

WEEKLY WEATHER AND CROP BULLETIN

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

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

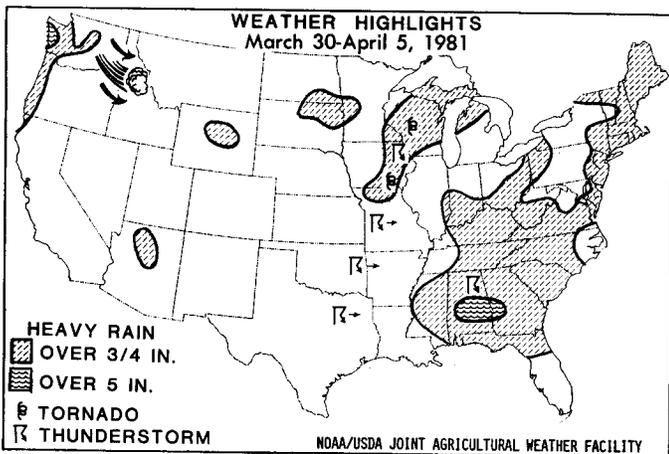
Volume 68, No. 14

Washington, D.C.

April 7, 1981

National Weather Summary

March 30 - April 5, 1981



HIGHLIGHTS: Drought continued in much of the Nation, but heavy spring rains in parts of the northern Plains, Southeast, and East helped to partially relieve the dryness. Drought was reduced to the severe category in central Tennessee but remained extreme in Pennsylvania, Virginia, Kansas, and Missouri. The extreme drought area in North and South Dakota was reduced to a very small area.

A cold front moving slowly from the Plains to the east coast touched off a rash of severe weather ahead of it. Many tornadoes were reported, but were most numerous in Iowa and Wisconsin. High winds and hail storms pummeled the area from Texas to the Great Lakes and into the Southeast.

MONDAY...A cold front moved through eastern United States causing heavy rain, severe weather, and some flooding in parts of the Southeast. Thunderstorms were scattered from South Dakota to western New Mexico and Arizona and snowshowers were widely scattered through the northern Rockies.

TUESDAY...It was stormy in the Northwest, Great Lakes, and deep South. Severe thunderstorms raked the South from Louisiana into Georgia, spanning tornadoes, hail, and high winds. Thunderstorms were active around the Great Lakes. Tornadoes touched down in central Wisconsin and hail fell in Michigan. A Pacific front brought rains, snow, and high wind to the Pacific Northwest. Record high temperatures were broken from Illinois to Florida and from Michigan to Maine.

WEDNESDAY...Summerlike temperatures prevailed from the Plains across the northern half of the Appalachians and several records were broken. Showers and thunderstorms continued through the Atlantic coast States from Florida into New York. Severe weather was confined to southeastern Georgia and northeastern Florida. Snow showers and gusty

winds continued in the mountains of Oregon and northern California.

THURSDAY...A cold front brought rain and snow to the western mountains and widely scattered showers continued along the west coast. Thunderstorms developed in the Los Angeles area. A few showers were over the Northeast and drizzle began along the Texas coast. Record high temperatures were reached from the central Plains to the Great Lakes region.

