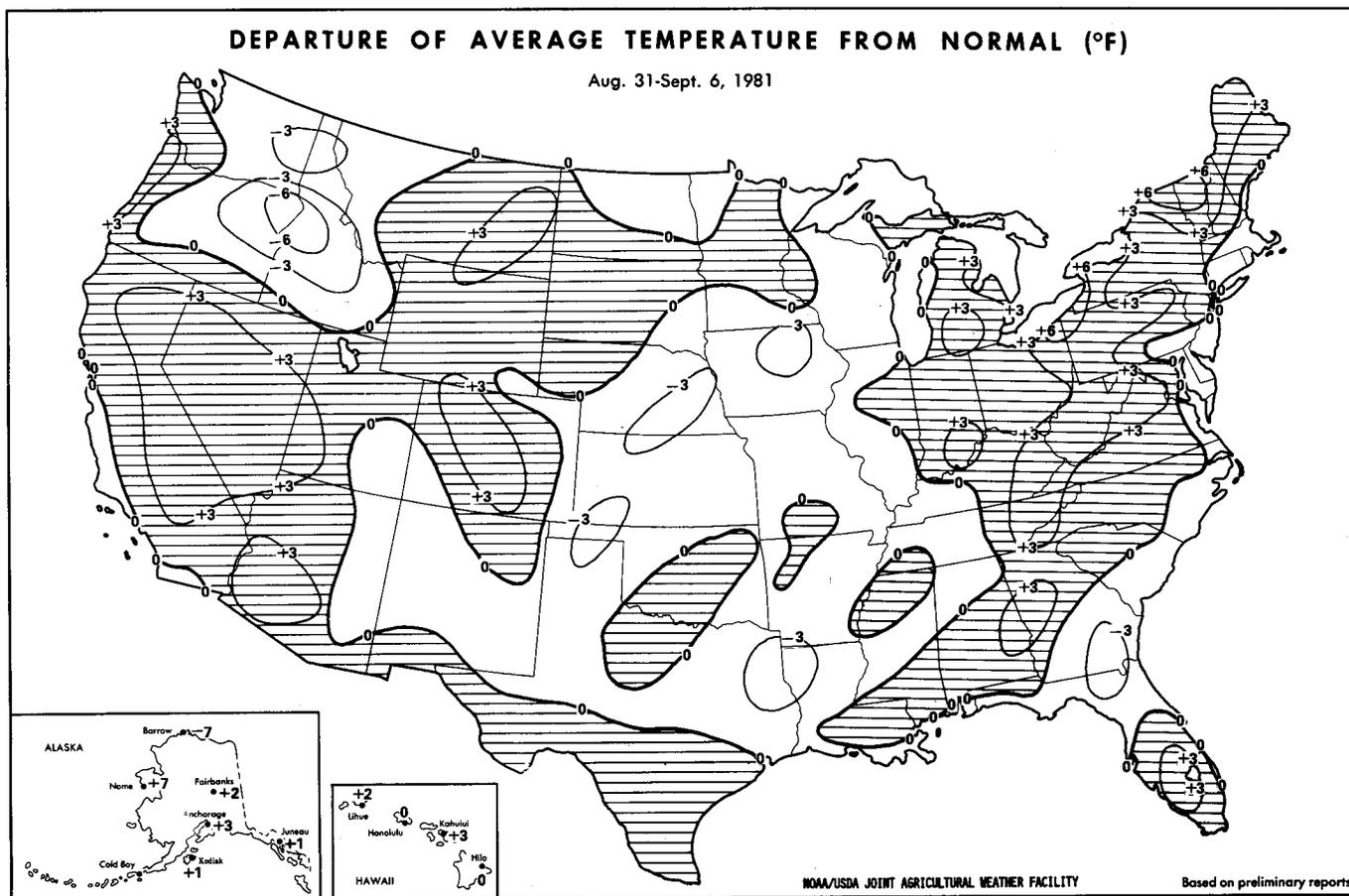
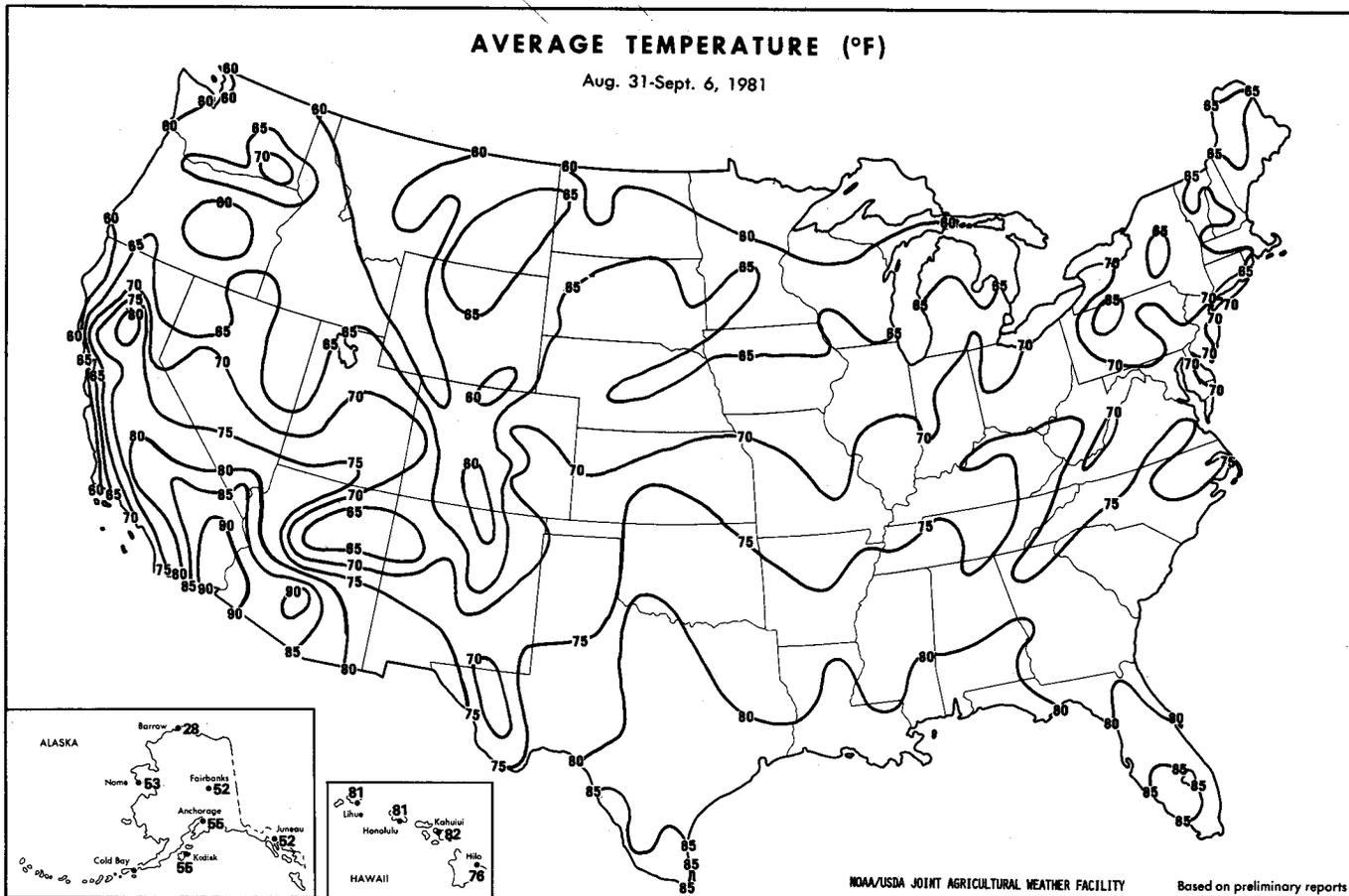
**SATURDAY...**The cold air, still pushing slowly eastward, brought light showers to New York, Pennsylvania, and along the Appalachians. Showers and thunderstorms pushed nearly to the coast in the Carolinas and were quite heavy along the eastern slopes. Showers and thunderstorms developed in Texas, through the Southwest, the Rockies and western Plains. Storms were frequent and occasionally severe from eastern New Mexico to central Kansas. Isolated severe storms were reported throughout the Southwest. (Continued on page 28.)

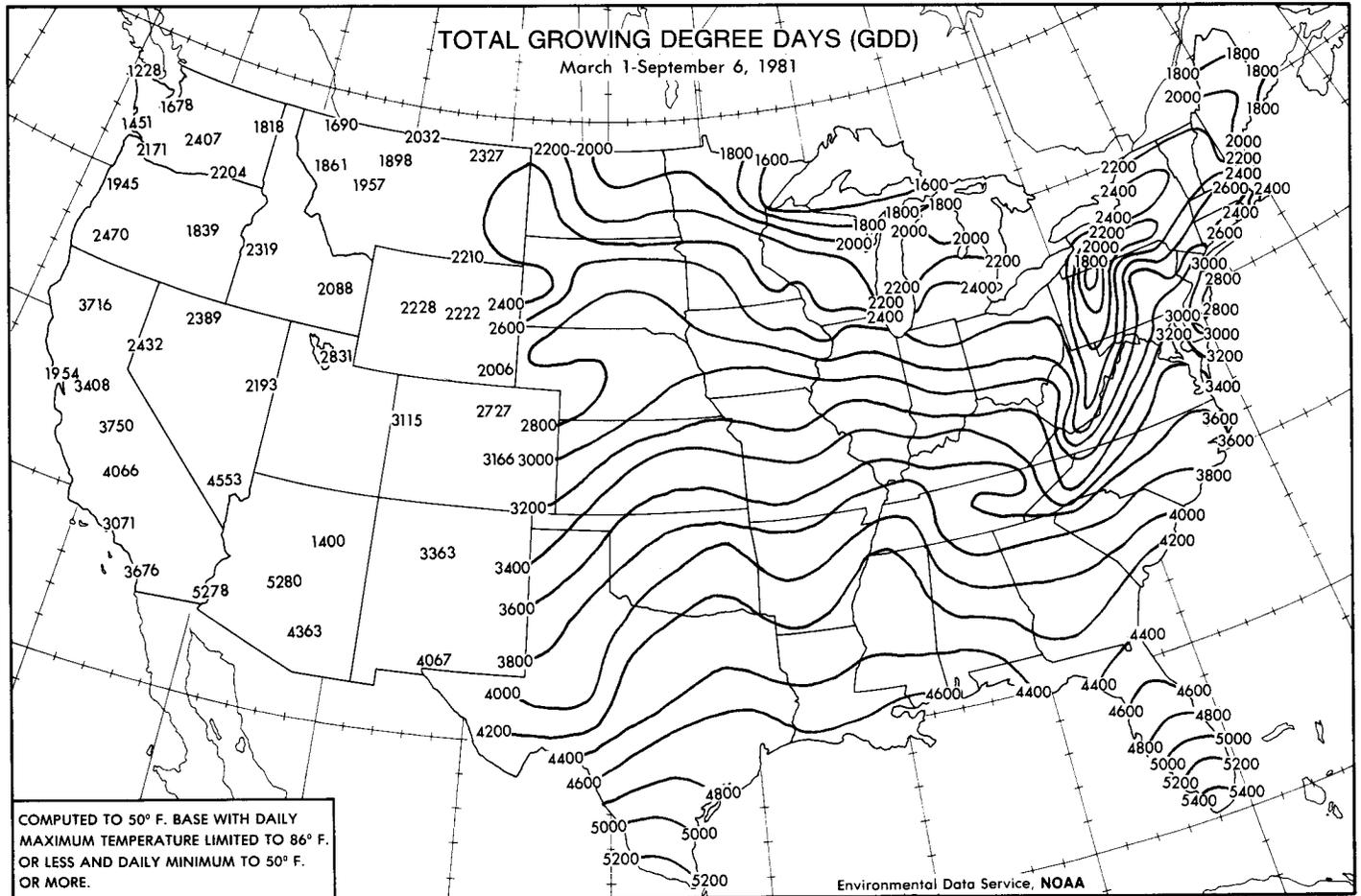
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Weather Data for the Week Ending Sept. 6, 1981

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 Sept. 1	PCT. NORMAL SINCE Sept. 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	
AL BIRMINGHAM	87	70	89	65	79	2	1.9	1.0	1.4	1.9	211	30.5	79	93	62	0	0	5	1	
MOBILE	90	75	91	73	83	2	3.2	1.6	1.6	3.2	200	47.7	95	58	6	0	0	6	2	
MONTGOMERY	89	73	90	72	81	2	.4	.6	.3	.4	40	34.5	97	94	62	3	0	3	0	
AK ANCHORAGE	61	49	69	47	55	3	.3	.3	.2	.3	50	13.2	145	89	54	0	0	3	0	
BARROW	31	25	33	24	28	-7	.1	.1	T	.1	50	--	--	100	89	0	7	3	0	
FAIRBANKS	66	38	72	30	52	2	T	.4	T	0	0	7.1	87	78	28	0	1	0	0	
JUNEAU	59	46	65	34	52	1	1.9	.5	.8	1.9	136	29.3	94	96	69	0	0	5	2	
KODIAK	58	51	63	49	55	1	2.3	1.0	1.1	2.3	177	47.3	135	98	83	0	0	5	2	
NOME	59	48	62	40	53	7	.1	.6	.1	.1	14	12.1	108	86	59	0	0	2	0	
AZ FLAGSTAFF	72	51	79	48	62	1	T	.5	T	0	0	16.4	121	95	49	0	0	0	0	
PHOENIX	102	82	105	76	92	5	.1	.1	.1	.1	50	4.5	96	57	28	7	0	1	0	
TUCSON	95	70	98	65	83	0	.2	.2	.2	.2	50	12.4	163	76	28	7	0	2	0	
WINSLOW	82	57	89	52	70	-3	.5	.2	.3	.5	167	6.7	112	--	--	0	0	4	0	
YUMA	105	82	108	80	94	3	T	.1	T	0	0	1.4	64	59	26	7	0	0	0	
AR FORT SMITH	88	69	91	65	78	1	T	.7	T	0	0	29.4	97	95	54	4	0	0	0	
LITTLE ROCK	84	69	94	64	76	0	1.8	1.1	1.3	1.8	257	33.7	99	94	69	1	0	3	1	
CA BAKERSFIELD	99	70	101	67	85	5	0	0	0	0	+100	4.4	110	46	18	7	0	0	0	
EUREKA	63	53	64	52	58	1	T	.1	T	0	0	19.0	79	77	0	0	0	0	0	
FRESNO	98	63	100	60	80	5	0	0	0	0	+100	7.5	107	80	20	7	0	0	0	
LOS ANGELES	75	64	77	63	69	0	T	.1	T	0	0	6.6	83	84	59	0	0	0	0	
RED BLUFF	100	65	104	61	82	4	0	.1	0	0	0	16.3	116	55	14	7	0	0	0	
SAN DIEGO	78	69	80	68	74	2	T	0	T	0	0	+100	8.5	142	83	65	0	0	0	0
SAN FRANCISCO	74	51	82	49	63	-1	0	0	0	0	+100	12.2	99	90	50	0	0	0	0	
STOCKTON	95	60	98	56	77	3	0	0	0	0	+100	9.2	102	76	21	7	0	0	0	
CO DENVER	83	57	94	53	70	3	.2	.1	.1	.2	67	10.9	89	84	30	2	0	4	0	
GRAND JUNCTION	84	59	91	50	71	0	.4	.2	.2	.4	200	5.5	106	74	35	1	0	4	0	
PUEBLO	86	59	93	54	73	2	.2	.1	.1	.2	67	6.6	64	87	32	2	0	3	0	
CT BRIDGEPORT	75	61	79	56	68	-2	2.0	1.2	1.8	2.0	250	19.8	75	89	60	0	0	2	1	
HARTFORD	76	57	81	46	67	0	.1	.9	T	.1	10	19.1	65	87	46	0	0	2	0	
DC WASHINGTON	81	71	86	69	76	2	.3	.6	.3	.3	33	22.9	82	92	69	0	0	1	0	
FL APALACHICOLA	86	73	90	73	80	-1	.1	2.1	.1	.1	5	29.9	72	93	70	1	0	2	0	
DAYTONA BEACH	87	73	89	72	80	-1	2.4	.8	2.4	2.4	150	27.7	79	92	65	0	0	2	1	
FORT MYERS	94	79	95	78	86	4	2.3	.2	1.0	2.3	110	45.9	115	81	47	7	0	2	2	
JACKSONVILLE	88	70	89	68	79	-1	.5	1.4	.2	.5	26	25.4	64	99	64	0	0	3	0	
KEY WEST	89	80	90	78	84	0	2.1	.6	1.4	2.1	140	17.4	72	93	70	2	0	5	2	
MIAMI	90	76	92	74	83	1	.1	1.7	T	.1	6	32.4	80	92	59	4	0	4	0	
ORLANDO	92	74	93	73	83	2	.7	1.0	.5	.7	41	31.4	82	96	51	7	0	2	1	
TALLAHASSEE	88	71	91	70	80	0	3.9	2.3	1.9	3.9	244	40.5	87	100	61	3	0	4	3	
TAMPA	90	73	91	73	82	-1	.7	1.1	.7	.7	39	28.8	75	98	58	3	0	1	1	
WEST PALM BEACH	92	74	93	73	83	1	.1	1.9	.1	.1	5	31.9	80	92	55	7	0	4	0	
GA ATLANTA	85	70	88	69	78	2	4.0	3.2	2.0	4.0	500	29.7	83	96	62	0	0	3	2	
AUGUSTA	87	66	89	63	76	-1	0	.8	0	0	0	31.1	96	100	56	0	0	0	0	
MACON	88	70	92	68	79	0	1.3	.6	1.0	1.3	186	34.1	102	100	58	2	0	3	1	
SAVANNAH	87	69	89	68	78	-1	.9	.5	.6	.9	64	32.0	83	95	57	0	0	2	1	
HI HILO	83	70	85	66	76	0	1.5	.4	.8	1.5	79	--	--	84	61	0	0	6	1	
HONOLULU	88	73	89	72	81	0	.3	.2	.2	.3	300	5.9	41	86	52	0	0	4	0	
KAHULUI	89	75	90	72	82	3	.1	.1	.1	.1	+100	--	--	73	51	2	0	1	0	
LIHUE	88	73	89	72	81	2	.5	0	.1	.5	100	--	--	90	60	0	0	5	0	
ID BOISE	81	48	85	43	65	-3	0	.1	0	0	0	9.0	111	61	21	0	0	0	0	
LEWISTON	82	53	87	47	67	0	0	.2	0	0	0	8.9	97	64	24	0	0	0	0	
POCATELLO	82	45	88	37	63	-1	0	.2	0	0	0	8.9	119	60	15	0	0	0	0	
IL CAIRO	82	67	85	62	74	-1	.2	.7	.1	.2	22	32.7	95	--	--	0	0	2	0	
CHICAGO	74	60	85	53	67	0	.2	.5	.2	.2	29	30.6	131	100	64	0	0	3	0	
MOLINE	77	58	86	53	67	-1	1.6	.8	1.6	1.6	200	24.8	94	96	58	0	0	2	1	
PEORIA	79	60	89	56	69	0	.6	.2	.6	.6	75	33.9	131	96	62	0	0	2	1	
ROCKFORD	76	58	86	53	67	0	3.2	2.2	2.1	3.2	320	27.5	103	96	65	0	0	2	2	
SPRINGFIELD	80	61	90	56	71	0	.7	0	.7	.7	100	40.7	161	97	61	1	0	2	1	
IN EVANSVILLE	82	67	88	63	75	2	1.2	.6	.7	1.2	200	34.6	113	90	64	0	0	3	1	
FORT WAYNE	75	64	78	58	70	2	1.9	1.4	1.0	1.9	380	28.5	110	90	68	0	0	5	2	
INDIANAPOLIS	79	65	87	55	72	2	.5	.2	.3	.5	71	29.3	104	91	64	0	0	3	0	
SOUTH BEND	74	65	80	62	69	2	.1	.7	T	.1	13	29.1	113	97	74	0	0	2	0	
IA BURLINGTON	78	59	88	53	68	-1	.8	.1	.8	.8	89	33.8	133	93	54	0	0	1	1	
DES MOINES	78	60	86	55	69	0	.4	.4	.4	.4	50	23.8	100	89	61	0	0	1	0	
DUBUQUE	73	57	82	50	65	-1	1.5	.4	1.0	1.5	136	28.9	98	96	66	0	0	2	2	
SIOUX CITY	79	54	86	47	67	-1	.4	.3	.4	.4	57	14.7	72	87	53	0	0	1	0	
KS CONCORDIA	80	59	89	52	70	-2	1.0	.3	1.0	1.0	143	27.8	129	94	54	0	0	2	1	
DODGE CITY	88	63	95	55	75	2	2.2	1.7	2.0	2.2	440	19.8	118	83	39	2	0	4	1	
GOODLAND	79	54	92	47	67	-2	.3	.1	.3	.3	75	20.0	145	82	39	1	0	1	0	
TOPEKA	80	59	85	48	70	-3	1.3	.5	1.2	1.3	163	31.0	117	98	64	0	0	2	1	
WICHITA	86	65	97	55	76	0	1.4	.6	.7	1.4	175	18.7	81	90	46	2	0	3	2	
KY LEXINGTON	81	66	87	61	73	1	1.2	.5	.7	1.2	171	28.1	84	100	70	0	0	3	1	
LOUISVILLE	83	68	90	64	76	3	2.5	1.8	2.4	2.5	357	27.1	85	99	62	1	0	3	1	
LA BATON ROUGE	90	72	94	66	81	1	.2	.8	.2	.2	20	31.6	79	99	58	4	0	1	0	

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

+100 = NORMAL & ACTUAL NEAR THE SAME

Weather Data for the Week Ending Sept. 6, 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 Sept. 1	PCT. NORMAL SINCE Sept. 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
LAKE CHARLES	88	73	90	68	81	0	2.1	1.2	1.9	2.1	233	41.8	107	96	64	1	0	3	1
NEW ORLEANS	90	75	94	73	83	2	2.9	1.5	1.9	2.9	207	44.2	107	94	62	4	0	2	2
SHREVEPORT	85	68	91	64	77	-4	3.5	2.8	2.7	3.5	500	33.5	106	99	65	1	0	3	2
ME CARIBOU	77	55	79	50	66	8	0	.8	0	0	0	32.2	135	86	49	0	0	0	0
PORTLAND	69	56	75	52	62	0	T	.7	T	0	0	28.3	106	94	67	0	0	0	0
MD BALTIMORE	80	67	83	63	73	2	.4	.4	.4	.4	50	22.2	78	84	62	0	0	0	0
MA BOSTON	71	59	73	55	65	-3	T	.8	T	0	0	18.6	66	96	71	0	0	0	0
CHATHAM	68	59	71	55	64	-	.1	-	.1	.1	-	26.3	-	95	81	0	0	1	0
MI ALPENA	70	54	81	43	62	2	.9	.2	.9	.9	129	14.6	76	100	74	0	0	2	1
DETROIT	73	63	83	59	68	1	2.3	1.7	1.2	2.3	383	22.8	99	95	73	0	0	6	2
FLINT	71	60	82	55	65	1	2.7	2.0	1.2	2.7	386	23.7	110	98	78	0	0	6	2
GRAND RAPIDS	76	62	84	58	69	3	T	.7	T	0	0	29.2	130	93	68	0	0	0	0
HOUGHTON LAKE	72	57	80	53	65	4	T	.6	T	0	0	22.7	117	96	67	0	0	1	0
LANSING	72	61	83	55	67	2	1.3	.7	.7	1.3	217	21.1	97	100	80	0	0	4	1
MARQUETTE	67	48	75	40	58	0	.1	.9	T	.1	10	21.6	89	100	64	0	0	2	0
MUSKEGON	74	61	79	56	67	2	.3	.5	.2	.3	38	20.0	96	95	68	0	0	2	0
SAULT STE. MARIE	71	47	76	36	59	0	.1	.8	.1	.1	11	17.7	86	97	61	0	0	1	0
MN DULUTH	65	47	70	39	56	-2	.1	.7	.1	.1	13	20.4	91	96	64	0	0	2	0
INT'L FALLS	71	46	79	37	58	1	1.5	.6	.8	1.5	167	14.5	75	98	57	0	0	2	2
MINNEAPOLIS	74	53	83	46	64	-1	T	.7	T	0	0	20.8	103	85	56	0	0	2	0
ROCHESTER	71	50	78	44	61	-3	1.9	1.1	1.9	1.9	238	28.3	132	95	64	0	0	2	1
SAINT CLOUD	74	49	81	41	61	-1	.3	.5	.3	.3	38	18.5	87	89	54	0	0	1	0
MS JACKSON	87	69	90	62	78	-1	2.0	1.3	1.3	2.0	286	33.4	93	97	59	2	0	3	1
MERIDIAN	89	70	92	65	80	1	1.3	.5	.7	1.3	163	31.6	83	92	57	4	0	4	1
MO COLUMBIA	82	59	88	55	70	-2	.4	.5	.4	.4	44	39.3	144	96	55	0	0	2	0
KANSAS CITY	80	61	85	50	71	-1	.7	.3	.7	.7	70	32.7	119	95	61	0	0	3	1
SAINT LOUIS	80	64	88	60	72	-1	1.3	.7	1.2	1.3	217	36.0	138	100	57	0	0	2	1
SPRINGFIELD	84	63	90	56	73	0	.4	.5	.4	.4	44	31.2	109	94	58	1	0	1	0
MT BILLINGS	81	52	89	45	66	3	T	.3	T	0	0	13.7	128	72	23	0	0	0	0
GLASGOW	78	50	90	44	64	2	T	.3	T	0	0	6.7	71	60	23	1	0	0	0
GREAT FALLS	75	48	82	41	61	0	T	.3	T	0	0	12.1	102	75	26	0	0	0	0
HAVRE	77	46	85	37	61	0	T	.3	T	0	0	7.5	81	71	26	0	0	0	0
HELENA	77	44	86	38	61	1	T	.3	T	0	0	11.2	130	79	23	0	0	1	0
KALISPELL	72	41	77	36	57	-1	T	.2	T	0	0	14.9	126	88	37	0	0	1	0
MILES CITY	81	55	90	46	68	3	T	.3	T	0	0	7.6	68	66	22	1	0	1	0
MISSOULA	75	44	78	39	59	-1	0	.3	0	0	0	12.6	130	88	30	0	0	0	0
NE GRAND ISLAND	76	56	87	47	66	-3	.3	.3	.3	.3	50	17.8	92	93	56	0	0	1	0
LINCOLN	78	59	85	48	69	-1	.7	.1	.7	.7	88	17.1	80	94	68	0	0	1	1
NORFOLK	76	54	84	45	65	-3	.1	.5	.1	.1	17	16.9	85	93	58	0	0	1	0
NORTH PLATTE	79	51	88	42	65	-2	.2	.3	.2	.2	40	21.0	129	94	49	0	0	2	0
OMAHA	77	59	83	51	68	-1	.1	.8	T	.1	11	21.5	91	95	67	0	0	2	0
VALENTINE	82	51	93	41	66	0	.1	.4	.1	.1	20	14.5	95	80	35	2	0	1	0
NV ELY	82	46	88	40	64	3	T	.1	T	0	0	5.9	105	54	20	0	0	1	0
LAS VEGAS	98	71	103	64	85	1	.3	.2	.1	.3	300	2.7	93	44	17	6	0	2	0
RENO	88	44	91	42	66	2	0	0	0	0	100	2.8	58	65	12	2	0	0	0
WINNEMUCCA	87	44	93	39	66	2	0	.1	0	0	0	4.1	73	46	12	3	0	0	0
NH CONCORD	74	56	78	53	65	1	T	.7	T	0	0	27.2	114	97	61	0	0	1	0
NJ ATLANTIC CITY	78	64	83	55	71	1	.1	.7	.1	.1	13	24.6	77	92	59	0	0	1	0
TRENTON	75	65	82	62	70	-1	T	1.0	T	0	0	24.1	83	100	68	0	0	2	0
NM ALBUQUERQUE	85	61	93	58	73	-1	.4	.2	.4	.4	200	5.9	102	73	33	2	0	2	0
ROSWELL	84	64	96	58	74	-1	1.8	1.3	1.6	1.8	360	22.3	275	85	46	3	0	3	1
NY ALBANY	74	58	81	55	66	0	.3	.5	.2	.3	38	18.6	83	94	58	0	0	3	0
BINGHAMTON	68	61	73	58	65	1	2.0	1.3	.9	2.0	286	20.0	77	91	73	0	0	5	2
BUFFALO	76	66	85	63	71	6	1.6	.8	1.2	1.6	200	25.3	106	97	70	0	0	5	1
NEW YORK	76	66	78	64	71	0	.1	.8	.1	.1	11	22.0	75	84	54	0	0	2	0
ROCHESTER	75	66	84	64	70	5	2.3	1.7	.9	2.3	383	23.9	111	96	76	0	0	6	2
SYRACUSE	74	64	82	62	69	3	1.8	1.1	.6	1.8	257	18.8	76	92	74	0	0	5	2
NC ASHEVILLE	81	66	85	65	73	3	.3	.6	.1	.3	33	25.3	77	99	66	0	0	5	0
CHARLOTTE	84	69	87	66	76	1	.9	0	.8	.9	100	24.2	77	92	57	0	0	2	1
GREENSBORO	81	69	86	66	75	2	4.3	3.4	2.4	4.3	478	29.5	99	88	63	0	0	5	3
HATTERAS	82	72	84	71	77	1	0	1.5	0	0	0	37.7	100	91	66	0	0	0	0
RALEIGH	81	65	85	62	73	-1	1.2	.2	1.2	1.2	120	24.4	78	98	64	0	0	1	1
WILMINGTON	84	67	87	65	76	-2	0	1.5	0	0	0	35.4	89	96	59	0	0	0	0
ND BISMARCK	74	49	83	35	62	-1	1.4	1.0	1.3	1.4	350	12.1	90	81	37	0	0	3	1
FARGO	74	49	82	38	62	-1	1.0	.4	.5	1.0	167	13.6	84	89	49	0	0	2	1
WILLISTON	81	49	90	36	65	4	T	.3	T	0	0	9.2	80	70	25	1	0	1	0
OH AKRON-CANTON	77	66	84	64	72	5	2.3	1.7	1.0	2.3	383	33.3	128	92	67	0	0	5	2
CINCINNATI	82	65	91	60	73	2	1.2	.6	1.0	1.2	200	27.1	94	94	58	1	0	3	1
CLEVELAND	76	67	87	60	71	4	3.2	2.5	1.5	3.2	457	27.9	108	87	70	0	0	5	2
COLUMBUS	77	64	81	56	71	2	.5	.1	.5	.5	83	30.2	108	97	74	0	0	4	0
DAYTON	78	64	82	57	71	1	2.2	1.7	.8	2.2	440	31.7	122	98	77	0	0	4	3
TOLEDO	77	63	82	56	69	1	4.4	3.7	2.6	4.4	629	28.2	122	100	84	0	0	5	2
YOUNGSTOWN	74	64	85	61	70	4	3.1	2.5	1.2	3.1	517	27.4	101	87	65	0	0	7	3
OK OKLAHOMA CITY	85	69	89	67	77	0	1.1	.3	.6	1.1	138	28.4	120	97	60	0	0	2	2

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

Weather Data for the Week Ending Sept. 6, 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 Sept. 1	PCT. NORMAL SINCE Sept. 1	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
OR TULSA	87	69	91	64	78	1	1.7	.8	1.7	1.7	189	26.5	98	93	54	3	0	1	1
OR ASTORIA	71	52	86	48	62	2	.5	.1	.5	.5	125	34.7	94	94	63	0	0	2	0
OR BURNS	78	37	82	33	57	-5	0	.1	0	0	0	7.3	99	--	--	0	0	0	0
OR MEDFORD	88	49	98	46	68	1	0	.1	0	0	0	6.3	54	77	21	2	0	0	0
OR PENDLETON	78	52	85	49	65	-3	0	.1	0	0	0	9.0	114	68	26	0	0	0	0
OR PORTLAND	79	56	92	54	68	3	.1	.2	.1	.1	33	15.6	75	91	39	1	0	1	0
OR SALEM	81	47	95	44	64	0	.1	.1	.1	.1	50	16.8	73	98	33	1	0	1	0
PA ALLENTOWN	73	63	78	61	68	0	T	.9	T	0	0	24.4	83	98	67	0	0	3	0
PA ERIE	77	67	85	63	72	7	1.6	.8	.4	1.6	200	29.4	115	89	70	0	0	6	0
PA HARRISBURG	73	66	77	64	69	-1	1.2	.5	.5	1.2	171	26.2	102	99	83	0	0	3	0
PA PHILADELPHIA	79	66	84	64	73	1	T	.8	T	0	0	26.3	94	92	58	0	0	0	0
PA PITTSBURGH	78	63	86	58	71	3	1.9	1.3	.7	1.9	317	28.6	108	98	67	0	0	5	1
PA SCRANTON	73	64	79	62	68	2	.4	.3	.2	.4	57	25.7	104	87	69	0	0	5	0
RI PROVIDENCE	76	56	80	49	66	-1	T	.8	T	0	0	20.8	74	95	52	0	0	0	0
SC CHARLESTON	87	70	88	68	78	1	0	1.3	0	0	0	40.5	102	96	59	0	0	0	0
SC COLUMBIA	87	66	90	62	76	-1	T	1.1	T	0	0	27.7	80	99	55	1	0	1	0
SC GREENVILLE	84	67	88	65	76	1	1.4	.5	.6	1.4	156	21.7	64	95	62	0	0	4	1
SD ABERDEEN	77	55	88	44	66	2	T	.4	T	0	0	13.2	86	86	42	0	0	0	0
SD HURON	80	52	90	41	66	0	1.1	.7	1.1	1.1	275	12.5	80	94	43	1	0	1	0
SD RAPID CITY	79	51	93	41	65	0	.1	.2	.1	.1	33	11.8	79	80	32	1	0	2	0
SD SIOUX FALLS	78	52	86	43	65	-1	.2	.5	.2	.2	29	13.8	70	87	42	0	0	1	0
TN CHATTANOOGA	86	71	88	68	78	3	1.7	.9	1.1	1.7	213	32.2	89	94	58	0	0	2	2
TN KNOXVILLE	87	72	91	71	80	5	3.6	2.9	1.3	3.6	514	30.1	89	94	61	1	0	4	3
TN MEMPHIS	84	71	86	66	78	1	2.9	2.1	2.3	2.9	363	30.0	84	92	62	0	0	3	2
TN NASHVILLE	83	66	88	60	75	-1	.3	.5	.2	.3	38	31.7	94	90	57	0	0	4	0
TX ABILENE	91	72	99	69	82	2	.6	.2	.4	.6	150	15.1	88	88	41	4	0	4	0
TX AMARILLO	83	61	92	57	72	-2	1.7	1.1	.8	1.7	283	16.2	107	97	53	1	0	5	2
TX AUSTIN	93	74	95	72	84	2	1.9	1.2	1.7	1.9	271	37.0	164	88	50	7	0	4	1
TX BEAUMONT	89	73	91	69	81	-2	2.0	.8	.8	2.0	167	37.4	99	98	68	4	0	4	2
TX BROWNSVILLE	92	77	93	75	85	2	2.9	1.8	2.9	2.9	264	24.5	163	91	59	6	0	1	1
TX CORPUS CHRISTI	92	77	93	76	85	1	.3	.8	.3	.3	27	31.6	169	96	59	7	0	1	0
TX DEL RIO	95	73	99	70	84	0	.1	.5	.1	.1	17	20.4	182	87	45	6	0	1	0
TX EL PASO	91	67	99	62	79	2	T	.3	T	0	0	11.3	209	76	34	4	0	0	0
TX FORT WORTH	88	71	91	69	80	-2	.9	.3	.5	.9	150	27.4	117	97	60	5	0	4	0
TX GALVESTON	88	78	90	76	83	1	.3	1.0	.2	.3	23	26.8	95	94	69	3	0	2	0
TX HOUSTON	91	74	94	72	82	1	8.2	7.1	5.7	8.2	745	41.0	125	96	57	5	0	4	2
TX LUBBOCK	83	65	92	63	74	-1	1.0	.5	.6	1.0	200	16.0	120	91	49	1	0	3	1
TX MIDLAND	91	68	101	65	79	1	.2	.1	.2	.2	67	10.4	111	85	38	4	0	1	0
TX SAN ANGELO	89	68	98	66	79	-2	.4	.1	.2	.4	80	19.1	163	91	44	2	0	4	0
TX SAN ANTONIO	93	73	94	69	83	1	.1	.7	.1	.1	13	26.1	138	95	55	6	0	4	0
TX VICTORIA	91	76	93	72	84	1	.1	.8	.1	.1	11	32.4	143	96	56	6	0	2	0
TX WACO	90	69	93	48	80	-3	2.0	1.3	1.0	2.0	286	22.2	101	94	58	5	0	3	2
TX WICHITA FALLS	91	70	94	67	81	-1	.6	0	.3	.6	100	21.7	109	93	47	5	0	3	0
UT BLANDING	79	53	87	49	66	-1	1.0	.7	.8	1.0	333	9.4	122	69	28	0	0	3	1
UT SALT LAKE CITY	83	56	93	51	69	0	.4	.2	.2	.4	200	9.7	89	62	23	2	0	2	0
VT BURLINGTON	78	61	82	56	70	6	T	.8	T	0	0	26.1	119	89	56	0	0	1	0
VA LYNCHBURG	79	67	84	65	73	2	1.4	.6	.8	1.4	175	26.0	96	98	71	0	0	5	2
VA NORFOLK	80	68	83	64	74	-1	0	1.2	0	0	0	27.1	84	93	63	0	0	0	0
VA RICHMOND	84	66	89	65	75	1	T	.9	T	0	0	25.4	84	94	57	0	0	0	0
VA ROANOKE	80	67	87	63	73	2	3.9	3.1	2.7	3.9	488	22.4	82	95	66	0	0	5	2
VA COLVILLE	74	46	82	40	60	-3	.5	.3	.4	.5	250	17.0	160	83	49	0	0	3	0
VA OMAK	81	49	88	42	65	--	.1	--	.1	.1	--	6.6	--	28	21	0	0	2	0
VA QUILLYUTE	70	47	84	43	58	0	.8	0	.7	.8	100	55.9	94	99	60	0	0	3	1
VA SEATTLE-TACOMA	71	54	79	52	62	0	.2	.2	.1	.2	50	16.3	77	91	49	0	0	2	0
VA SPOKANE	75	48	79	43	61	-2	.2	.1	.2	.2	200	9.7	87	89	29	0	0	1	0
VA WALLA-WALLA	84	52	92	48	68	-1	0	.2	0	0	0	14.0	131	62	25	1	0	0	0
VA YAKIMA	80	48	85	41	64	-1	T	0	T	0	+100	3.3	72	79	29	0	0	2	0
WV BECKLEY	77	63	81	58	70	4	4.2	3.3	1.6	4.2	467	28.5	90	100	70	0	0	6	3
WV CHARLESTON	87	65	92	62	76	6	.5	.3	.3	.5	63	27.7	91	98	53	2	0	3	0
WV HUNTINGTON	85	66	92	63	76	5	.8	.1	.5	.8	114	30.5	106	99	55	2	0	3	0
WV PARKERSBURG	81	65	88	61	73	3	2.9	2.2	2.3	2.9	414	26.5	91	91	55	0	0	4	2
WI GREEN BAY	72	52	84	46	62	-1	.1	.6	.1	.1	14	14.8	76	97	57	0	0	2	0
WI LA CROSSE	75	56	81	49	66	0	.4	.4	.4	.4	50	29.0	132	100	62	0	0	1	0
WI MADISON	73	53	80	47	63	-1	1.6	.8	1.5	1.6	200	23.9	107	93	60	0	0	2	1
WI MILWAUKEE	69	59	75	55	64	-1	.4	.3	.3	.4	57	22.4	108	96	69	0	0	2	0
WY CASPER	80	48	91	40	64	0	T	.1	T	0	0	8.9	110	73	23	1	0	2	0
WY CHEYENNE	73	49	83	42	61	-1	.2	0	.1	.2	100	15.1	125	95	43	0	0	5	0
WY LANDER	76	49	89	45	63	0	.5	.3	.5	.5	250	9.4	93	67	26	0	0	1	1
WY SHERIDAN	82	47	94	38	64	2	.4	.1	.2	.4	133	12.1	98	76	20	1	0	2	0
PR SAN JUAN	93	77	97	76	85	4	.1	1.4	.1	.1	7	39.7	103	89	54	7	0	1	0

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

COOLING DEGREE DAYS (BASE 65°) FOR WEEK ENDING SEP. 6, 1981.  
 BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JAN 1, 1981.