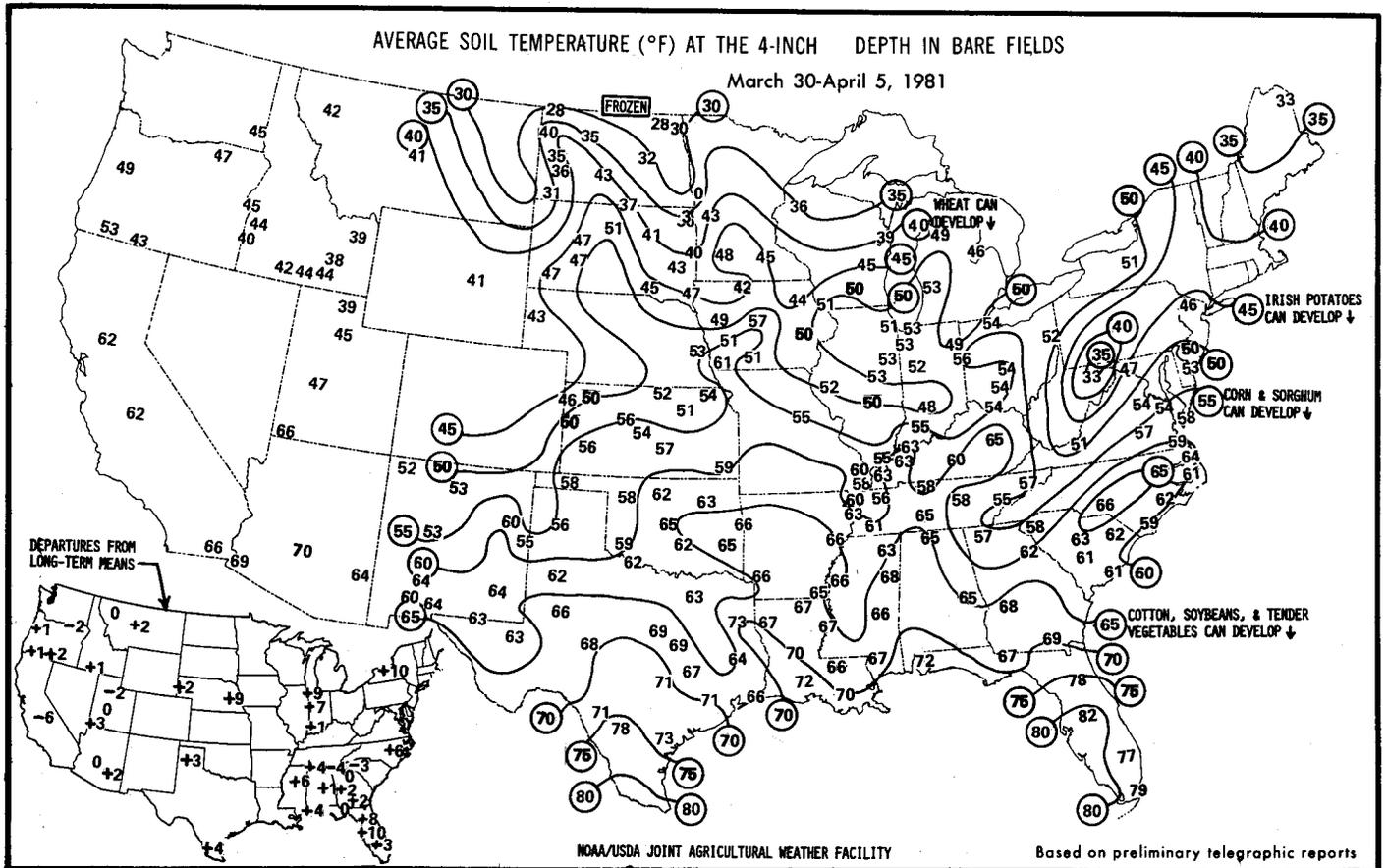
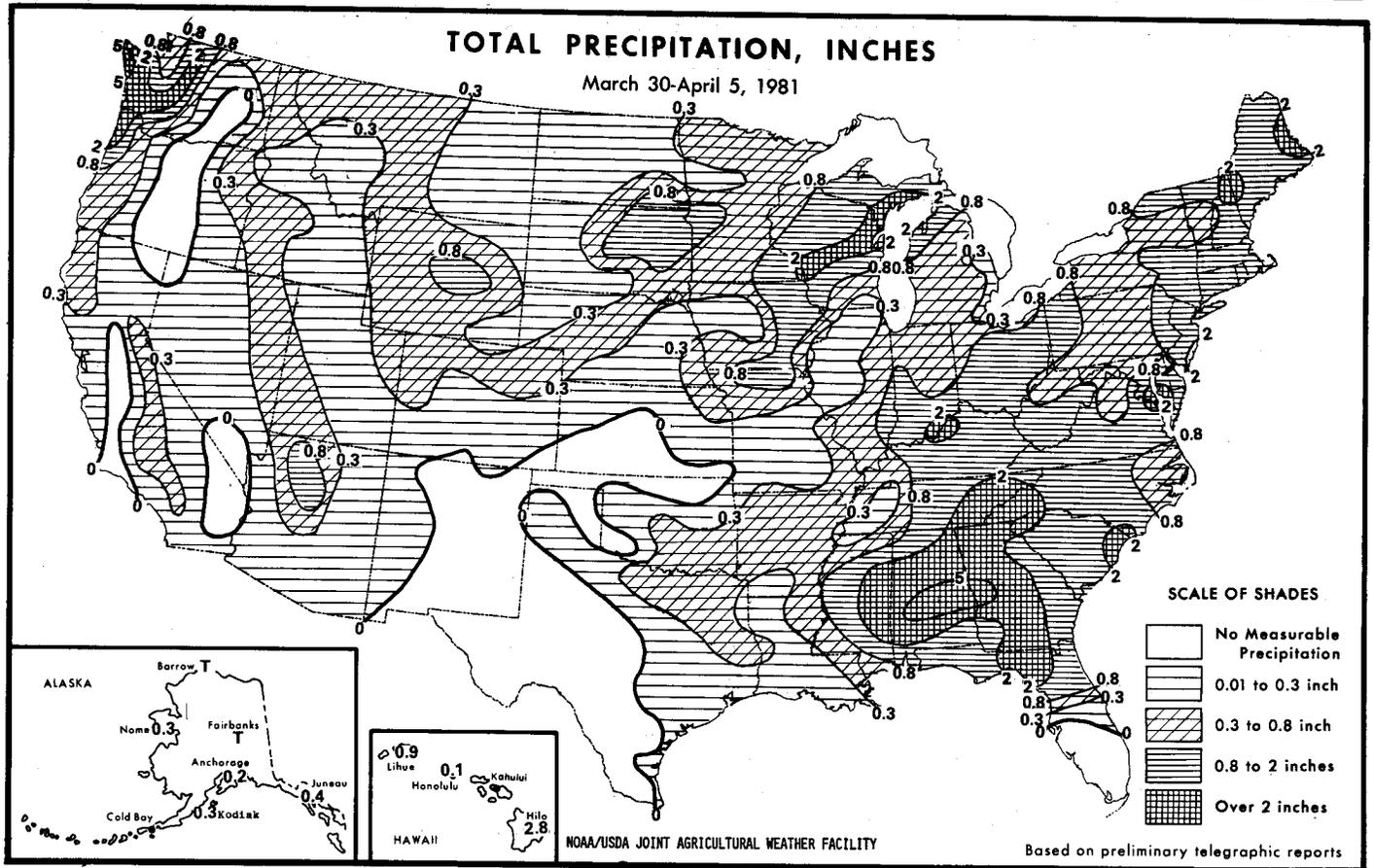
FRIDAY...A cold front moved through the Nation's midsection, triggering severe weather from Texas to the western Great Lakes. Ten tornadoes were reported in Iowa and Wisconsin. Hail--2½ inches in diameter--ravaged Rochester, Minn. Winds gusted to 74 mph at Dallas, Tex. There were over 100 reports of severe weather in the last 6 hours of the day. Light snow was scattered in the central and northern Rockies and showers fell over the central Appalachians.