STATES AND STATIONS	WEEKLY			SEASONAL ACCUMULATION +			STATES AND STATIONS	WEEKLY			SEASONAL ACCUMULATION +								
	TOTAL	DEPARTURE*	DEPARTURE FROM 1980-81	TOTAL	DEPARTURE*	DEPARTURE FROM 1980-81		TOTAL	DEPARTURE*	DEPARTURE FROM 1980-81	TOTAL	DEPARTURE*	DEPARTURE FROM 1980-81						
ALA. BIRMINGHAM...	97	14	1803	156	69	69	MAINE. CARIBOU...	20	92	192	64	23	YOUNGSTOWN.....	42	21	631	144	179	
MOBILE	126	12	2230	126	68	68	PORTLAND.....	20	92	253	5	210	OKLA. OKLAHOMA CITY	85	91	1710	83	459	
MONTGOMERY...	110	21	2054	197	197	197	MD. BALTIMORE.....	62	14	1097	95	142	TULSA.....	94	91	1890	206	608	
ARIZ. FLAGSTAFF...	1	36	33	168	39	39	MASS. BOSTON.....	8	17	786	165	66	OREG. ASTORIA.....	2	2	4	4	31	
PHOENIX	19	36	33	101	39	39	MICH. ALPENA.....	1	11	269	57	46	BIENVA...	2	2	180	95	84	
TUCSON	20	36	33	149	39	39	DETROIT.....	1	11	269	57	46	BIRMINGHAM...	1	1	180	95	84	
WINSLON	20	36	33	545	58	58	GRAND RAPIDS...	1	11	269	57	46	PENDLETON...	1	1	180	95	84	
YUMA	20	36	33	545	58	58	HOUGHTON LAKE...	1	11	269	57	46	PORTLAND.....	1	1	180	95	84	
ARK. FORT SMITH...	94	6	1647	97	373	373	LANSTING...	1	11	269	57	46	SALEM.....	1	1	180	95	84	
LITTLE ROCK...	82	6	1830	152	380	380	MARQUETTE...	1	11	269	57	46	PA. ALLENTOWN.....	24	24	76	49	331	
CALIF. BAKERSFIELD	138	39	2360	569	618	618	MUSKOGON...	1	11	269	57	46	BERTS...	24	24	76	49	331	
EUREKA	0	39	3	333	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
FRESNO	110	39	2080	67	476	476	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
LOS ANGELES...	32	31	744	370	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
RED BLUFF...	120	31	1922	370	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
SAN DIEGO...	60	31	1132	62	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
SAN FRANCISCO...	8	26	1532	47	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
STOCKTON	8	26	1532	47	370	370	MUSKOGON...	1	11	269	57	46	BERKS...	24	24	76	49	331	
COLO. DENVER...	35	10	826	239	65	65	MISS. JACKSON...	10	12	2124	173	132	132	VT. C. CHARLESTON...	96	96	2019	283	118
GRAND JUNCTION...	50	20	1282	240	188	188	MERIDIAN...	10	12	2124	173	132	132	COLUMBIA...	96	96	1667	117	18
PUEBLO...	50	20	1184	258	51	51	MO. COLUMBIA...	42	10	1116	37	573	573	GREENVILLE...	96	96	1501	119	0
CONN. BRIDGEPORT...	18	17	655	16	235	235	KANSAS CITY...	45	10	1084	76	516	516	S. DAK. ABERDEEN...	22	22	645	91	62
HARTFORD...	19	1	716	159	48	48	ST. LOUIS...	45	10	1084	76	516	516	HURON...	22	22	833	144	135
DEL. WILMINGTON...	15	15	1040	142	107	107	SPRINGFIELD...	61	16	1284	9	376	376	RAPID CITY...	10	10	512	106	113
D.C. WASHINGTON...	80	16	1508	250	210	210	NEBR. BILLINGS...	16	16	653	177	27	27	STOUX FALLS...	16	16	776	84	33
FLA. APALACHICOLA...	10	16	2061	30	121	121	GLASGOW...	12	16	539	116	75	75	TENN. CHATTANOOGA...	94	94	1523	58	58
DAVONA BEACH...	10	16	2061	30	121	121	GREAT FALLS...	12	16	539	116	75	75	KNOXVILLE...	103	103	1133	120	120
FORT MYERS...	10	16	2061	30	121	121	HAVRE...	12	16	539	116	75	75	NASHVILLE...	103	103	1133	120	120
JACKSONVILLE...	10	16	2061	30	121	121	HELENA...	12	16	539	116	75	75	TEXAS. ABILENE...	117	117	2197	108	274
KEY WEST...	10	16	2061	30	121	121	KALISPELL...	12	16	539	116	75	75	AMARILLO...	117	117	2197	108	274
LAKELAND...	10	16	2061	30	121	121	MILES CITY...	12	16	539	116	75	75	AUSTIN...	117	117	2197	108	274
MIAMI...	10	16	2061	30	121	121	MISSOULA...	12	16	539	116	75	75	BEAUMONT...	117	117	2197	108	274
ORLANDO...	10	16	2061	30	121	121	NEBR. GRAND ISLAND...	19	21	894	75	366	366	BIRMINGHAM...	117	117	2197	108	274
TALLAHASSEE...	10	16	2061	30	121	121	LINCOLN...	19	21	894	75	366	366	BRINSFORD...	117	117	2197	108	274
TAMPA...	10	16	2061	30	121	121	NORFOLK...	19	21	894	75	366	366	CORPUS CHRISTI...	117	117	2197	108	274
WEST PALM BEACH...	10	16	2061	30	121	121	NORTH PLATTE...	19	21	894	75	366	366	DEL RIO...	117	117	2197	108	274
GA. ATLANTA...	26	17	1764	276	395	395	OKLA. LAS VEGAS...	14	11	2995	519	437	437	EL PASO...	117	117	2197	108	274
AUGUSTA...	26	17	1764	276	395	395	RENO...	14	11	2995	519	437	437	FORT WORTH...	117	117	2197	108	274
MACON...	26	17	1764	276	395	395	MINNEAPOLIS...	14	11	2995	519	437	437	GALVESTON...	117	117	2197	108	274
SAVANNAH...	26	17	1764	276	395	395	N. H. CONCORD...	6	5	409	68	27	27	HOUSTON...	117	117	2197	108	274
IDAHO. BOISE...	8	22	567	96	87	87	N. J. ATLANTIC CITY...	47	9	886	88	189	189	LUBBOCK...	117	117	2197	108	274
EMTSTON...	21	9	680	71	124	124	TRENTON...	50	11	909	23	267	267	MIDLAND...	117	117	2197	108	274
POCATELLO...	5	11	488	13	229	229	N. MEX. ALBUQUERQUE...	57	3	1327	127	95	95	SAN ANTONIO...	117	117	2197	108	274
ILL. CAIRO...	27	6	1614	22	395	395	ROSNELL...	72	1503	1503	363	363	SAN ANTONIO...	117	117	2197	108	274	
CHICAGO...	27	6	1614	22	395	395	N. Y. ALBANY...	16	107	441	107	115	115	SAN ANTONIO...	117	117	2197	108	274
MOBILE...	14	14	717	119	236	236	BINGHARTON...	16	107	441	107	115	115	SAN ANTONIO...	117	117	2197	108	274
PEORIA...	14	14	717	119	236	236	BUFFALO...	16	107	441	107	115	115	SAN ANTONIO...	117	117	2197	108	274
ROCKFORD...	14	14	717	119	236	236	NEW YORK...	16	107	441	107	115	115	SAN ANTONIO...	117	117	2197	108	274
SPRINGFIELD...	14	14	717	119	236	236	ROCHESTER...	16	107	441	107	115	115	SAN ANTONIO...	117	117	2197	108	274
IND. EVANSVILLE...	69	14	1285	49	232	232	SYRACUSE...	30	12	639	12	34	34	UTAH. SALT LAKE CITY...	35	4	1080	230	162
FORT WAYNE...	12	14	664	25	151	151	N. C. ASHEVILLE...	62	24	906	118	145	145	VT. BURLINGTON...	34	21	562	175	58
INDIANAPOLIS...	12	14	664	25	151	151	CHARLOTTE...	62	24	906	118	145	145	VA. LYNCHBURG...	55	10	1063	66	142
SOUTH BEND...	34	7	573	74	378	378	GREENSBORO...	62	24	906	118	145	145	NORFOLK...	55	10	1063	66	142
IOWA. BURLINGTON...	22	14	799	123	300	300	HATTERAS...	62	24	906	118	145	145	ROANOKE...	55	10	1063	66	142
DES MOINES...	22	14	799	123	300	300	RALEIGH...	62	24	906	118	145	145	WASH. QUILLAYUTE...	0	0	0	0	28
DUBUQUE...	22	14	799	123	300	300	WILMINGTON...	62	24	906	118	145	145	SEATTLE-TACOMA...	0	0	0	0	129
SIoux CITY...	20	12	804	81	204	204	N. DAK. BISHARCK...	11	8	425	49	154	154	SPOKANE...	0	0	0	0	159
KANS. CONCORDIA...	34	22	1102	77	77	77	FARGO...	11	8	425	49	154	154	MALLA MALLA...	15	11	49	37	30
DODGE CITY...	34	22	1102	77	77	77	HILLSTON...	11	8	425	49	154	154	YAKIMA...	15	11	49	37	30
GOODLAND...	34	22	1102	77	77	77	OHIO. CANTON...	51	26	639	55	72	72	VA. BECKLEY...	36	16	459	9	118
TOPEKA...	34	22	1102	77	77	77	CINCINNATI...	51	26	639	55	72	72	CHARLESTON...	36	16	459	9	118
NICHITA...	34	22	1102	77	77	77	CLEVELAND...	51	26	639	55	72	72	HUNTINGTON...	36	16	459	9	118
KY. LEXINGTON...	91	20	995	84	239	239	COLUMBUS...	51	26	639	55	72	72	PARKERSBURG...	36	16	459	9	118
LOUISVILLE...	91	20	995	84	239	239	DAYTON...	51	26	639	55	72	72	WIS. GREEN BAY...	8	1	372	13	70
LA. BATON ROUGE...	118	13	2274	158	53	53	TOLEDO...	29	29	64	7	7	7	LACROSSE...	18	4	690	23	350
LAKE CHARLES...	111	1	2169	40	16	16							MADISON...	18	4	690	23	350	
NEW ORLEANS...	123	1	2435	162	16	16							HILMAURKEE...	18	4	690	23		

## August Weather and Crop Summary

**HIGHLIGHTS:** Warm, moist air from the Pacific Ocean moved over Mexico into southwestern United States, augmented by additional moisture from the Gulf of Mexico. Showers and thunderstorms were widespread over the middle and southern Plateau and in the southern Rockies. The heaviest rain was in eastern New Mexico, western Texas, and central Rockies. Amounts of 4 to 8 inches brought August rainfall in the central and southern Rockies and western Texas to well above normal. Frontal systems dumped large amounts of rain into the mid-and upper Mississippi Valley, the central and northern Plains, and in most of the Great Lakes region. Tropical systems accounted for heavy rain in southern Florida, the southeastern coast, New England, and along the western gulf coast. A heat wave persisted in much of the West most of the month. Some cooling occurred along the west coast late in the month but the warm area moved eastward over the Plateau and into the northern Plains.

**FIRST WEEK...**Heavy thunderstorms broke out during the first 2 days of the month along a squall line from central Kansas into Wisconsin. For the remainder of the week, a frontal system moved slowly through the eastern United States, covering most of the area through the Rockies and eastward with showers and thunderstorms. Some heavy amounts fell in Arizona, New Mexico, and southwestern Texas. A heat wave in the West pushed average high temperatures up to record levels.

**SECOND WEEK...**Showers and thunderstorms covered nearly all of the Nation. Thunderstorms even reached into the desert areas of southern California. Deluges of 2 to 5 inches covered western New Mexico and eastern Texas. Warm, moist air from Mexico and the Gulf of Mexico flowed northward and covered most of the country and a succession of cool air masses pushed southeastward out of northwestern Canada, triggering showers and thunderstorms ahead of them. At week's end, tropical storm Dennis began spreading heavy rain over southern Florida. The heat wave from central California through Washington continued and spread into the northern Plains. But it was cooler west of the Cascades and in the Plains by the end of the week.

**THIRD WEEK...**Tropical storm Dennis moved slowly northward along the east coast to the Cape Hatteras area and then moved out to sea. More than 16 inches of rain were reported in parts of the Everglades. A large high pressure system moved slowly through the Great Lakes and to the east coast, leaving fair weather in its wake. However, a low pressure system in the Gulf of Mexico spread showers and thunderstorms throughout the South and on the back side of the high pressure into the Plains, Rockies, and Plateau. At the end of the week, the remnant of "Dennis" brought some heavy showers to New England. The West cooled somewhat but warm air returned to the northern Plains.

**FOURTH WEEK...**A ridge of high pressure persisted along the east coast and kept precipitation very light there. A frontal system moved to the

middle Mississippi Valley and then slowly eastward and southward before dissipating. Showers and thunderstorms were frequent and occasionally severe in the mid and upper Mississippi Valley and in parts of the Lakes region. A tropical depression spread heavy rain along the coast of southern Texas while frontal waves kept moderate rain in central Florida. Cooler air moved onto the west coast but the Plateau and northern Plains remained hot.

### CROP DEVELOPMENT

August precipitation provided an adequate moisture supply in major row crop production regions. Subnormal temperatures slowed plant growth in many areas of the Corn Belt where development was already late because of the delayed planting season. Progress of the cotton crop continued ahead of normal.

At the beginning of September, corn condition ranged from poor to mostly fair in the Southeast to excellent in many areas of the Corn Belt. A few poor to fair stands were reported in the Southeast due to dry weather earlier in the season. By the end of August, 82 percent of the crop in the 17 major producing States was in or past the dough stage, 43 percent was in or past the dent stage, and 9 percent was mature. Harvesting gained momentum in the South--ranging up to 67 percent complete in Georgia. Harvesting was underway as far north as Virginia and Kentucky.

Soybeans were in fair to mostly good condition except in the Corn Belt where some excellent conditions were reported and in parts of the Delta where dry weather resulted in poor to fair conditions. In the 18 major producing States, nearly all of the crop had bloomed by August 30 and 86 percent had set pods, 3 points behind last year. Leaves were turning color in early-planted fields and, in a few fields, leaves had started shedding.

Cotton continued in fair to good condition. Bolls had opened on 27 percent of the acreage--about equal to last year's progress. Harvesting neared completion in the Rio Grande Valley of Texas and advanced to the Coastal Bend area. Arizona cotton developed well ahead of normal under ideal growing conditions. Harvesting was just getting underway in Mississippi.

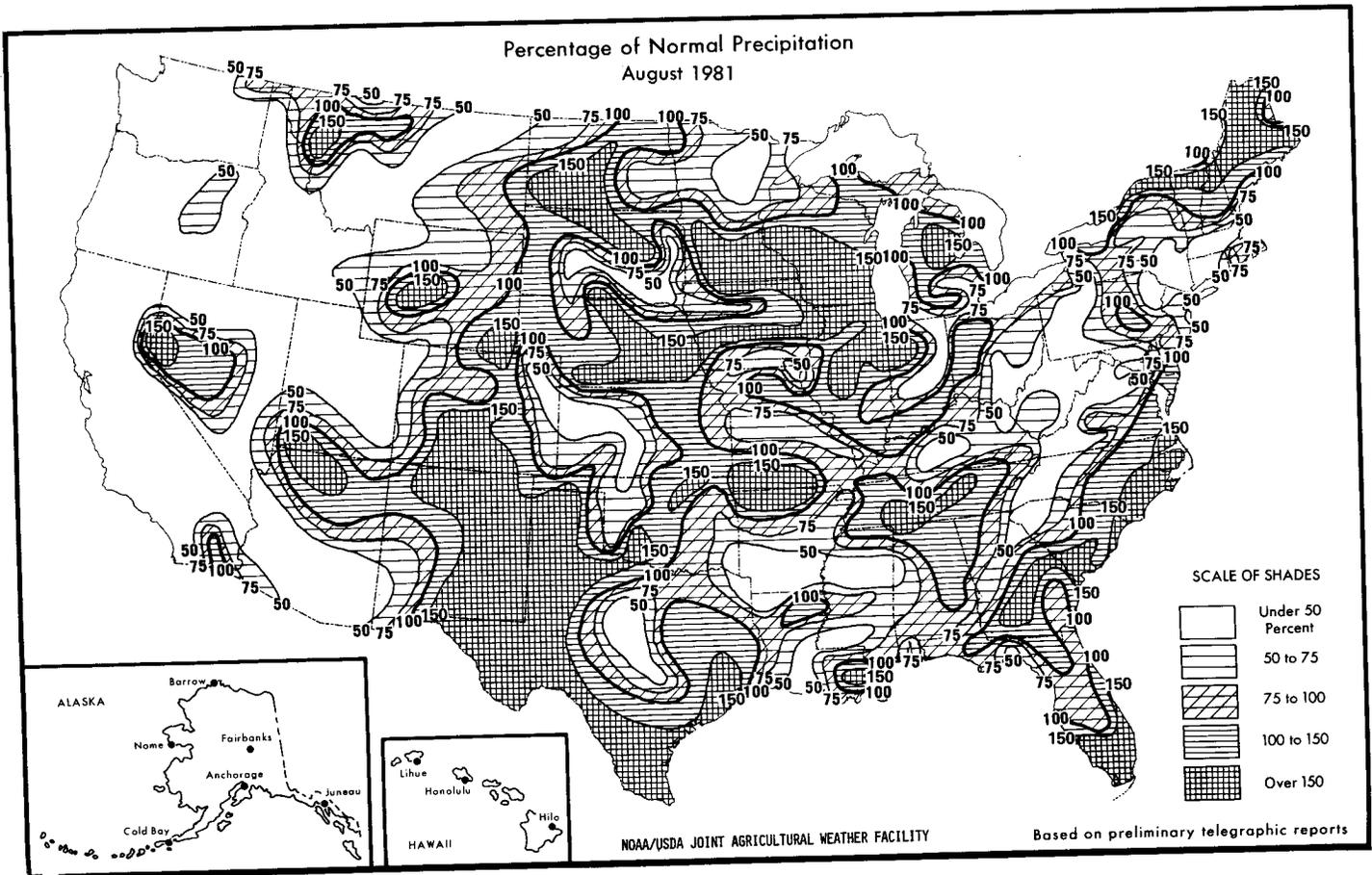
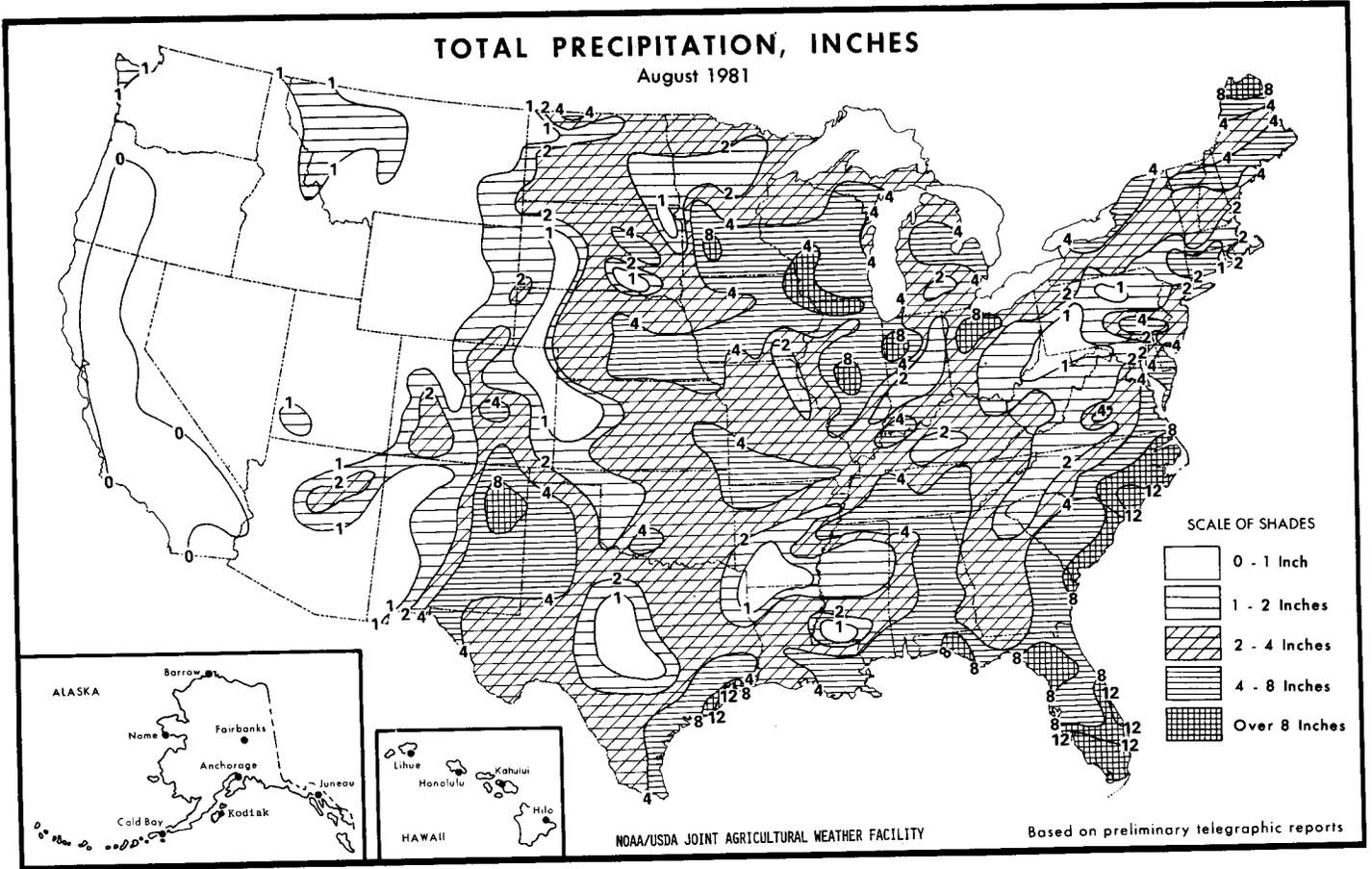
In the 7 major States, heading of grain sorghum reached 93 percent complete by the end of August and 25 percent of the acreage was mature. Harvesting was 65 percent completed in Texas, 2 percent completed in Oklahoma, and 1 percent in Missouri.

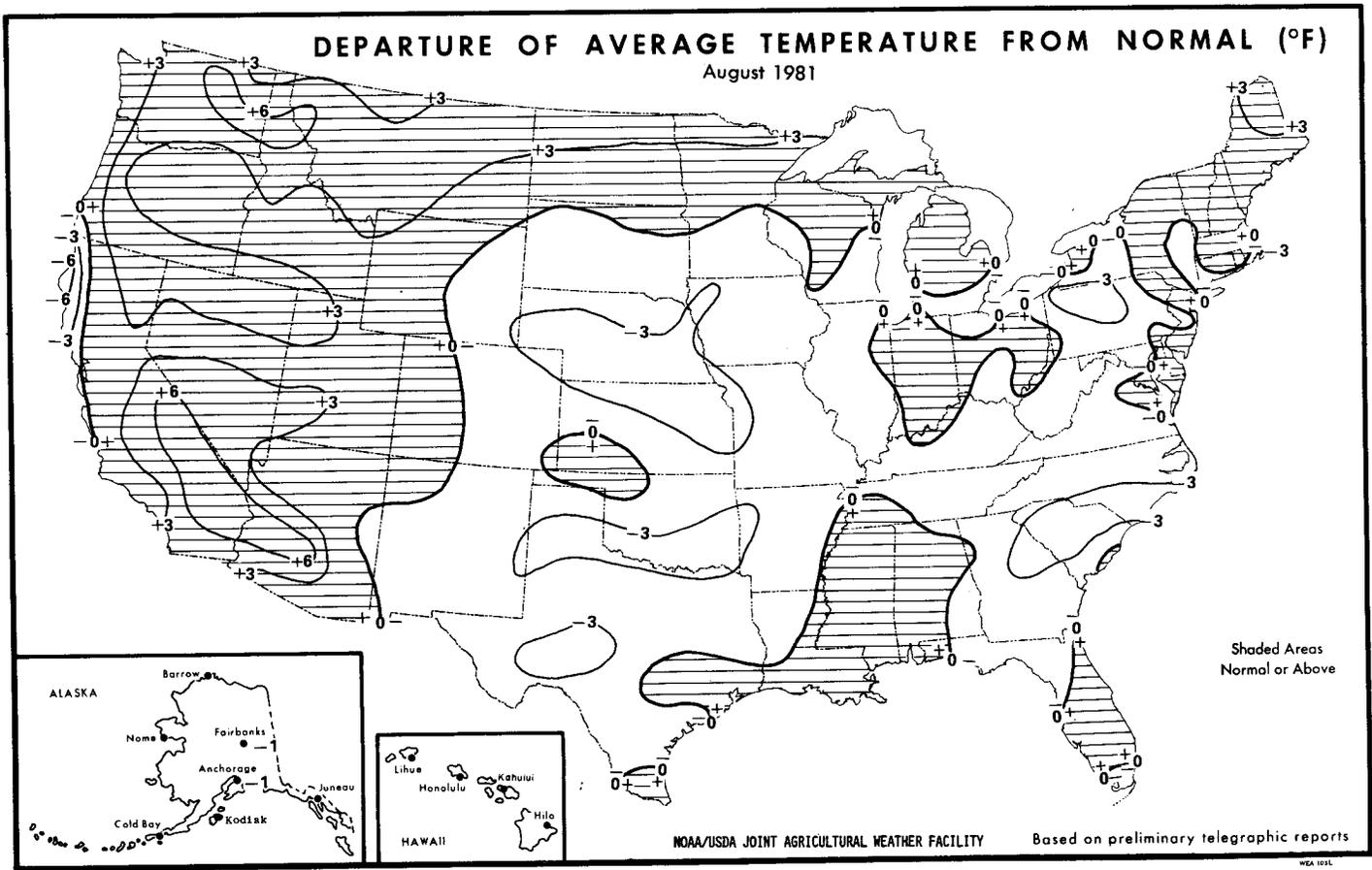
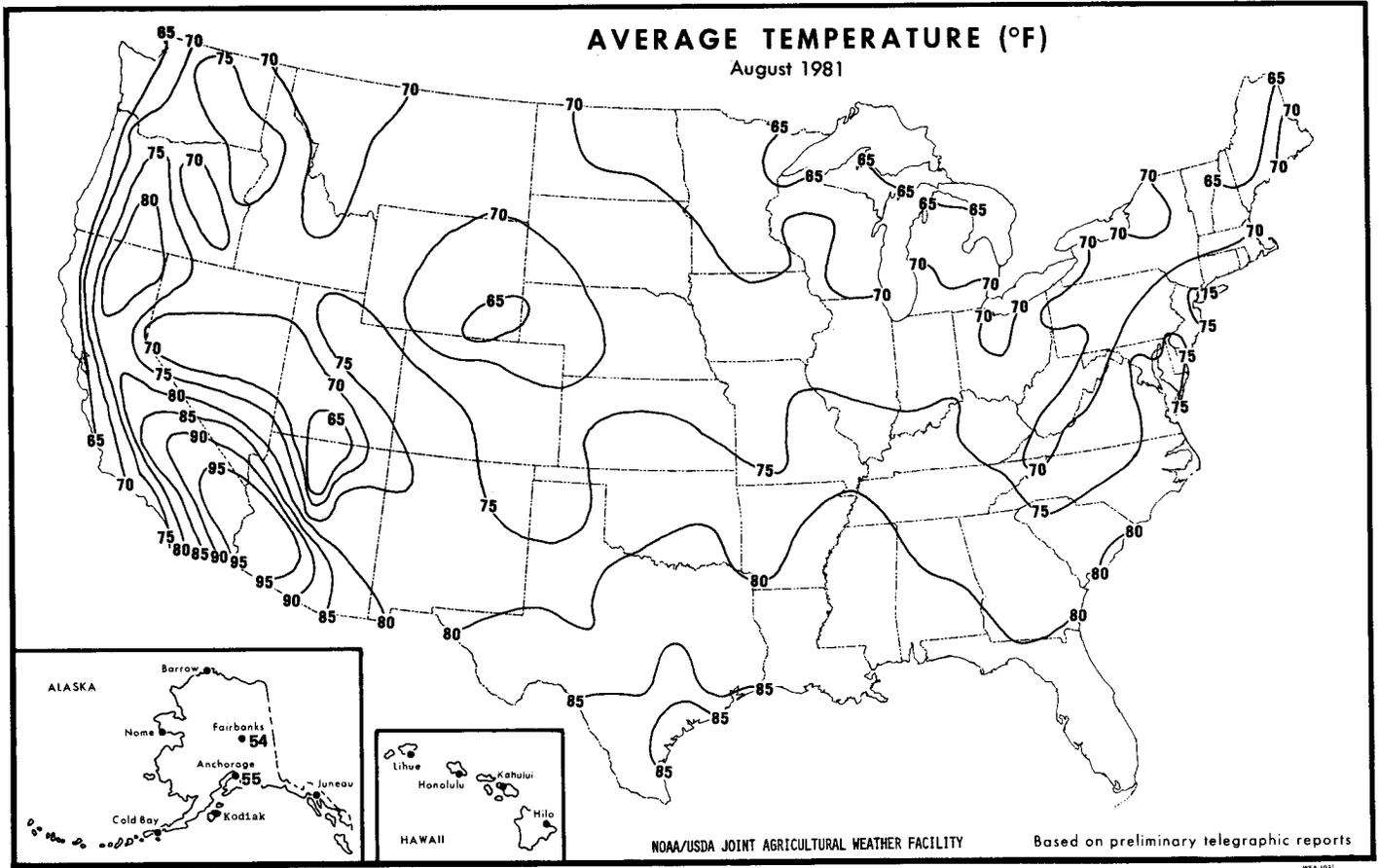
Winter wheat harvest was virtually completed except in the northwestern third of the Nation. Plowing for the 1982 crop became more widespread with the operation 25 percent completed in Indiana. Oklahoma producers were over half finished preparing seedbeds. Seeding of the 1982 crop started on a limited basis. In the major States, spring wheat harvest was 84 percent completed, well ahead of the average progress of 67 percent. Combining was finished in South Dakota.

Temperature and Precipitation Data for August 1981

States and Stations	Temperature of		Precipitation Inches		States and Stations	Temperature of		Precipitation Inches		States and Stations	Temperature of		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
AL BIRMINGHAM	79	0	5.3	1.0	LA BATON ROUGE	83	1	4.5	-.2	TOLEDO	70	-1	2.3	-.8
MOBILE	83	1	5.1	-1.8	LAKE CHARLES	82	0	3.5	-1.3	YOUNGSTOWN	68	-1	2.0	-1.2
MONTGOMERY	81	0	4.1	-.6	NEW ORLEANS	83	1	11.1	4.8	OK OKLAHOMA CITY	79	-2	3.6	-1.0
AK ANCHORAGE	55	-1	5.0	2.7	SHREVEPORT	81	-2	.9	-1.8	TULSA	79	-2	2.5	-.5
BARROW	--	--	--	--	ME CARIBOU	65	3	12.1	8.3	OR ASTORIA	62	2	.6	-.9
FAIRBANKS	54	-1	1.4	-.8	PORTLAND	66	0	2.3	-.3	BURNS	67	1	.2	-.2
JUNEAU	--	--	5.8	.8	MD BALTIMORE	74	-1	1.9	-2.3	MEDFORD	75	5	0	-.3
KODIAK	--	--	--	--	MA BOSTON	72	1	1.0	-2.5	PENDLETON	74	2	T	-.3
NOME	--	--	--	--	CHATHAM	67	-4	2.1	-.4	PORTLAND	72	5	.2	-.6
AZ FLAGSTAFF	65	1	3.7	1.0	MI ALPENA	65	1	2.2	-.5	SALEM	69	3	.1	-.5
PHOENIX	96	7	.1	-1.1	DETROIT	70	-1	2.3	-1.0	PA ALLENTOWN	71	-1	1.6	-2.6
TUCSON	86	2	.8	-1.5	FLINT	69	1	3.2	.1	ERIE	71	-3	3.9	.5
WINSLOW	76	0	1.8	.3	GRAND RAPIDS	71	1	3.0	.5	HARRISBURG	72	-2	4.1	.9
YUMA	96	3	.3	-.1	HOUGHTON LAKE	66	1	7.0	4.6	PHILADELPHIA	75	0	5.1	1.0
AR FORT SMITH	78	-3	2.2	-.7	LANSING	70	0	2.0	-.8	PITTSBURGH	70	0	1.0	-2.2
LITTLE ROCK	80	-1	1.5	-1.3	MARQUETTE	64	1	2.3	-1.3	SCRANTON	70	0	1.8	-2.0
CA BAKERSFIELD	85	3	0	.0	MUSKEGON	70	1	3.2	-.4	RI PROVIDENCE	70	0	2.7	-.7
EUREKA	50	-7	T	-.3	SAULT STE. MARIE	63	0	2.4	-.7	SC CHARLESTON	80	0	9.3	2.9
FRESNO	83	5	0	.0	MN DULUTH	64	0	2.8	-1.0	COLUMBIA	76	-4	4.6	-1.0
LOS ANGELES	71	1	0	.0	INT'L FALLS	68	5	2.0	-1.4	GREENVILLE	75	-3	1.2	-2.9
RED BLUFF	82	2	0	-.2	MINNEAPOLIS	69	0	4.7	1.6	SD ABERDEEN	72	1	2.9	.8
SAN DIEGO	76	5	0	-.1	ROCHESTER	68	-1	6.4	2.8	HURON	72	0	4.6	2.6
SAN FRANCISCO	63	0	T	.0	SAINT CLOUD	68	0	2.1	-1.8	RAPID CITY	70	-2	1.7	-.2
STOCKTON	77	2	0	.0	MS JACKSON	83	2	2.8	-.8	SIoux FALLS	71	-1	2.3	-.5
CO DENVER	72	0	1.2	-.1	MERIDIAN	83	2	2.2	-1.7	TN CHATTANOOGA	77	-1	4.2	1.0
GRAND JUNCTION	77	2	.8	-.3	MO COLUMBIA	75	-1	2.5	-1.3	KNOXVILLE	78	1	3.5	.3
PUEBLO	74	-1	2.6	.6	KANSAS CITY	73	-4	2.4	-.4	MEMPHIS	82	2	4.2	.9
CT BRIDGEPORT	71	-2	.7	-3.1	SAINT LOUIS	76	-1	3.3	.4	NASHVILLE	77	-2	3.1	-.1
HARTFORD	71	1	.5	-3.4	SPRINGFIELD	75	-2	5.0	2.1	TX ABILENE	83	-1	.6	-1.5
DC WASHINGTON	77	0	3.0	-1.7	MT BILLINGS	73	3	.6	-.4	AMARILLO	74	-4	5.2	2.3
FL APALACHICOLA	81	-1	7.8	-.3	GLASGOW	73	4	.2	-1.3	AUSTIN	86	1	.9	-1.3
DAYTONA BEACH	82	1	7.2	.4	GREAT FALLS	70	3	1.1	.0	BEAUMONT	--	--	--	--
FORT MYERS	84	1	16.7	9.0	HAVRE	71	3	1.0	-.1	BROWNSVILLE	86	2	4.4	1.7
JACKSONVILLE	81	0	6.5	-1.4	HELENA	70	4	-1	-.9	CORPUS CHRISTI	84	-1	5.8	2.6
KEY WEST	84	-1	8.9	4.4	KALISPELL	68	5	1.3	.0	DEL RIO	85	-1	2.2	1.0
MIAMI	83	0	12.2	5.5	MILES CITY	75	2	1.1	-.1	EL PASO	79	-2	5.3	4.2
ORLANDO	83	1	5.6	-1.1	MISSOULA	69	4	1.6	.7	FORT WORTH	83	-2	2.3	.0
TALLAHASSEE	80	-1	3.0	-3.9	NE GRAND ISLAND	72	-3	4.4	1.9	GALVESTON	85	2	13.4	9.0
TAMPA	82	0	7.7	-.3	LINCOLN	72	-4	5.1	1.8	HOUSTON	84	1	7.0	2.6
WEST PALM BEACH	83	1	10.3	3.4	NORFOLK	72	-2	3.6	.9	LUBBOCK	76	-2	5.4	3.5
GA ATLANTA	78	0	2.8	-.7	NORTH PLATTE	70	-3	2.5	-.4	MIDLAND	80	-2	3.3	1.8
AUGUSTA	77	-3	6.2	2.0	OMAHA	72	-2	7.9	3.9	SAN ANGELO	80	-5	1.2	-.2
MACON	78	-3	3.6	-.1	VALENTINE	71	-2	3.7	1.3	SAN ANTONIO	85	0	2.4	.0
SAVANNAH	79	-2	10.9	4.4	NV ELY	68	2	.1	-.5	VICTORIA	83	-2	4.2	1.0
HI HILO	--	--	--	--	LAS VEGAS	90	3	.2	-.3	WACO	84	-2	2.1	.3
HONOLULU	--	--	--	--	RENO	69	2	.4	.2	WICHITA FALLS	73	-3	2.3	.5
KAHULUI	--	--	--	--	WINNEMUCCA	72	4	T	-.3	UT BLANDING	82	1	.7	-.9
LIHUE	--	--	--	--	NH CONCORD	67	0	3.3	.4	SALT LAKE CITY	78	3	.2	-.7
ID BOISE	74	2	.1	-.2	NJ ATLANTIC CITY	74	1	3.3	-1.6	VT BURLINGTON	67	0	5.6	1.9
LEWISTON	78	6	T	-.6	TRENTON	73	-1	3.1	-1.1	VA LYNCHBURG	73	-1	4.2	.1
POCATELLO	72	2	.3	-.3	NM ALBUQUERQUE	76	-1	1.7	.4	NORFOLK	75	-2	6.9	1.0
IL CAIRO	78	-1	3.4	-.1	ROSWELL	76	-2	4.7	3.2	RICHMOND	75	-1	2.9	-2.2
CHICAGO	71	0	6.6	3.9	NY ALBANY	69	-1	1.4	-1.5	ROANOKE	73	-1	1.3	-2.9
MOLINE	72	-1	6.9	3.5	BINGHAMTON	68	1	2.0	-1.6	WA COLVILLE	70	3	.7	-.2
PEORIA	73	-1	5.6	2.5	BUFFALO	70	2	3.1	-.4	OMAK	77	9	.1	-.5
ROCKFORD	71	-1	9.2	5.5	NEW YORK	76	1	3.1	-1.4	QUILLAYUTE	61	2	1.2	-1.6
SPRINGFIELD	74	0	8.4	5.7	ROCHESTER	69	0	4.4	1.4	SEATTLE-TACOMA	68	4	.2	-.9
IN EVANSVILLE	76	0	6.0	3.0	SYRACUSE	70	0	2.6	-.9	SPOKANE	72	4	T	-.6
FORT WAYNE	71	0	.2	-2.7	NC ASHEVILLE	72	-1	.5	-4.0	WALLA-WALLA	78	4	T	.5
INDIANAPOLIS	73	0	1.7	-1.1	CHARLOTTE	75	-3	2.7	-1.3	YAKIMA	73	4	.1	-.2
SOUTH BEND	71	0	2.3	-1.0	GREENSBORO	74	-2	2.6	-1.7	WV BECKLEY	67	-2	2.5	-1.3
IA BURLINGTON	72	-2	3.3	-.1	HATTERAS	76	-2	11.3	4.5	CHARLESTON	73	-1	2.2	-1.5
DES MOINES	72	-1	6.3	3.0	RALEIGH	75	-2	5.3	.4	HUNTINGTON	74	0	1.0	-2.3
DUBUQUE	70	0	9.6	5.6	WILMINGTON	77	-3	14.1	7.3	PARKERSBURG	--	--	--	--
SIoux CITY	71	-3	1.7	-1.3	ND BISMARCK	70	1	3.3	1.3	WI GREEN BAY	68	0	3.4	.8
KS CONCORDIA	74	-3	3.6	.4	FARGO	70	1	1.8	-1.1	LA CROSSE	71	0	9.6	6.6
DODGE CITY	78	0	2.3	-.3	WILLISTON	74	5	.9	-.7	MADISON	69	0	7.1	4.0
GOODLAND	71	-3	.8	-1.3	OH AKRON-CANTON	71	1	1.5	-1.3	MILWAUKEE	68	-1	4.3	1.6
TOPEKA	73	-4	3.9	-.3	CINCINNATI	74	0	2.2	-.4	CASPER	69	-1	.5	-.1
WICHITA	78	-2	2.6	-.5	CLEVELAND	70	0	2.6	-.4	CHEYENNE	65	-3	2.9	1.4
KY LEXINGTON	73	-2	2.7	-.7	COLUMBUS	70	-2	1.4	-1.5	LANDER	70	1	.9	.5
LOUISVILLE	76	0	3.2	.2	DAYTON	73	0	3.5	.9	SHERIDAN	70	1	.7	-.3
									PR SAN JUAN	84	+3	3.7	-3.7	

Based on 1941-70 normals





Heating Degree Days (Base 65° F.)

August 1981

ALA. Birmingham . . . . .	0	MAINE, Caribou . . . . .	77	OKLA. Okla. City . . . . .	0
Mobile . . . . .	0	Portland . . . . .	45	Tulsa . . . . .	0
Montgomery . . . . .	0	MD. Baltimore . . . . .	0	OREG. Astoria . . . . .	17
ALASKA, Anchorage . . . . .	307	MASS. Boston . . . . .	6	Burns U. . . . .	46
Barrow . . . . .	--	Chatham . . . . .	16	Medford . . . . .	0
Fairbanks . . . . .	347	MICH. Alpena . . . . .	62	Pendleton . . . . .	1
Juneau . . . . .	--	Detroit . . . . .	9	Portland . . . . .	5
Nome . . . . .	--	Flint . . . . .	24	Salem . . . . .	33
ARIZ. Flagstaff . . . . .	39	Grand Rapids . . . . .	5	PA. Allentown . . . . .	3
Phoenix . . . . .	0	Houghton Lake . . . . .	44	Erie . . . . .	6
Tucson . . . . .	0	Lansing . . . . .	23	Harrisburg . . . . .	1
Winslow . . . . .	1	Marquette U. . . . .	78	Philadelphia . . . . .	0
Yuma . . . . .	0	S. Ste. Marie . . . . .	83	Pittsburgh . . . . .	10
ARK. Fort Smith . . . . .	0	MINN. Duluth . . . . .	62	Scranton . . . . .	5
Little Rock . . . . .	0	Internatl Falls . . . . .	17	R. I. Providence . . . . .	20
CALIF. Bakersfield . . . . .	0	Minneapolis . . . . .	11	S. C. Charleston . . . . .	0
Eureka U. . . . .	204	Rochester . . . . .	27	Columbia . . . . .	0
Fresno . . . . .	0	St. Cloud . . . . .	29	Greenville . . . . .	0
Los Angeles U. . . . .	0	MISS. Jackson . . . . .	0	S. DAK. Aberdeen . . . . .	1
Red Bluff . . . . .	0	Meridian . . . . .	0	Huron . . . . .	1
Stockton . . . . .	0	Vicksburg U. . . . .	0	Rapid City . . . . .	7
San Diego . . . . .	0	MO. Columbia . . . . .	0	Sioux Falls . . . . .	5
San Francisco . . . . .	65	Kansas City . . . . .	0	TENN. Chattanooga . . . . .	0
COLO. Denver . . . . .	12	St. Louis . . . . .	0	Knoxville . . . . .	0
Grand Junction . . . . .	0	Springfield . . . . .	0	Memphis . . . . .	0
Pueblo . . . . .	0	MONT. Billings . . . . .	6	Nashville . . . . .	0
CONN. Bridgeport . . . . .	1	Glasgow . . . . .	6	TEX. Abilene . . . . .	0
Hartford . . . . .	9	Great Falls . . . . .	15	Amarillo . . . . .	0
D. C. Washington . . . . .	0	Havre . . . . .	15	Austin . . . . .	0
FLA. Apalachicola . . . . .	0	Helena . . . . .	16	Beaumont . . . . .	0
Ft. Myers . . . . .	0	Kalispell . . . . .	36	Brownsville . . . . .	0
Jacksonville . . . . .	0	Miles City . . . . .	4	Corpus Christi . . . . .	0
Key West . . . . .	0	Missoula . . . . .	16	Dallas . . . . .	0
Lakeland U. . . . .	--	NEBR. Grand Island . . . . .	0	Del Rio . . . . .	0
Miami . . . . .	0	Lincoln . . . . .	3	El Paso . . . . .	0
Orlando . . . . .	0	Norfolk . . . . .	1	Fort Worth . . . . .	0
W. Palm Beach . . . . .	--	North Platte . . . . .	4	Galveston U. . . . .	0
Tallahassee . . . . .	0	Omaha . . . . .	4	Houston . . . . .	0
Tampa . . . . .	0	Valentine . . . . .	7	Lubbock . . . . .	0
GA. Atlanta . . . . .	0	NEV. Ely . . . . .	4	Midland . . . . .	0
Augusta . . . . .	0	Las Vegas . . . . .	0	San Angelo . . . . .	0
Macon . . . . .	0	Reno . . . . .	7	San Antonio . . . . .	0
Savannah . . . . .	0	Winnemucca . . . . .	0	Victoria . . . . .	0
IDAHO, Boise . . . . .	5	N. H. Concord . . . . .	43	Waco . . . . .	0
Lewiston . . . . .	0	N. J. Atlantic City . . . . .	0	Wichita Falls . . . . .	0
Pocatello . . . . .	9	Trenton U. . . . .	0	UTAH, Blanding R . . . . .	--
ILL. Cairo U. . . . .	0	N. MEX. Albuquerque . . . . .	0	Salt Lake City . . . . .	0
Chicago . . . . .	6	Roswell . . . . .	0	VT. Burlington . . . . .	36
Moline . . . . .	9	N. Y. Albany . . . . .	22	VA. Lynchburg . . . . .	0
Peoria . . . . .	0	Binghamton . . . . .	21	Norfolk . . . . .	0
Rockford . . . . .	6	Buffalo . . . . .	11	Richmond . . . . .	1
Springfield . . . . .	0	New York . . . . .	36	Roanoke . . . . .	0
IND. Evansville . . . . .	0	Rochester . . . . .	12	WASH. Colville . . . . .	15
Fort Wayne . . . . .	2	Syracuse . . . . .	4	Omak . . . . .	--
Indianapolis . . . . .	0	N. C. Asheville . . . . .	1	Quillayute . . . . .	148
South Bend . . . . .	12	Charlotte . . . . .	2	Seattle-Tacoma . . . . .	28
IOWA, Burlington . . . . .	1	Greensboro . . . . .	1	Spokane . . . . .	7
Des Moines . . . . .	2	Hatteras R. . . . .	0	Walla Walla U. . . . .	0
Dubuque . . . . .	13	Raleigh . . . . .	4	Yakima . . . . .	7
Sioux City . . . . .	4	Wilmington . . . . .	--	W. VA. Beckley . . . . .	18
KANS. Concordia . . . . .	0	N. DAK. Bismarck . . . . .	11	Charleston . . . . .	1
Dodge City . . . . .	0	Fargo . . . . .	10	Huntington . . . . .	0
Goodland . . . . .	9	Williston U. . . . .	6	Parkersburg U. . . . .	--
Topeka . . . . .	2	OHIO. Akron-Canton . . . . .	6	WIS. Green Bay . . . . .	21
Wichita . . . . .	0	Cincinnati U. . . . .	0	La Crosse . . . . .	7
KY. Lexington . . . . .	0	Cleveland . . . . .	11	Madison . . . . .	27
Louisville . . . . .	0	Columbus . . . . .	5	Milwaukee . . . . .	21
LA. Baton Rouge . . . . .	0	Dayton . . . . .	2	WYO. Casper . . . . .	17
Lake Charles . . . . .	0	Toledo . . . . .	7	Cheyenne . . . . .	50
New Orleans . . . . .	0	Youngstown . . . . .	21	Lander . . . . .	15
Shreveport . . . . .	0			Sheridan . . . . .	6

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

## The Weather Observer in Your Community

The phenomenon known as the Cooperative Observer Program of the NOAA - National Weather Service never ceases to amaze meteorologists, hydrologists and climatologists. The program and its success have, on occasion, aroused the envy of other countries. All too often, those of us working with the program routinely are lulled into complacency as, year after year, valuable data from 12,000 to 13,000 observers flows into the National Climatic Center. Every once in a while, though, the full significance of the contribution of cooperative observers to NOAA and, in turn, the national economy penetrates the veil of daily routine and one ponders "why" the program works. The following is one such reflection from a National Weather Service State Climatologist in Idaho.

- WHY? 1. Why do we have a program of climatological observations?
2. Why do thousands of people in the United States serve as cooperative observers?
3. Why is it important that the observations be accurate and that they be recorded accurately?

### Here's Why!

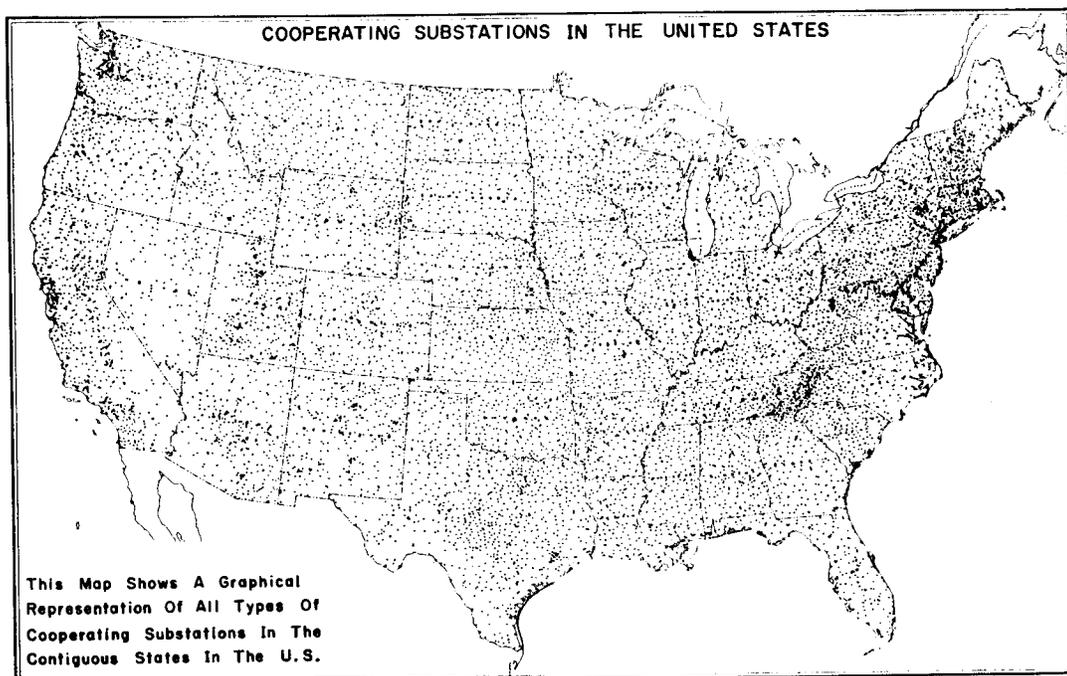
1. Without such observations at thousands of places we could not begin to know the details of the climate of the United States. Buildings would be designed by guesswork and might fall far short of the needed protection against the elements. Highways might be built on too shallow a base to withstand extreme temperatures, alternate periods of freezing and thawing, and the ravages of heavy runoff. Crops might be planted in areas of unsuitable climate - too short a growing season, too much or too little rain, etc. Dams might be built that would not be large enough to hold back an extreme

flood or they might be too big and the cost would be excessive. Years of records from cooperative observers provide information on which to plan.

2. A group of observers would undoubtedly respond with many answers. For some, the motive is simply a real interest in weather and its vagaries. Others accept the responsibility as a civic duty. A few, at points where observations are entrusted to an institution or an organization, would probably say "I do it because the boss says so". The best observers are those who realize the importance of the program and conscientiously and carefully observe, read, measure, and record the data whether the boss says so or not. (Incidentally, if the boss says so, you can bet he is convinced of the importance of the records.) As in all human endeavors, self discipline is the key to good performance.

3. Accuracy is of prime importance because nearly all of our knowledge of climate is based on the records of cooperative climatological observers. If we are ever to learn anything about climatic changes through long periods of time, we must have consistently good records, not just for a month, not just for a year, but for decades, or maybe centuries.

So take a new look at the weather observer for your community. Your weather records are important; they are not just a set of figures mailed to a National Weather Service Office to satisfy the whims or the curiosity of people employed by that agency. Your records are public property, used currently, used time and time again through the next few months or years, and reused countless times many years after the observations are made and recorded. Your records are a permanent part of the archives of the nation.



## Classes of Weather Stations

The role of the observer is to compile weather data and make daily reports throughout the year. The various measurements taken at weather observation posts depend on the classification of the station. There are three basic classes of weather stations. Each has a specific function and, therefore, records different types of information.

The basis of the climatic network is the Class "a" Station. These stations gather many various types of information for a wide area. In order to relate accurate weather reports to a large number of people, there is a Class "a" Station located approximately every 600 square miles. The recordings taken at such weather stations include:

1. Temperature
  - a. maximum
  - b. minimum
  - c. at observation
2. Rainfall
  - a. time started and stopped
  - b. amount
3. Snowfall
  - a. time started and stopped
  - b. accumulation on ground
  - c. total amount of snow
  - d. melted precipitation amount of snow

Usually, the near vicinity of major streams and rivers is a criteria for the location of a second basic class of weather stations. At Class "b" Stations, rainfall is recorded for the purpose of forecasting river flooding. Often, Class "b" Stations are assigned to Class "a" Stations in order to project a more complete weather picture. The resulting complex station is classed "ab".

The recordings taken at a Class "b" Station include:

1. Rainfall
  - a. time started and stopped
  - b. amount
2. Snowfall
  - a. time started and stopped
  - b. accumulation on ground
  - c. total amount of snow
  - d. melted precipitation amount of snow
3. Wind
  - a. miles of wind in 24 hours
4. Water evaporation
  - a. amount evaporated in 24 hours
5. Water temperature
  - a. maximum temperature
  - b. minimum temperature

The Class "c" Station is a special purpose observation post which satisfies a community's local service needs. For example, the special needs of an Agricultural Research Station or a Forestry Observation Area make local weather observation necessary, or at least justifiable. Such a station will also be maintained as a public service to a community which has recorded temperatures for many years.

The establishment of any weather station must be approved by the National Weather Service and it is their responsibility to equip, train, and periodically check on the stations to see that the weather records are being recorded in an accurate and proficient manner.

Climatological data from any of the reporting stations may be obtained from the Superintendent of Documents at the following address:

National Climatic Center  
Federal Building  
Asheville, NC 28801  
Attn: Publications

## Criteria for the Exposure of Weather Instruments

### Precipitation Gages

Precipitation gages should be located on a level plot of ground, at a distance from any object (including the instrument shelter) of at least two, and preferably four, times the height of the object above the top of the gage. All types of gages must be exposed with the rim of the receiver in a horizontal plane and at a level well above the average level of snow surfaces. Rain gages should not be installed on a roof.

When objects, which individually or in small groups would constitute obstructions, are numerous and are so extensive that the prevailing wind speed and, as a consequence, the turbulence and eddy currents have been reduced in the vicinity of the gage, the presence of such objects are usually beneficial in providing a more accurate catch. The best exposures are often found, therefore, in orchards, openings in a grove of trees, bushes or shrubbery, or where fences and other objects acting together serve as an effective windbreak. As a general rule in such areas where the height of the objects and their distance from the gage is generally uniform, their height above the gage should not exceed about twice their distance from the gage.

### Instrument Shelters and Temperature Equipment

Wherever possible, shelters will be installed over earth or sod at least 100 feet from any concrete or other hard surfaced area, and not closer to any

other object than four times the height of the object above the floor of the instrument shelter. Avoid roof installations if possible. However, if it is necessary to locate the shelter on a roof, it should not be closer than 30 feet to any large, vertical reflecting surface (walls, etc.), exhaust fans, or cooling towers. The floor of the instrument shelter should be approximately four feet above the ground or roof, except that, if the shelter is mounted above a roof, the height may be greater than four feet in order to minimize radiation effects from the roof. To afford the interior of the shelter the greatest protection from direct solar radiation while the door is open, orient the shelter with the door facing north (in the Northern Hemisphere). Keep the shelter door closed when the instruments are not being read.

If illumination is desired in the shelter use an electric lamp of not more than 25 watts. Keep the lamp as far as practicable (at least ten inches) from any temperature-sensing element. Do not leave the lamp turned on any longer than is necessary to read the instruments.

In general, temperature-sensing elements will be mounted as close to the center of the shelter as practicable, and in a position where the operation of one instrument will not interfere with the operation of another. In any case, the temperature-sensing units will be mounted more than four inches from the sides, top, and bottom of the shelter.

## National Agricultural Summary

August 31-September 6, 1981

**HIGHLIGHTS:** Widespread rainfall and cool temperatures slowed crop development and field activities. However, the moisture is needed for winter wheat seeding and pasture-range growth. Heavy rains in the North Central States left soil moisture supplies adequate to surplus. Mostly adequate moisture supplies were reported elsewhere. In the East North Central States, only 1 to 3 days were suitable for fieldwork. Farmers in the West North Central, North Atlantic, South Atlantic, and South Central States had 2 to 5 days suitable while those in the West had up to 7 favorable days. Corn was in good to excellent condition in much of the Corn Belt. In the 17 major States, 16% of the crop was mature, lagging average progress by as much as 32 points in Illinois. Harvesting gained momentum in the South; progress was generally ahead of schedule. Soybeans were in fair to mostly good condition, although excellent conditions were reported in parts of the Corn Belt. In the 18 major States, leaves were shedding on 7% of the acreage, compared to 13% last year. Cotton was in fair to good condition. In the 14 major States, bolls were opening on 36% of the acreage, 3 points behind a year ago. Spring wheat was 93% harvested, 13 points ahead of last year and average. Plowing and discing for the 1982 winter wheat crop became more widespread during the week. Seeding gained momentum. Sorghum was 28% mature. Harvesting advanced northward into Kansas. Rice harvest was 36% finished. Tobacco topping and harvesting was underway. Fall apple harvesting gained momentum in northern areas. The peach harvest was virtually finished in the South but remained active in the North. Summer vegetable harvests declined. Pastures and ranges benefited from recent rainfall. Conditions were fair to good except in the Corn Belt where they were good to excellent.

**CORN:** Corn was in good to excellent condition in much of the Corn Belt and mostly good in other areas, except in parts of the Southeast where poor to fair conditions were reported. In the 17 major producing States, 92% of the crop was in or past the dough stage, 58% was in or past the dent stage, and 16% was mature. The percent of the crop reaching the mature stage was less than normal in nearly all 17 States, ranging up to 32 points behind average in Illinois. Cool, wet weather has slowed development; warmer weather is needed to push the crop to maturity. Harvesting became more widespread in southern areas with progress ranging up to 72% complete in Louisiana and 79% in Georgia. Harvesting was generally ahead of schedule across the South.

**SOYBEANS:** Soybeans rated fair to mostly good except in parts of the Corn Belt where some excellent conditions were reported. In the 18 major producing States, 94% of the crop had set pods, equal to a year ago. Rains were beneficial to fields in the pod filling stage. Leaves were dropping on 7% of the acreage, compared with 13% last year. A few early-planted fields were harvested in the South.

**COTTON:** Cotton was in fair to good condition. In the 14 major producing States, bolls were opening on 36% of the acreage, 3 points behind a year earlier. The Texas harvest progressed slowly as rain delayed most activity. Rainfall was beneficial to non-irrigated fields on the Plains. Spraying for bollworms was necessary on the High and Low Plains of Texas.

**SMALL GRAINS:** Spring wheat harvesting advanced to 93% complete, 13 points ahead of last year and average. Harvesting was finished in South Dakota.

Seedbed preparation for winter wheat progressed rapidly. Planting gained momentum--ranging up to 14% complete in South Dakota, 17% in Colorado, and 25% complete in Wyoming. One percent of the wheat acreage had been seeded in Kansas, 10% in Nebraska, 5% in Montana, and 9% in Texas. Planting activity was temporarily slowed in Texas by widespread rains, but should resume as fields dry.

**SORGHUM:** Grain sorghum was 28% mature. Harvesting advanced northward into parts of Kansas. The Texas harvest reached 68% complete, 5 points ahead of average. In the seven major States, harvest was 24% complete. Sorghum harvest made little progress in Texas during the week due to widespread rainfall.

**OTHER CROPS:** Rice harvest was 36% complete, equal to a year earlier. Harvesting neared completion in Texas and was underway in all other areas except California, where producers were draining fields.

Tobacco growers continued topping and harvesting activities. Harvesting was underway in all producing areas, although rain slowed progress in some localities.

Peanut digging gained momentum and harvesting became more widespread. Harvesting was 17% finished in Mississippi, 9% in Texas, 7% in Alabama, and 4% complete in Georgia. Recent rains improved prospects in parts of Texas.

**FRUITS AND NUTS:** The fall apple harvest increased in northern production areas as the summer harvest neared completion. The peach harvest continued in northern areas and was virtually finished in the South.

Florida's citrus groves were in very good to excellent condition due, in part, to recent rainfall providing an adequate moisture supply. New growth was evident on trees of all ages. Arizona's citrus groves were mostly in good condition. Cooler temperatures and recent rainfall were very beneficial. Texas citrus showed good size and quality.

California's grape harvest continued ahead of normal. Quality of the crop grapes was good and sugar content was high. The almond, pistachio, and walnut harvests were underway. Growers also picked prunes, grapefruit, Valencia oranges, and Desert lemons.

**VEGETABLES:** Summer vegetable harvests declined, and planting of fall vegetables was widespread.

California growers harvested broccoli, cauliflower, carrots, celery, lettuce, bell peppers, potatoes, and tomatoes.

Fieldwork in Florida was getting back on schedule as fields dried after heavy rains the previous week.

In the Rio Grande Valley of Texas, fall vegetables were developing well, although some damage resulted from heavy rains. Tomatoes began blooming. Planting was about finished in the San Antonio Winter Garden area. Harvesting was active in the Trans-Pecos area and on the High Plains.

**PASTURES AND RANGES:** Pastures and ranges benefited from recent rainfall and generally rated fair to good, except in parts of the Corn Belt where moisture has been plentiful and good to excellent conditions prevail. Ranges and pastures provided good grazing in Texas as much

(Continued on page 25.)

**CROP PROGRESS** FOR WEEK ENDING SEPT 6, 1981

CORN % DOUGH				CORN % DENT				CORN % MATURE			
	1981	1980	AVG.		1981	1980	AVG.		1981	1980	AVG.
COLO	88	84	80	COLO	51	56	63	COLO	12	11	13
GA	100	100	NA	GA	100	99	NA	GA	99	97	NA
ILL	100	100	100	ILL	70	91	84	ILL	17	59	49
IND	87	99	98	IND	40	80	70	IND	8	20	20
IOWA	91	94	97	IOWA	64	78	79	IOWA	12	22	33
KANS	96	98	95	KANS	70	75	70	KANS	30	45	35
KY	96	97	97	KY	82	86	80	KY	27	40	30
MICH	95	95	95	MICH	50	62	67	MICH	2	6	10
MINN	91	99	92	MINN	40	85	73	MINN	1	11	19
MO	100	100	100	MO	84	93	79	MO	32	40	34
NEBR	92	100	100	NEBR	50	75	75	NEBR	4	10	20
N C	100	100	NA	N C	95	96	NA	N C	81	82	NA
OHIO	90	100	100	OHIO	45	70	70	OHIO	8	20	20
PA	96	87	87	PA	52	44	40	PA	7	0	0
S DAK	76	87	91	S DAK	51	61	66	S DAK	13	14	23
VA	98	92	NA	VA	89	73	NA	VA	79	53	NA
WIS	70	99	78	WIS	42	65	52	WIS	12	25	20
17 STATES	92	97	NA	17 STATES	58	78	NA	17 STATES	16	29	NA
EXCL. STATES WITH NA	91	97	96	EXCL. STATES WITH NA	56	77	73	EXCL. STATES WITH NA	11	25	28

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

COTTON % BOLLS OPENING				SOYBEANS % SETTING PODS				SOYBEANS % DROPPING LEAVES			
	1981	1980	AVG.		1981	1980	AVG.		1981	1980	AVG.
ALA	29	29	16	ALA	98	93	NA	ALA	7	13	NA
ARIZ	65	60	63	ARK	87	73	NA	ARK	0	27	NA
ARK	31	55	23	GA	90	76	NA	GA	7	11	NA
CALIF	50	17	NA	ILL	100	100	100	ILL	5	18	16
GA	49	66	NA	IND	95	100	99	IND	1	10	10
LA	61	39	24	IOWA	100	100	100	IOWA	5	9	16
MISS	82	78	45	KANS	90	95	NA	KANS	5	10	NA
MO	15	71	21	KY	80	98	98	KY	1	6	7
N MEX	20	8	8	LA	95	88	94	LA	6	9	NA
N C	65	60	NA	MICH	95	95	90	MICH	5	5	11
OKLA	3	20	4	MINN	99	99	99	MINN	24	13	25
S C	56	77	53	MISS	95	90	93	MISS	7	8	7
TENN	8	39	13	MO	75	90	88	MO	0	3	7
TEX	27	34	NA	NEBR	100	100	100	NEBR	2	8	10
14 STATES	36	39	NA	N C	93	93	NA	N C	80	70	NA
EXCL. STATES WITH NA	45	51	30	OHIO	98	100	100	OHIO	3	5	5
				S C	100	100	100	S C	1	8	5
				TENN	92	100	80	TENN	2	6	NA
				18 STATES	94	94	NA	18 STATES	7	13	NA
				EXCL. STATES WITH NA	95	97	96	EXCL. STATES WITH NA	6	10	13

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

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

SPRING WHEAT % HARVESTED				RICE % HARVESTED				SORGHUM % HARVESTED				SORGHUM % MATURE			
	1981	1980	AVG.		1981	1980	AVG.		1981	1980	AVG.		1981	1980	AVG.
IDAHO	87	71	59	ARK	6	8	6	COLO	0	0	0	COLO	9	2	8
MINN	95	91	84	CALIF	0	0	NA	KANS	1	4	2	KANS	4	10	10
MONT	85	70	75	LA	81	77	74	MO	3	13	0	MO	25	35	30
N D	94	72	76	MISS	14	14	13	NEBR	0	0	0	NEBR	1	15	10
S DAK	100	100	99	TEX	99	100	98	OKLA	5	2	2	OKLA	30	25	30
5 STATES	93	80	80	5 STATES	36	36	NA	S DAK	0	0	0	S DAK	13	7	7
								TEX	68	70	63	TEX	69	73	NA
								7 STATES	24	26	22	7 STATES	28	34	NA
				EXCL. STATES WITH NA	43	44	41	EXCL. STATES WITH NA	8	14	13	EXCL. STATES WITH NA	8	14	13

THESE 5 STATES PRODUCED 92% OF THE 1980 SPRING WHEAT CROP.

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

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

## 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 varied from 3° above normal to 3° below normal. Rainfall varied up to 3.00 in.

Fieldwork: 3.6 days. Activities: Treating row crop pests; harvesting fruits, vegetables, corn, hay, and peanuts. Corn: Harvested 63%, 54% 1980, 33% average. Soybeans: Setting pods 98%, 93% 1980; leaves turning yellow 22%, 36% 1980, 22% average; dropping leaves 7%, 13% 1980. Cotton: Bolls open 29%, 29% 1980; 16% average. Peanuts: Dug 7%, 3% 1980, 6% average. Conditions: Soybeans, cotton, peanuts, sorghum good; corn, pastures fair.

**ALASKA:** Sunny skies throughout Railbelt much of the week allowed 4 to 7 suitable days for making hay and silage, combining and swathing grain, and digging potatoes. Heavy dew slowed hay drying and combining. Warm temperatures promoted small grain maturity, lowered moisture content, and ripened grain. Nearly 15% of barley crop ripe, 5% combined. Last year much of the crop ripe, very little combined. Many growers finished first and second cutting of hay. Hay shortage could occur due to poor haying weather. Soil moisture supplies mostly adequate.

Tanana Valley: Temperatures averaged 2 to 4° above normal.

Matanuska Valley: Temperatures averaged near normal except for above normal temperatures at Wasilla.

Kenai Peninsula: Warm nights kept temperatures 2 to 3° above normal.

Kodiak Island: Temperatures averaged a couple of degrees above normal.

**ARIZONA:** Increased thunderstorm activity weekend, tapered off night of the 6th. Rainfall mostly 0.25 to 0.75 in. Some locations received over 1.00 in. Local flooding Mohave, northern Yuma County 5th. Average temperatures 3° below to 5° above normal.

Cotton progress above average, near ideal conditions. All crop setting bolls, over 65% open bolls compared 60% last year. Insect problems increasing, pesticide applications increasing rate. Sorghum seasonal progress, later plantings developing heads. Alfalfa haying very good progress, several areas reported damage from recent rain. Lemon ring-picking increasing Yuma area. Land preparation planting fall, winter vegetables active. Lettuce Cochise County approaching maturity. Lettuce central areas up to stand, growing well. Melon crops very good progress. Citrus groves mostly good condition, recent cooling temperatures, rainfall, very beneficial. Ranges improving, scattered, sometimes heavy, showers fell. Stock water, soil moisture mostly adequate mid-to-higher elevations, short to adequate lower ranges. Livestock mostly fair to good condition.

**ARKANSAS:** Near normal week. Highest temperature 94°, lowest 53°. All departures from normal +2 to -4°. Most rainfall 3.87 in., least zero.

Crops good condition. Rice headed 94%, 94% 1980; ripe 32%, 31% 1980. Soybeans blooming 95%, 90% 1980; setting pods 87%, 73% 1980; turning yellow 6%, 35% 1980. Cotton bolls open 31%, 55% 1980, 23% average. Harvest less than 5%, about same as 1980. Corn harvest 40%, 54% 1980, 34% average. Sorghum harvest 33%, 56% 1980, 29% average. Soil moisture adequate. Pasture grazing mostly good. Livestock good condition.

**CALIFORNIA:** Mean temperatures were mostly above normal by a few degrees although the Central Coast averaged below normal. The trend was toward cool-

er as most reporting points had their warmest temperatures the first part of the week. There was a liberal sprinkling of 100° plus temperatures with the highest in southeast interior. The San Joaquin Valley also was well represented with century plus temperatures. No rain reported.

Cotton looks good. Open bolls 50%, 17% one year earlier. Rice fields being drained. Early harvest and excellent yields predicted. Alfalfa hay harvest continues. Safflower harvest continues. Milo still heading out. Field corn maturing normally. Dry bean harvest increases. Sugar-beet harvest underway. Apple harvest continued steady at slow pace. Grape harvest continued ahead of normal with good quality, high sugar content. Stone fruit harvest nearly completed. Prune, grapefruit, Valencia orange and Desert lemon harvest continued. Almond harvest strong mainly Nonpariel variety. Pistachio and walnut harvest started. Broccoli, cauliflower harvest fairly heavy Central Coast. Cantaloup, mixed melon harvest continues Sacramento and San Joaquin Valleys. Carrots good supply Salinas Valley. Celery harvest active Central Coast. Planting continues Central and South Coast. Lettuce harvest increased slightly Central Coast. Bell pepper harvest increasing Central Coast, continues South Coast, San Joaquin Valley. Fall potato harvest started. Digging summer crop continues. Strawberry harvest continues Central Coast, light movement to fresh market. Market tomato harvest active South and Central Coast and San Joaquin Valley. Processing tomato harvest active with poor yields. Ranges very dry, range fires continuing problem. Livestock being moved off summer ranges month earlier than normal due lack feed, stock water. Cattle coming off ranges lighter than normal.

**COLORADO:** Intermittent precipitation throughout week; amounts up to 0.60 in. west and 0.10 or less elsewhere. Temperatures 1 to 3° above normal except 1 to 3° below normal Kansas River Basin.

Winter wheat seeded 17%, 13% 1980, 43% average; emerged 5%, 2% 1980, 12% average. Barley harvested 90%, 84% 1980, 87% average. Spring wheat harvested 55%, 68% 1980. Corn dough 88%, 84% 1980, 30% average; dented 51%, 56% 1980, 63% average; mature 12%, 11% 1980, 13% average; silage harvested 11%, 13% 1980, 19% average. Sorghum turned color 45%, 48% 1980, 53% average; ripe 9%, 2% 1980, 8% average. Dry beans cut 32%, 28% 1980, 38% average; threshed 10%, 12% 1980, 17% average. Alfalfa 2nd cutting 94%, 90% 1980; 3rd cutting 45%, 46% 1980, 52% average. Five and one-half days suitable for fieldwork.

**FLORIDA:** Temperatures changed little with afternoon highs from upper 80's to mid 90's. Lows ranged from low to mid 70's to near 80° over southeast coastal sections. Much needed rain continued to fall, but amounts were considerably less than previous period. The upper air pattern dominated by low pressure enhanced showers, thunder-showers over most of State. Rainfall was the heaviest over southern half with more than 4.00 in. A total of 3.50 to 4.75 in. of rain fell on the west side of Lake Okeechobee several areas. Amounts of 1.00 to 2.00 in. were common over the East Coast from Melbourne South.

Soil moisture mostly adequate. A few wet spots remain in south; a few scattered dry areas in central counties. Corn harvest continues north, central. Seed corn being planted, south. Tobacco marketing continues. Peanut, hay harvest delayed by rain. Soybean, cotton good condition, spraying

active. Sugarcane good growth. Recent rains have improved pastures, many central areas. However, pastures some east central, upper East Coast areas need more time to recover from dry soils earlier. Low lying pastures, some west central and lower southern areas have standing water from recent weeks' heavy rains. Cattle, calves, mostly good condition. Citrus grove condition improved, moisture adequate. New growth on trees of all ages. New crop fruit testing active all areas. Picking of 1981-82 grapefruit expected by mid-September. Most of week was cloudy to partly cloudy with scattered afternoon and evening showers in vegetable areas. Rainfall light to moderate. Fieldwork was getting back on schedule as ground dried out from heavy rains previous week. Daytime highs low 90's and nighttime readings low 70's.

GEORGIA: Temperatures averaged about 1° above normal northwest and about 1° below normal southeast. Rainfall quite variable, averaged less than 0.50 in. northeast and 1.50 to 2.00 in. southwest but otherwise near 1.00 in. Weekend temperatures averaged a little below normal. Rainfall again spotty and variable, but heavier northern third, especially mountains. Amounts averaged near 0.50 in. north and 0.10 to 0.25 in. elsewhere.

Prior to weekend rains, soil moisture was short northeast and east central, short to mostly adequate elsewhere. Five days suitable for fieldwork. Insect controls, harvest, and land preparation for fall planting were main activities. Peanuts fair to good; 8% dug and 4% threshed, last year 9% and 4%, average 10% and 6%. Soybeans fair to good; 98% have bloomed, 100% last year; 90% have set pods, 76% last year; 7% dropping leaves, last year 11%. Corn poor to fair; 72% harvested, last year 70% and average 56%. Cotton fair to good; 49% open, last year 66%; 3% picked, last year 6% and average 1%. Tobacco 96% harvested, same as last year, average 98%. Apples fair to good; 66% picked, last year 61%. Pecans fair to good. Pastures and hay crops fair to good. Cattle and hogs fair to mostly good.

HAWAII: Weather favorable. Occasional showers beneficial to most agricultural sections. Spraying frequent to control insect and disease infestations. The barge system between Islands has been interrupted by a strike. Supplies to Honolulu, the major destination, will be affected and may become inadequate. More air flown service expected. Vegetables: Supplies becoming light. Bananas: Showers beneficial. Harvest of certain varieties seasonal flush. Papayas: Supplies increasing. The inter-island barge strike may divert more shipments to the Mainland U.S. Pineapples: Harvesting declining. Sugar: Steady harvest. Pastures: Rains beneficial. Dry some sections.

IDAHO: Cooler weather was the rule with temperatures averaging from near normal to 6° below normal. The high was in Hamer with 97°. The low in Tetonia with 26°. Thundershowers were mainly in north and the extreme south. The greatest amount of precipitation was reported in Sandpoint with 0.91 in.

Winter wheat harvest: 97%, 77% in 1980, and 84% average. Spring wheat harvest: 85%, 71%, 59%. Spring barley harvest: 85%, 71%, 69%. Pea harvest virtually complete. Lentil harvest 83%, 52%, 77%. Dry bean harvest: 17%, 5%, 7%. Ranges dry and burning up. Some supplemental feeding being done.

ILLINOIS: Temperatures ranged up to 2° below normal. Precipitation very scattered from 0.20 to 3.00 in.

Corn condition 30% excellent, 68% good, and

2% fair; 70% dented, 91% 1980, and 84% average; 17% mature, 59% 1980 and 49% average. Soybeans 18% turning yellow, 43% 1980, 43% average; 5% shedding leaves, 18% 1980, 16% average; condition 16% excellent, 70% good, 14% fair. Alfalfa condition 28% excellent, 65% good, 7% fair; third cutting 75% complete, 76% 1980, 76% average. Pastures 30% excellent, 68% good, 2% fair. Soil moisture 1% short, 38% adequate, 61% surplus. Fieldwork: 3.0 days suitable.

INDIANA: Heavy rains early in week, partly cloudy and cool. Daily low temperatures 2° above normal. Rainfall from 0.50 in. northwest to 2.00 in. in northeast. Southeast and southwest 1.20 in., central 0.90 in. Humidities high.

Fieldwork averaged 1 day. Topsoil and subsoil moisture adequate to surplus. Pastures fair to good. Corn and soybeans fair to good. Corn 8% mature, 1980 20%, average 20%. Corn 40% dented, 1980 80%, average 70%. Corn 87% in dough, 1980 99%, average 98%. Soybeans 95% setting pods, 1980 100%, average 99%. Soybeans 10% turning yellow, 1980 35%, average 40%. Soybeans 1% dropping leaves, 1980 10%, average 10%. Tobacco 15% harvested, 1980 35%, average 25%. Wheatland 28% plowed, 1980 30%, average 40%.

IOWA: Temperatures ranged from slightly above normal in the southwest to slightly below normal in the northeast. Rainfall was below in all areas excepting the southwest.

Topsoil moisture: 4% short, 79% adequate, 17% surplus. Subsoil moisture: 21% short, 65% adequate, 14% surplus. Corn in or past dough stage: 91%, 1980 94%, normal 97%. Corn in or past dent stage: 64%, 1980 78%, normal 79%. Corn acreage mature: 12%, 1980 22%, normal 33%. Soybeans with leaves turning: 34%, 1980 43%, normal 54%. Soybeans with leaves shedding: 5%, 1980 9%, normal 16%. Third cut alfalfa hay harvested: 82% complete, 1980 74%, normal 71%. Five days suitable for fieldwork. Crop conditions: Soybeans, corn, pasture, and hay mostly good to excellent. Livestock reported to be in mostly good condition.

KANSAS: Precipitation widely variable, averages ranging 0.25 in. to 0.50 in. northwest, 0.25 to 1.84 in. east central and 1.31 in. southeast. Temperatures averaged 69° northwest and 72 to 75° elsewhere or 2° below normal north central to around normal elsewhere.

Wheat planting underway southwest. Some spraying for greenbugs on newly emerged wheat. About 1% planted, last year and average 4%. Corn harvested 2%, 1980 10%, average 4%. Corn mature 30%, 1980 45%, average 35%. Corn dent 70%, last year 75%, average 70%. Corn dough 96%, last year 98%, average 95%. Soybeans podding 90%, last year 95%; 5% shedding leaves, 1980 10%. Sorghum headed 95%, 1980 and average 90%; 40% coloring, last year 50%, average 45%; 4% sorghum mature, 1980 and average 10%. Principal activities wheat seeding and seedbed preparation, ensiling corn and sorghum. Fieldwork: 5.0 days suitable.

KENTUCKY: Precipitation amounts varied from 1.00 to 3.00 in. Heaviest rain was over central areas. Temperatures were a couple of degrees warmer than normal.

Field activity slowed, farmers averaged 3.3 days in field. Cutting and housing tobacco remains the number one activity. Burley 46% cut, 47% last year, average 50%. Houseburn evident in about 40% of early cut tobacco. Corn harvest underway, 27% of acreage mature, behind last year's 40% and average of 30%; 82% of corn in dent stage or beyond, last year 86%, average 3%. Fairs beneficial to soybeans; 80% setting

pods, last year and average 98%; 1% dropping leaves compared with 6% last year and average of 7%.

LOUISIANA: Rainfall widespread, amounts 1.00 to 3.00 in. Temperatures 1 to 2° above normal central and east central, 1 to 3° below normal elsewhere.

Soil moisture adequate. Days suitable: 3.2. Corn harvested 79%, 68% 1980, 59% average; condition good. Rice ripe 91%, 90% 1980, 87% average; harvested 81%, 77% 1980, 74% average; condition good. Cotton open bolls 61%, 39% 1980, 24% average; harvest progress minimal; condition fair. Soybeans setting pods 95%, 88% 1980, 94% average; leaves shedding 6%, 9% 1980; a few early fields harvested; condition fair. Sorghum turning color 93%, 87% 1980, 86% average; ripe 77%, 63% 1980, 56% average; harvested 57%, 34% 1980; condition fair to good. Sugarcane planted 32%, 10% 1980, 14% average; condition good. Sweetpotatoes harvested 42%, 37% 1980, 32% average; condition good. Vegetables rated fair. Pastures rated fair to good. Livestock good condition.

MARYLAND AND DELAWARE: Temperatures averaged 4° above normal. Average precipitation 0.75 in.

Maryland: Corn grain harvested 5%, equal to last year, dough stage 95%, dent 75%, mature 20%, last year 80% dough, 75% dent and 35% mature. Corn silage 50% harvested, same as last year. Soybeans 95% bloomed, 75% podded, 10% turned. Hay 3rd cutting completed, 4th cutting 15%. Tobacco 75% harvested, last year 65%. Tomatoes 95%, watermelons 90%, lima beans 40% and potatoes 10%. Delaware: Corn grain harvested 5%, equal 1980, 95% dough, 75% dent, 15% mature. Corn silage 25% cut, last year 10%. Soybean crop poor to fair, 60% bloomed, 75% podded, 10% turned, 4th cutting hay 20%, tomatoes 35%, watermelons 80%, lima beans 45% and potatoes 90%. Fruit harvest both States, peaches 90%, apples 20%.

MICHIGAN: Heavy rains caused problems across the Lower Peninsula. Flooding occurred along both the Raisin and Cass Rivers. Rainfall amounts of 1.50 to over 5.00 in. fell from the afternoon of 3rd to afternoon of 4th. East central average rainfall 3.40 in., southeast average 2.60 in. Upper Peninsula average 0.10 in. Average temperature 2 to 4° above normal.

Rain was the "bad guy" this week for most of the State, though parts of the north could still use more rain. No progress was made in the dry bean harvest as heavy rains hit the major producing "Thumb Area". Only 5% of the acreage harvested. Dry weather needed before harvest can resume. Sprouting and white mold have growers concerned. Overall crops maturing slower than last season and a "frost free" September will be needed for crops to reach their yield potential. Third cutting hay has been halted in most areas with about 30% cut. About 2 days were suitable for fieldwork. Corn 50% dented, below last seasons 62%. Corn silage about 5% harvested and was slowed by wet fields. Soybean leaves 30% turned color. Pickle harvest completed. Red Delicious and McIntosh harvests underway. Vegetable picking halted by rains.

MINNESOTA: Temperatures near normal. Extremes: 86° at Browns Valley and Hallock and 34° at Fosston. Scattered frost in the northern part of the State ended the week. Precipitation averaged 0.50 in. to 0.75 in. below normal, except 0.50 in. to 1.00 in. above normal southeast and 0.50 to 1.50 in. above normal north central and northeast. Precipitation totals less than 0.50 in. except 0.50 in. to 1.88 in. southeast and 0.50 in. to 2.00 in. northwest through northeast and locally 2.54 in. through extreme north central.

Harvesting of small grains complete, while corn and soybean development 7 to 10 days behind normal. Topsoil moisture rated 3% very short, 5% short, 64% adequate and 28% surplus. Small grains combined: spring wheat 95%; oats 98%; barley 99%; flax 24%. Corn: dough 96%, 1980 99%, normal 92%; dent 45%, 1980 85%, normal 73%; mature: 5%, 1980 11%, normal 19%. Soybeans: setting pods 99%; 1980 99%, normal 99%; yellowing 33%, 1980 58%, normal 64%; dropping leaves: 10%, 1980 13%, normal 25%.

MISSISSIPPI: Rainfall provided much needed moisture and helped keep temperatures below normal. Greatest 24-hour rainfall 2.10 in. Temperature extremes: 56 and 97°.

Soil moisture adequate. Days suitable for fieldwork: 2.4. Cotton 82% of acreage with open bolls, 78% last year, 45% average; 1% harvested; condition fair to good. Soybeans 95% podding, 90% last year, 93% average; 7% shedding, 8% last year, 7% average; condition fair. Rice 98% headed, 95% last year, 97% average; 14% harvested, 14% last year, 13% average; condition good. Corn 97% mature, 93% last year; 40% harvested, 26% last year, 18% average; condition fair to good. Sorghum 38% harvested, 24% last year, 22% average. Hay 87% harvested; sorghum silage 83%; corn silage 94%; peanuts 17%; sweetpotatoes 14%. Pasture condition fair to good.

MISSOURI: Temperatures averaged below normal, except in southeast and southwest where they averaged 1° above normal. Precipitation widespread. The average rainfall for the week was less than 1.00 in.

Fieldwork: 4.7 days suitable. Corn 84% dented, last year 93%, normal 79%. Corn 32% mature, last year 40%, normal 34%. Corn 5% harvested. Grain sorghum 87% headed, last year 92%, normal 94%. Grain sorghum 25% mature, last year 35%, normal 30%. Grain sorghum 3% harvested. Soybeans 91% blooming, last year 100%, normal 100%. Soybeans 75% setting pods, last year 90%, normal 88%. Soybeans 8% coloring, last year 12%, normal 17%. Alfalfa hay 3rd cutting 86% harvested, last year 91%, normal 82%. Cotton 15% with open bolls, last year 71%, normal 21%. Condition of corn and pasture good to excellent. Condition of grain sorghum mostly good. Condition of soybeans and cotton fair to good. Topsoil moisture supply adequate to surplus.

MONTANA: Mild and mostly dry. Scattered areas received up to 0.50 in. of rain first of week. It was mostly dry remainder of the week, although some areas of southeast did have moderate to heavy rains 5th. Temperatures were normal over the west, north central and central and a degree or two above normal elsewhere. Highest 102° at Broadus, lowest 21° at Wisdom.

Moisture supplies short to adequate. Fieldwork: 6 days suitable. Percent harvested compared with last year and normal; winter wheat 100, 95, 95; spring wheat 85, 70, 75; barley 80, 70, 75; oats 85, 70, 75; corn silage 10, 15, 20; dry beans 10, 5, 20. Winter wheat planted 5, 10, 20. Second cutting alfalfa harvested 85, 75, 75. Cattle and sheep moved from summer ranges 10%. Range feed supplies average, except short eastern third. Stock water short eastern half of State.

NEBRASKA: Precipitation: As of 4th, 0.40 in. south central and southwest; 0.10 in. remainder of State. Temperatures: 2° below normal except Panhandle which was 3° above normal.

Corn mostly good to excellent; dough 92%, 100% last year and normal; denting 50%, 8 days behind, 75% last year and normal; mature 4%, 10% last year, 20% normal. Soybeans mostly good to excellent; leaves turning 20%, 30% last year, 45% normal;

shedding leaves 2%, 8% last year, 10% normal. Sorghum mostly good to excellent; coloring 55%, 80% last year, 70% normal; mature 1%, 15% last year, 10% normal. Winter wheat seeding 10%, same as normal but 15% last year. Pasture and range feed supplies mostly adequate. Topsoil moisture short to mostly adequate. Subsoil moisture short to mostly adequate. Days suitable: 6.3.

NEVADA: Mostly sunny skies and above normal temperatures early in week. Dry, cooling trend midweek. Warm, moist air mass end of period resulted in flash floods extreme southern area end of period. Light showers east.

Alfalfa hay baling ranged from third cuttings north to fifth cuttings extreme south. Most wild hay already harvested due to short crop. Range feed short most areas. Some cattle moved to fall and winter pastures early. Very few sales to date.

NEW ENGLAND: Temperatures: Averaged 5 to 10° above normal. Precipitation: Dry, most areas received less than 0.10 in. Only exception was Bridgeport with 2.20 in.

Fieldwork: 5.4 days favorable. Soil moisture: South, short; north, adequate to surplus. Hay harvested: Second crop, 80%; third crop 34%. Potatoes: Vine killing, seed potato harvest. Oats harvested: 74%. Apples: Varieties being harvested, short crop. Vegetables: Harvesting, good quality. Cranberries: Sizing, coloring, need water, good prospects. Sweet corn: 82% harvested. Good conditions: Corn, oats, potato, vegetables, cranberries. Fair condition: Apples. Grazing: Adequate.

NEW JERSEY: Temperatures averaged 1 to 3° below normal. Extremes: 51° at Freehold and Long Branch on 6th and 84° at Downstown, Glassboro and Hammonton on 1st and 2nd, rainfall averaged 0.67 in. north, 0.50 in. central and 0.27 in. south. Heaviest 24 hour total 2.98 in. at Canoe Brook on 1st. Estimated soil moisture, in percent of field capacity, averaged: 58 north, 45 central and 41 south. Four inch soil temperature averaged: 69 north, 72 central and 73 south.

Fieldwork: 5.0 days suitable. Some scattered showers received but most areas critically dry. Harvest of summer vegetable continue to decline. Fall crops in need of rain. Irish potato harvest well advanced. Sweetpotato digging continues light. Fall apple harvest increasing. Peach movement continues good. Corn fields being opened. Late planted field corn and soybeans need rain. Pastures and forage crops also need rain.

NEW MEXICO: Continued periodic rains restricted outside activity most areas. Rains very beneficial dryland crops and for fall grain seedings, causing some rank growth in cotton, and cut hay in fields rain damaged. Cotton boll opening 20% of fields, ahead of last year and average. Alfalfa cutting varies from well advanced second cut in north to between fourth and fifth cut in south. Grain sorghum both dry and irrigated, good condition and mostly headed. Corn much in dough stage and ensilage cutting active. Winter wheat land preparation and seeding continued as weather permitted. Potato, green chile, apple harvest continued; dry bean started. Ranges and livestock in good to excellent condition.

NEW YORK: Temperatures averaged up to 9° above normal due to high minimum readings. Rainfall above normal most areas, dry southeast.

Fieldwork slowed. Oat combining 93% done, 89% 1980, 95% average. Silage corn, dry bean harvests underway. Third cutting alfalfa 40% in, 39% 1980, 44% average. Winter wheat planting beginning. Vegetable crop harvest slowed

by rain. Apple size good in Hudson Valley. Aurora grapes being harvested in Niagara County and around Finger Lakes.

NORTH CAROLINA: Temperatures: 1 to 3° above normal in the west and 1 to 2° below normal in the east. Precipitation: Heavy in the northern foothills and Piedmont to near 0 in the southeast.

Fieldwork: 6.1 days suitable. Soil moisture: 50% short, 24% adequate, 26% surplus. Conditions: Peanuts, soybeans, apples, tobacco, sorghum grain, and cotton mostly good; pasture fair to mostly good; sweetpotatoes fair to good. Harvest: Sweetpotatoes 12%, 1980 12%, 11% average; flue-cured tobacco 35%, 1980 80%, 84% average; burley tobacco 47%, 1980 38%, 36% average; corn for grain 23%, 1980 30%, 18% average; corn for silage 76%, 1980 62%; apples 30%, 1980 20%, 28% average; hay 82%, 1980 77%, 82% average. Phenological stages: Cotton open bolls 65%, 1980 60%; corn dough stage 100%, 1980 100%; corn dent stage 95%, 1980 96%; corn matured 81%, 1980 82%; soybeans bloomed 93%, 1980 93%; soybeans pod set 80%, 1980 70%. Major farm activities: Harvest and marketing of tobacco, harvest of corn for silage, and combining of corn for grain.

NORTH DAKOTA: Weekend showers and thunderstorms Statewide. Moderate to heavy rains southern, eastern portion of State. Over 2.00 in. several locations. Temperatures averaged from 2° above normal south central to 3.5° below normal north central. Extremes: 30° northwest and 94° north central.

Small grain harvest virtually complete except north central area. Showers delayed harvest, but helped row crops and pastures. Average of 5.7 days suitable for fieldwork. Average progress of small grain combining 2 weeks ahead of normal. Percents combined with last year and average: hard red spring wheat 94, 72, 76; durum 89, 54, 63; barley 98, 77, 88; oats 94, 82, 86; flax 27, 26, 33. Row crops mostly good. Light frost nipped corn in some western locations. Potato, dry bean harvest to become general this week weather permitting. Most row crop development fall behind normal except corn and sunflower, which are slightly ahead. For sunflower 42% with bracts yellow or beyond, 47% ray flowers dried, 11% in bloom. Averages for same categories 1, 38, 41, 20.

OHIO: Slow moving frontal system caused several thunderstorms dropping copious rain over north. Near to slightly below normal amounts south central. Greatest total at Toledo with 3.50 in., least just over 0.50 in. at Columbus. Above normal amounts north kept streams high, fields wet. Showers tapered off over weekend. Cloudiness and precipitation kept day temperatures down and night temperatures up; means above normal as result. Means in upper 60's and lower 70's; 2 to 6° above normal. Growing degree days ranged from around 130 northwest to around 160 extreme south. Totals ranged 15 to 37 above normal.

Corn rated fair. Moisture benefited some late planted fields, but most of the crop now needs warm, dry weather for dry down, not moisture. Dry soils produced some stress earlier which caused some unfilled or partially filled ears. Soybeans were rated fair. While rain helped prospects for the filling of late planted soybeans, there is concern that earlier planted, more mature fields may suffer root rot from excess moisture. The possibility of an early frost dims the already gloomy soybean crop outlook. Corn dented 45%, 70% 1980, 70% average. Corn mature 8%, 20% 1980, 20% average. Soybeans set pods 70%, 95% 1980, 85% average. Soybeans turning 20%, 30% 1980, 30% average. Silage harvested 10%, 20% 1980, 20% average. Alfalfa, 3rd cut 55%, 50% 1980, 55% average. Tobacco cut 20%, 40% 1980, 45% average.

Days favorable: 2.0. Pasture condition fair. Soil moisture 6% short, 52% adequate, 42% surplus.

**OKLAHOMA:** Rainfall ranged from 0.20 in. east central to 1.30 in. north central and south central divisions. Temperatures averaged near normal.

Crops and pastures in good condition. Rains have been beneficial to seedbed preparation and seeding activities. Wheat pasture prospects look very good. Cotton open bolls: 3%, 20% 1980, 4% average. Sorghum mature: 30%, 25% 1980, 30% average. Sorghum harvested: 5%, 2% 1980 and average. Days suitable fieldwork: 5.3.

**OREGON:** Topsoil moisture mostly short except for a few counties in north central reporting adequate. Small grain harvest mostly finished. Harvesting progressing rapidly in upper elevations. Peppermint harvest nearing completion in east, finished in west, flaming underway. Hop harvest continues. Third cutting of hay harvest continuing. Sugarbeet harvest expected to start first week in October. Bartlett pear harvest completed in Lower Hood River Valley and in full swing in Upper Valley. Picking of Anjou pears expected to begin this week. Evergreen blackberry harvest in full swing. Grapes maturing. Cranberries good. Potato harvest in full swing in Umatilla Basin and Malheur County. Sweet corn harvest continues in west. Early dry bean harvest getting started in northeast. Range and pastures dry. Livestock doing well.

**PENNSYLVANIA:** A cloudy but mild week with little day to day change. Temperatures remained in a narrow range with highs mostly in the 60's and 70's and lows in the 60's averaging near normal. Extremes: 86 and 47°. Scattered showers most days with a few thunderstorms west and central providing rainfall totals of 1.50 to 3.00 in. west, 0.50 to 0.20 in. central, 0.40 or less east with less than 0.10 in. southeast.

Two days suitable. Soil moisture adequate to surplus. Activities: Planting wheat; baling straw; fixing fences; repairing machinery; spreading manure, lime and fertilizer; clipping pasture; plowing; and harvesting ensilage corn, potatoes, tobacco, and apples. Tobacco 60% harvested, last year 51%. Potato harvest 44% complete, last year 40%. Ensilage corn 9% harvested, last year 16%. Corn 96% in dough or past, 52% in dent or past, and 7% mature; last year 87% in dough or past, 44% in dent or past, and less than 5% mature; average 87% in dough or past, 40% in dent or past, and less than 5% mature. Wheat planting 7% complete, last year less than 5%. Fall plowing 36% complete, same as last year. Third cutting alfalfa 57% complete, last year 63%. Fourth cutting alfalfa 9% complete, last year 11%. Second cutting Clo-Tim 85% complete, last year 93%. Hay quality mostly poor. Feed from pasture average to below average.

**PUERTO RICO:** Island average rainfall 0.49 in. or 1.33 in. below normal. Highest total 2.25 in. Temperatures averaged about 81 to 83° on Coasts and 77° Interior Divisions. Extremes: 97 and 56°.

**SOUTH CAROLINA:** Near normal temperatures with highest 92° 1st. Rainfall near normal in mountains, foothills but almost rainless elsewhere.

Soil moisture short. Six days available for fieldwork. Corn fair to good condition; 95% mature, 95 last year, 95 average; 52% harvested, 57 last year, 53 average. Cotton fair to good, 56% open bolls behind year ago 70, 53 average. Some lower bolls rooting. Soybean condition good, insects under control; 96% blooming, 97 last year, 97 average; 82% setting pods, 87 last year and average; 2% leaves turning color, 16 year ago, 10 average; 1% shedding leaves prematurely due to dry stress, 8 year ago,

5 average. Tobacco 95% harvested, 93 last year. Apple condition good, 32% harvested, 30 last year, 52 average. Fall snap beans 77% planted, 98 last year; 2% harvested, 12 last year. Fall cucumbers 93% planted, 98 year ago. Winter grazing 4% planted, 5 year ago.

**SOUTH DAKOTA:** Precipitation varied over State. Light in southwest and south central, over 1.00 in. in central and north central. Temperatures 2 to 4° below normal. Extremes: 100 and 28°.

Topsoil moisture adequate in central regions and east central and southeast districts. Critically short in half of northeast. Remainder short. Six days suitable. Corn and sorghum being cut for silage. Row crop conditions: corn 80%, soybeans 85%, sorghum 89%, sunflowers 90% of normal. Winter wheat 14% seeded, winter rye 15% seeded. Range and pasture condition 67%. Soybeans shedding leaves 27%, 1980 30%, average 27%. Corn dough 76%, 1980 87%, average 91%. Corn dented 51%, 1980 61%, average 66%. Corn mature 13%, 1980 14%, average 23%. Sorghum showing color 69%, 1980 50%, average 56%. Sorghum mature 13%, 1980 7%, average 7%. Sunflowers mature 34%, 1980 13%, average 13%.

**TENNESSEE:** Two slow moving fronts, one on 31st and the second on 4th, caused heavy rains. Rainfall ranged from 0.34 to 5.79 in. Temperatures were near normal in the west and middle but 2 to 5° above normal in the east.

Fieldwork: 3.1 days suitable. Soil moisture adequate. Mature soybeans 1%, 1980 1%, average 2%. Some spraying for loopers and pod feeders reported. Cotton open bolls 8%, 1980 39%, average 13%. Rain and cool weather slowed opening of cotton bolls. Corn virtually all in the dent stage. Corn mature 59%, 1980 59%, average 41%. Corn harvested 6%, 1980 9%, average 4%. Burley tobacco harvest 72%, 1980 52%, average 59%. Dark-fired harvest 68%, 1980 62%, average 51%. Air-cured harvest 75%, 1980 48%, average 46%. Pastures and livestock in good condition. Lespedeza hay harvest, 65%, 1980 62%, average 61%. Some hay damaged due to rains. Small grain seeding began. Wheat 4% seeded, 1980 4%, average 8%. Oats 6% seeded, 1980 7%, average 13%. Barley 6% seeded, 1980 5%, average 15%.

**TEXAS:** Weather: Widespread rain, scattered thunderstorms dampened State most of week as remnants of a tropical depression moved from Central Texas northeastward, and two cold fronts moved across State. Temperatures for week were 1 to 4° below normal across Panhandle and South Texas near normal elsewhere. Normals range from the upper 70's over Panhandle and far West Texas to middle 80's over the Lower Valley. Precipitation below normal across Panhandle, West Texas, and western third of North Texas with above normal amounts recorded elsewhere. Normal precipitation ranges from 0.33 in. over far West Texas to 1.00 in. along Upper Coast.

Crops: Most harvesting activity interrupted as rains dampened State. Heaviest rainfalls occurred South Central, Coastal areas. Severe flooding occurred Gonzales, Dewitt and Lavaca Counties. Elsewhere rainfall brought needed moisture for ranges, pastures, and planting moisture for small grains. On High and Low Plains, dryland cotton benefited from scattered rainfall. However, cool, cloudy days slowed cotton development over weekend. Cotton harvest progressed slowly as rain delayed most activity. As fields began to dry, defoliation resumed in South Central Texas and Blacklands. The rainfall was beneficial to non-irrigated cotton on Plains where fruit set heavy. The cool temperatures, and lack of sunshine slowed crop development. Bollworms continued to be present on High and Low Plains and spraying necessary. Statewide cotton condition

reported 14% excellent, 66% good, 19% fair and 1% poor. Sorghum harvest made little progress. Most activity occurred on Low Plains and on southern High Plains, where harvest getting underway. Reported condition Statewide is 27% excellent, 62% good and 11% fair. Corn harvest on High Plains delayed by rain and wet fields. Some corn beginning to fall and lodge. Harvest expected to get underway quickly as fields dry to prevent major crop losses. Conditions across State were reported 37% excellent, 52% good and 11% fair. First cutting rice harvest practically complete before heavy rains interrupted progress. Second crop prospects look good. In South Texas, peanut harvest was delayed by rain. In Cross-Timbers, prospects boosted by moisture. Wheat planting well underway across Plains. With recent moisture, planting activity temporarily slowed, but should resume as fields dry. Seeding of oats curtailed across the State by rainfall.

Commercial vegetables: Rio Grande Valley, fall vegetables progressing well, some damage heavy rains. Fall tomatoes beginning to bloom. Insects building, damage minimal. Citrus showing good size, quality. Coastal Bend, cucumbers making excellent progress. Some fall planting continues. San Antonio-Winter Garden area, planting fall vegetables wrapping up. Most vegetables progressing well. East Texas, fall planting cabbage, other crops active. Sweetpotato harvest in full swing. Trans-Pecos region, light supplies of peppers, tomatoes, cantaloups. Spraying of bell peppers active. High Plains, cabbage, bell pepper harvest active, carrots, lettuce, tomatoes making good growth. Potato harvest almost complete.

Range and livestock: Range, pastures providing livestock with good grazing. Widespread rain providing stimulus to grasses, much needed moisture for replenishing stock tanks. Livestock good to excellent condition. Some cattle lost to heavy flooding South Central Texas. Cotton setting bolls 100%, 100% 1980. Cotton open bolls 27%, 34% 1980. Cotton harvested 10%, 15% 1980, 12% average. Rice turning color 100%, 100% 1980. Rice harvested 99%, 100% 1980, 98% average. Sorghum headed 99%, 98% 1980. Sorghum turning color 83%, 81% 1980. Sorghum mature 69%, 73% 1980. Sorghum harvested for grain 68%, 70% 1980, 63% average. Wheat planted 9%, 10% 1980, 11% average. Corn harvested 41%, 47% 1980, 36% average. Peanuts harvested 9%, 9% 1980, 15% average. Sunflowers harvested 13%, 0% 1980, 6% average.

UTAH: Widely scattered shower and thunderstorm activity forepart period and again over weekend. Accumulated amounts of moisture generally light to moderate, but locally very heavy with flash flooding. Average temperatures continued above normal ranging between 1° below and 8° above.

Fieldwork possible: 6.5 days. Soil moisture continues short to adequate. Major activities included third crop hay harvest, peach and pear picking, dry onion harvest, and alfalfa seed combining. Winter wheat seeding continued to make good progress. About 60% of corn in dough stage. Corn silage harvest has begun in a few early fields. Frost reported in scattered high elevation locations.

VIRGINIA: Temperatures were a little above normal averaging in the mid 70's. Extremes: Upper 80's to upper 50's and low 50's. Rainfall spotty due to mainly showers and isolated areas of heavy rains where the southwest saw over 3.00 in. and the rest of the area was less than 0.75 in.

Crop prospects remain good. Light rainfall temporarily eased moisture problems north and northwest. Topsoil moisture currently rated 58% short, 42% adequate. Days suitable for fieldwork averaged 4.3. Corn condition remains good to excellent. Silage 52% cut with corn

for grain 30% harvested, 15% 1980. Corn grain 98% dough, 92% 1980; 89% dent, 73% 1980; 79% mature, 53% 1980. Tobacco rates good to excellent, with 80% flue harvested, 52% 1980; fire-cured 79% cut, 40% 1980; burley 57% cut, 30% 1980 and sun-cured pulled 80%, 39% 1980. Soybean condition continues good to excellent with considerable earworm pressure east and southeast. Peanut condition good to excellent. Sclerotinia Blight active. Apples rated in good to excellent condition, 14% picked, 15% 1980. Pastures in good condition. Dry west of mountains with some supplemental feeding of livestock in this area.

WASHINGTON: West: Temperatures were near normal but rainfall varied from near normal to an inch above normal on the Central Coast. Blueberry harvest near completion; blackberries in full swing. Fresh and processing vegetable harvest continued. Spinach seed being swathed; cabbage for seed being planted. Some pasture growth was evident. Range and pasture feeds were adequate. Soil moisture ranged poor to adequate.

East: Temperatures were normal. Precipitation totals varied considerably in showers. Little or no rain was reported in the south but amounts increased in a northward progression to a maximum of more than 0.50 in. recorded in the northeast mountains. Red Delicious apples coloring well but sizing slowly. Golden Delicious size good and early harvest took place. Other fruit harvested included Bartlett and D'Anjou pears, peaches, plums, prunes. Other crops harvested include potatoes, dry beans, sweet corn, tomatoes mint, hops. Grapes maturing. Third cutting alfalfa took place with supplies adequate. Field preparation for fall grain seeding took place. Most wheat and barley fields have already been harvested. Pea and lentil harvest progressed. Pea, lentil, wheat yields have been good while barley somewhat low.

WEST VIRGINIA: Temperatures above normal. High 92°, low 49°. Precipitation well above normal. Range 0.45 in. to 4.89 in.

Soil moisture adequate to short. Days suitable for fieldwork: 3.6. Main activities; hay harvesting, pasture clipping, fencing. Oats fair to good, harvest complete, slightly ahead of 1980. Corn fair to good, 35% silked, 65% dough stage, ahead of 4% pre-silked, 29% silked and 67% dough stage in 1980. Hay fair to good, 2nd cutting 82% complete, 75% in 1980. Tobacco fair condition, 85% topped, 31% harvested, 89% and 52% in 1980. Pastures fair to good. Fruit poor to fair. Potatoes fair to good. Gardens fair to good. Showers fell across the State easing the stress of the three weeks of limited precipitation. Soil moisture still short in the southwestern part of the State.

WISCONSIN: A cool week with much precipitation as a slow moving cold front worked eastward from Minnesota. Temperatures averaged about 4° below normal. Highs were mostly in the 80's and lows were mostly in the 40's. High was 85° which in Eau Claire on 30th while Baldwin reported the weekly low of 40° on 4th. Most of the rainfall of the week fell across the State on 30th. Rainfall totals generally averaged from 0.50 to 1.50 in. Poynette reported 6.75 in. of rainfall on 30th.

Fieldwork: 3 days suitable. Excess precipitation and cool weather has hindered corn crop progress. The 1981 crop is 70% in the dough stage or advanced, 99% 1980, 78% average. Approximately 42% of the corn crop at the dent stage of development, 65% 1980, 52% average. About 12% of the crop safe from frost, 25% 1980, 20% average. Corn crop looks good, but drying

weather needed to speed crop maturity. Third crop hay harvest progressing as weather permits and 22% complete. Pastures look very good for this time of the year due to the recent rains. Tobacco harvest has temporarily delayed due to excess moisture. Fruit and vegetable harvests progressing as weather permits. Topsoil moisture supplies rated 5% short, 52% adequate and 43% surplus.

**WYOMING:** Most all stations above normal temperatures. Highest 100°, lowest 29°. All stations below normal precipitation with 2 exceptions. Greatest amount 0.66 in.

Topsoil moisture short 71% State. Subsoil moisture short 81% State. Average 7 days suitable for fieldwork. Winter wheat seeded: 25%; year ago 60%; normal 50%. Spring wheat harvested: 85%; year ago 85%; normal 84%. Oats harvested: 70%; year ago 85%; normal 81%. Barley harvested: 30%; year ago 90%; normal 82%. Potatoes har-

vested: 5%; year ago 30%; normal 10%. Corn silage harvested: 5%; year ago 15%; normal 15%. Corn for grain dented: 15%; year ago 45%; normal 40%. Dry beans windrowed: 25%; year ago 50%; normal 49%. Dry beans combined: 10%; year ago 15%; normal 13%. Second cutting alfalfa harvested: 80%; year ago 80%; normal 83%. Third cutting underway few areas. Other hay harvested: 95%; year ago 95%; normal 95%. Cattle, calves contracted: 15%; year ago 25%. Cattle, calves marketed: 5%; year ago 10%. Sheep, lambs contracted: 10%; year ago 25%. Sheep, lambs marketed: 5%; year ago 20%.

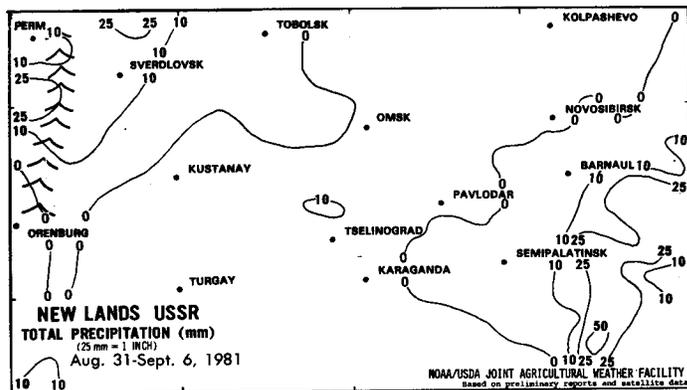
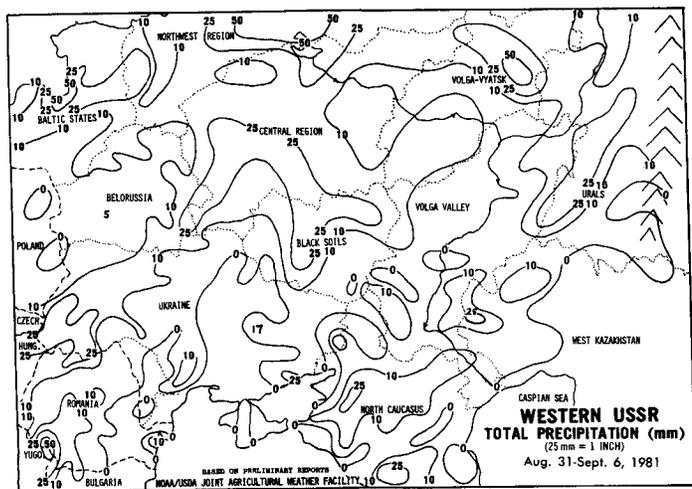
**National Agricultural Summary** (Continued from page 17.)

needed moisture stimulated growth. However, some cattle were lost to heavy floods in southcentral Texas. In northern areas, cattle were being moved off summer ranges.

**International Weather and Crop Summary**

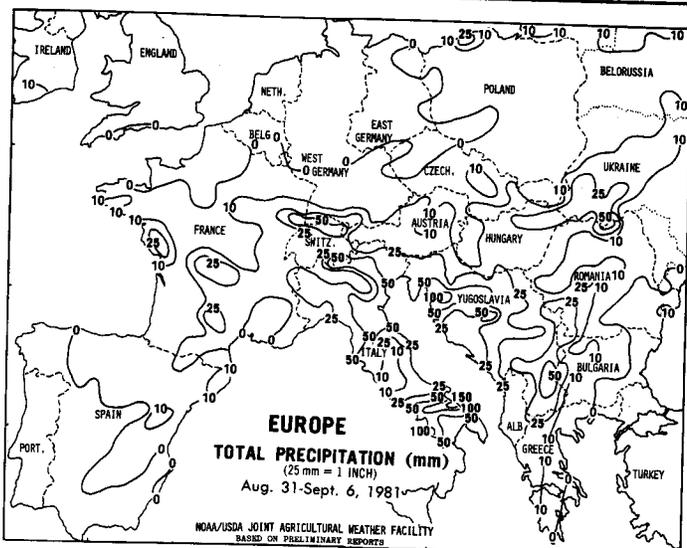
HIGHLIGHTS  
Aug. 31-Sept. 6, 1981

- USSR:** Drier weather in West and Central European USSR; favorable harvest weather for spring grains and cotton.
- EUROPE:** Scattered showers in the west; heavy rains unfavorable for maturing corn in southeast; widespread rain in east.
- CANADA:** Mostly favorable harvest weather in Prairies; some rain delays in eastern areas.
- MEXICO:** Seasonal rainy weather returned to northwestern watersheds, reducing reservoir drawdown.
- SOUTH AMERICA:** Showers in southern Brazil; dry weather elsewhere.
- AUSTRALIA:** Mild, dry weather; crops in vegetative growth.
- SOUTH ASIA:** Persistent dry weather stressed crops in Northwest India; generally favorable weather elsewhere.
- SOUTHEAST ASIA:** Widespread showers benefited rice growth.

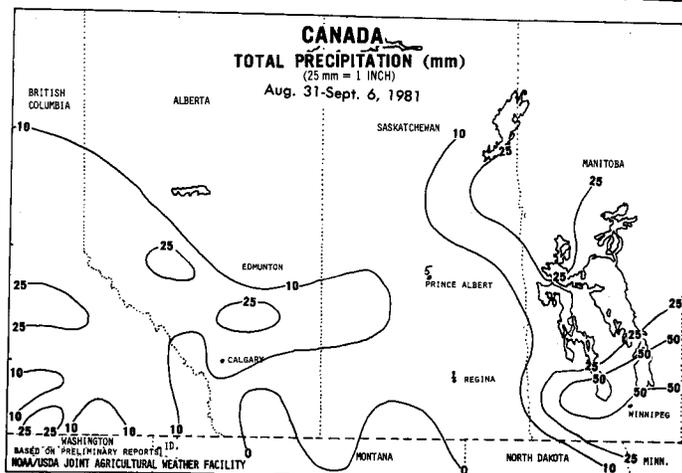


**USSR AND NEW LANDS:** Scattered showers and below-normal temperatures occurred over west European USSR providing drier weather which aided ground preparation and sowing of winter grains. Drier weather returned to the central European USSR benefiting late maturing corn. According to the normal crop calendar, the harvesting of corn

should be underway in more southern areas. In south central USSR, scattered light showers occurred at a few locations, but cotton harvesting should have progressed with little delay. In east European USSR, modest rains and above-normal temperatures aided spring grain harvesting. Reports indicate that the Soviet grain harvest is over 80 percent complete. In the New Lands, seasonal temperatures and dry weather over almost the entire spring wheat area aided harvest progress.



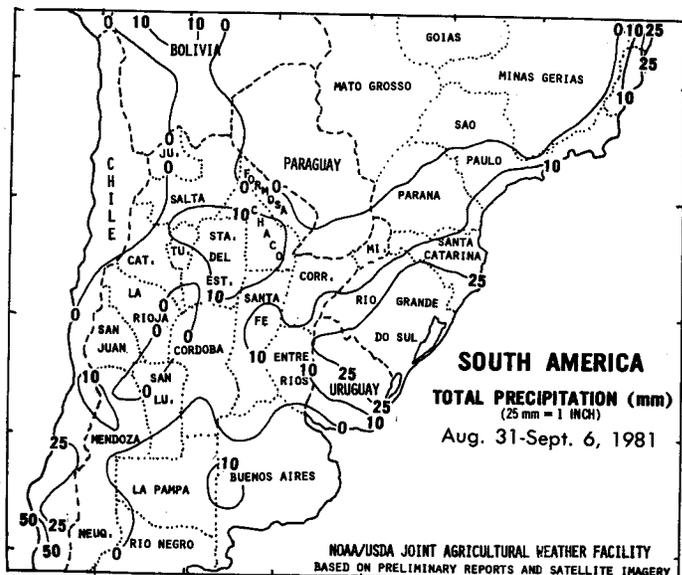
**EUROPE:** Scattered showers and near-normal temperatures occurred over western Europe during the week. Rainfall amounts, although generally light, improved soil moisture conditions for land preparation and autumn sowing of winter grains. Drier weather over central Europe aided crop harvests. Generally above-normal rainfall benefited most of Italy. In the southeast, heavy rains at some locations provided unfavorable conditions for maturing corn. Widespread rain and below-normal temperatures may have delayed final winter grain harvesting efforts in eastern Europe. Fieldwork and sowing of winter grains should be active at some locations, and soil moisture supplies are generally favorable.



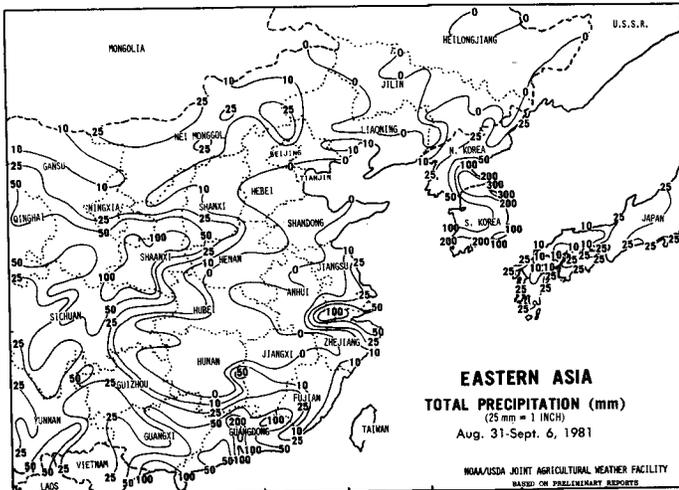
**CANADA:** Much of the grain-producing area of the Canadian Prairies enjoyed favorable harvest weather. Light rainfall of less than 5 mm throughout much of Saskatchewan allowed good progress in the harvest which is now well ahead of recent years. Further east in Manitoba, however, heavy showers associated with a frontal system continued to delay the harvest and reduce the quality of the ripened grain. Showers also slowed the harvest somewhat in northern crop areas of Alberta and northwestern Saskatchewan while mostly dry weather aided the harvest in southern Alberta. Cold weather last week brought frost to the Canadian Prairies, but the impact on yields should be minimal since most crops were ripe. Frost could reduce the quality of late-maturing crops.



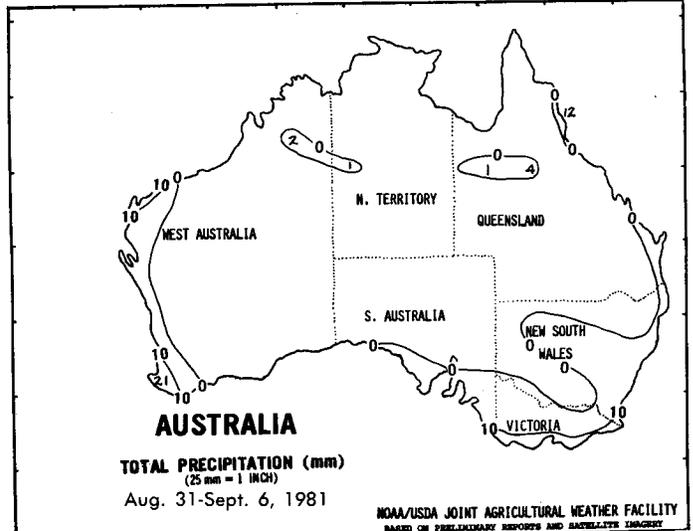
**MEXICO:** Rainy weather resumed over the northwestern watersheds following a few weeks of unusual dryness. This should reduce the rapid drawdown in some reservoirs. Dryness since June is critically stressing non-irrigated citrus around Montemorelos while irrigated orchards and most of those further south received adequate rains and should be sizing well. Scattered showers aided the late and second-crop corn over the southern Plateau but slowed the harvesting of the early crop. Excellent harvest weather, sunny and dry, continued over northwestern cotton fields; however, 20-25 mm of rain dampened north central districts. Seasonally heavy rains continued along the coastal sugarcane districts south of Veracruz.



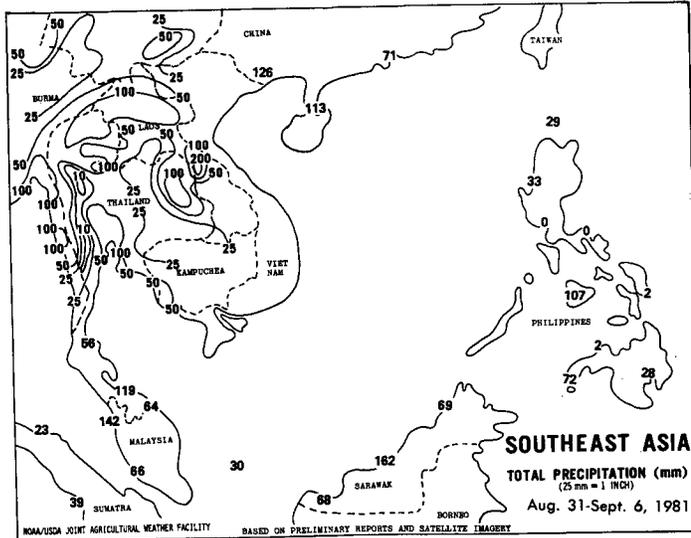
**SOUTH AMERICA:** The pattern of rainfall was a virtual repeat of the previous week. Southern and central wheat areas of Brazil benefited from persistent showers while the northern wheat area received some topsoil moisture from light, scattered rainfall. Mild weather promoted vegetative growth. Scattered showers penetrated into southern and eastern coffee areas of Brazil but amounts were minimal. Mostly dry weather continued in Argentina's wheat-producing areas; however, scattered light showers fell over southern Buenos Aires. Timely spring rains are needed within the next few weeks to ensure adequate vegetative development.



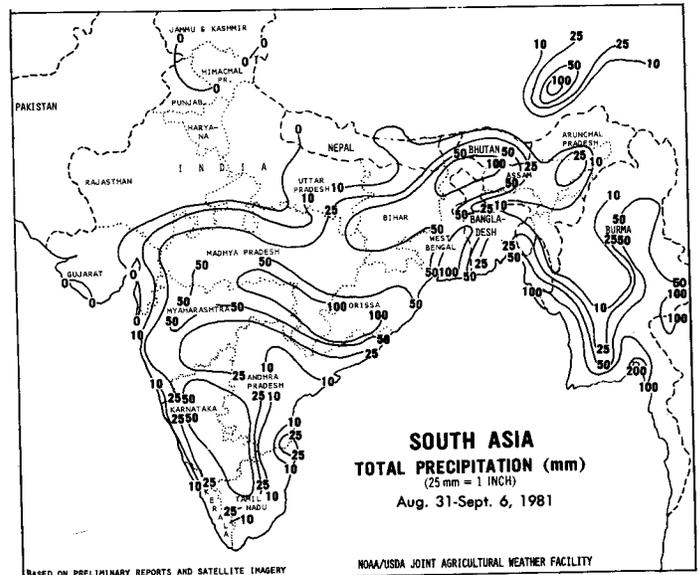
**EASTERN ASIA:** Heavy rains over the province of Shaanxi, caused local flooding and generally unfavorable conditions for most crops. Dry weather over central China aided cotton harvesting and benefited normally maturing soybeans. Heavy rains over south coastal areas brought unfavorable weather for the harvest of intermediate rice and filling of late-maturing rice. Further inland, drier weather enhanced crop prospects. Dry weather over the North China Plain and Manchurian Valley aided the cotton harvest and benefited maturing soybeans. Cold Siberian air late in the week brought freezing temperatures to the higher elevations of Heilongjiang and parts of Jilin. A nearly stationary trough produced heavy rains along the South-North Korean border. The excessive rain caused flooding and diminished crop prospects. Typhoon Agnes was responsible for the heavy rains at some locations on the east China coast and in South Korea.



**AUSTRALIA:** Mostly dry weather prevailed throughout Australia's wheat belt. Light showers were confined mostly to coastal areas of southwestern and southeastern Australia. Dry weather in the wheat and barley areas of Victoria and South Australia benefited crop development since soils have been saturated due to persistent rainy weather during the planting season. Soil moisture supplies are adequate in other crop areas. Warmer spring weather promoted crop growth. Favorable moisture conditions should allow good vegetative development.



**SOUTHEAST ASIA:** Significant rain fell throughout much of Southeast Asia. Weekly totals in excess of 100 mm occurred in northern and eastern portions of Thailand, adjacent areas of Laos, and in the Central Plains north of Bangkok. Rainfall slackened somewhat in southeast coastal areas of Burma which had received heavy rainfall in recent weeks. The rainfall pattern suggests that seasonal shower activity also occurred in portions of Kampuchea, adjacent to Thailand. The rainfall in Thailand benefited the rice crop, now in vegetative development, and supplied additional moisture to reservoirs for later use in irrigation and hydroelectric power generation.



**SOUTH ASIA:** Dry weather continued over northern India and Rajasthan. These persistent dry conditions may be adversely affecting cotton and groundnuts, normally in their flowering and podfill stages, as well as Autumn rice. The apparent early withdrawal of summer rains over northwestern India could adversely impact the planting of winter grain, due to begin in October. Beneficial rains over central India aided the growth of cotton, groundnuts and rice. Moderate rains over the south peninsula areas were favorable to these same crops. Drier weather over southeast coastal areas stressed rice. Heavy rains over northeastern India were generally beneficial to rice growth. Drier weather improved growing conditions in eastern Assam.