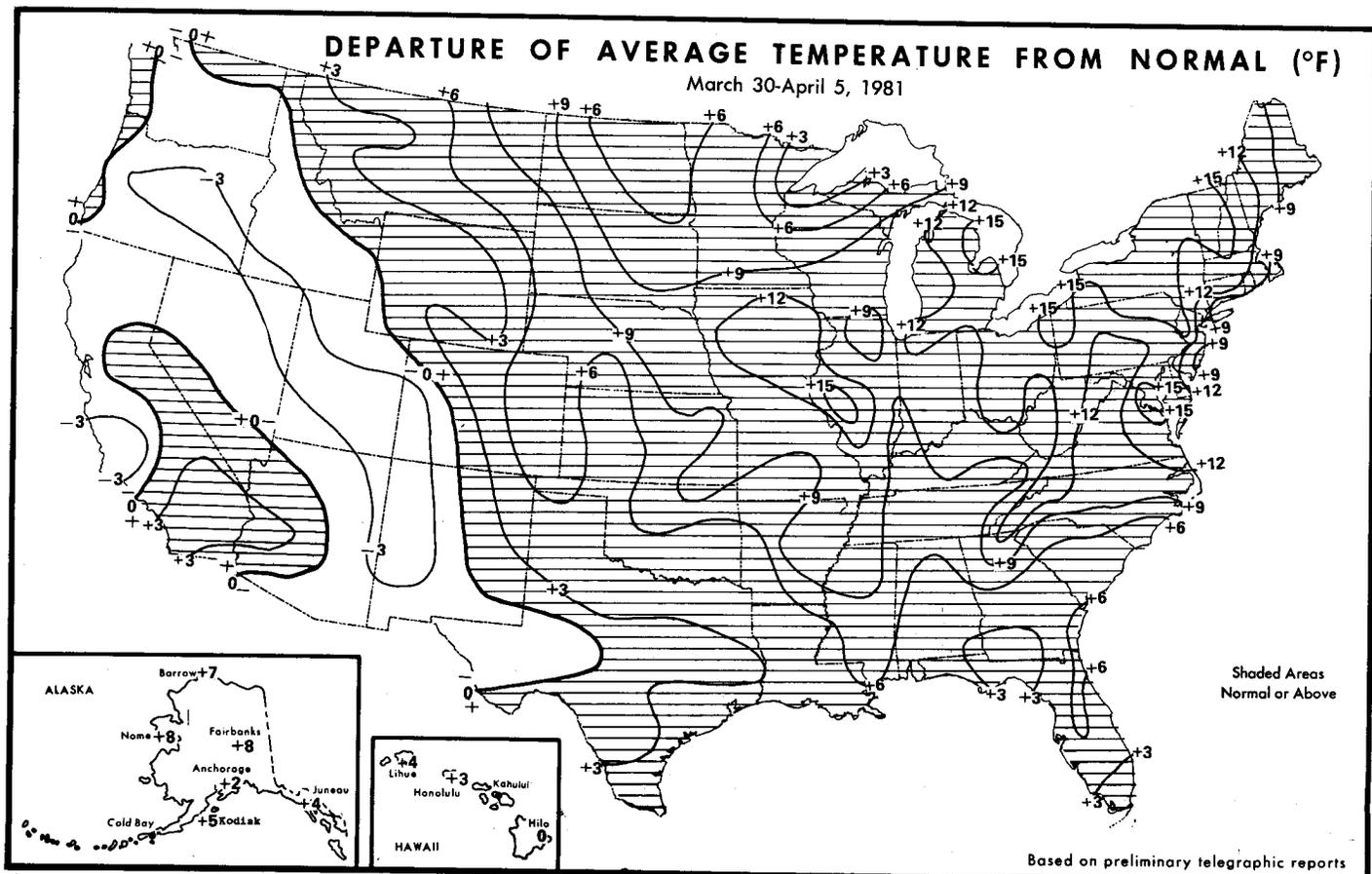
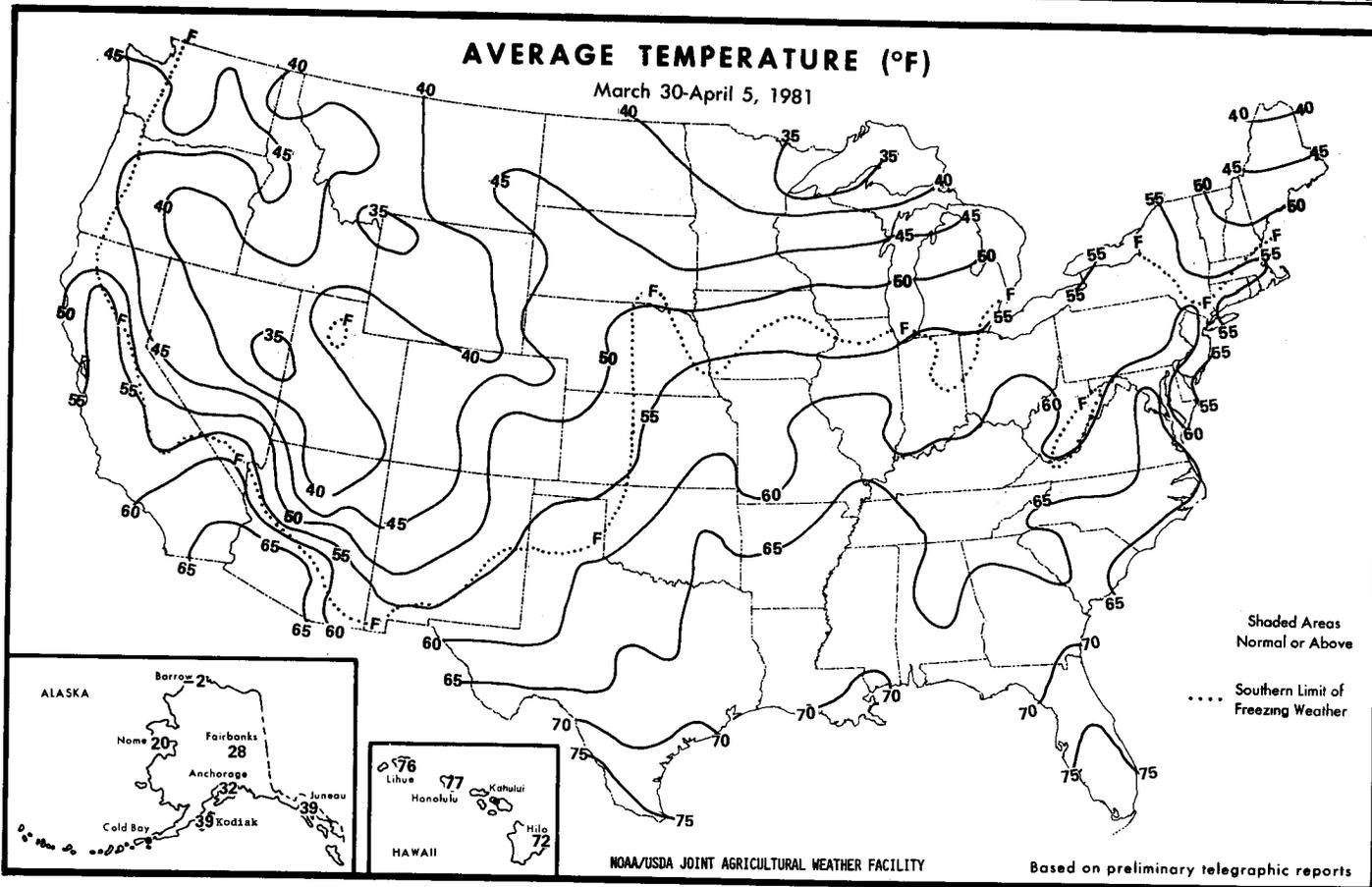
SATURDAY...The cold front pushed thunderstorms through the eastern portion of the Nation. Heavy rain spread from the Mississippi Delta to the eastern Ohio Valley. Although there were reports of high winds and hail, the weather was not as severe as the day before. Warm weather continued in the East. Eighty-degree readings were reported as far north as New York.

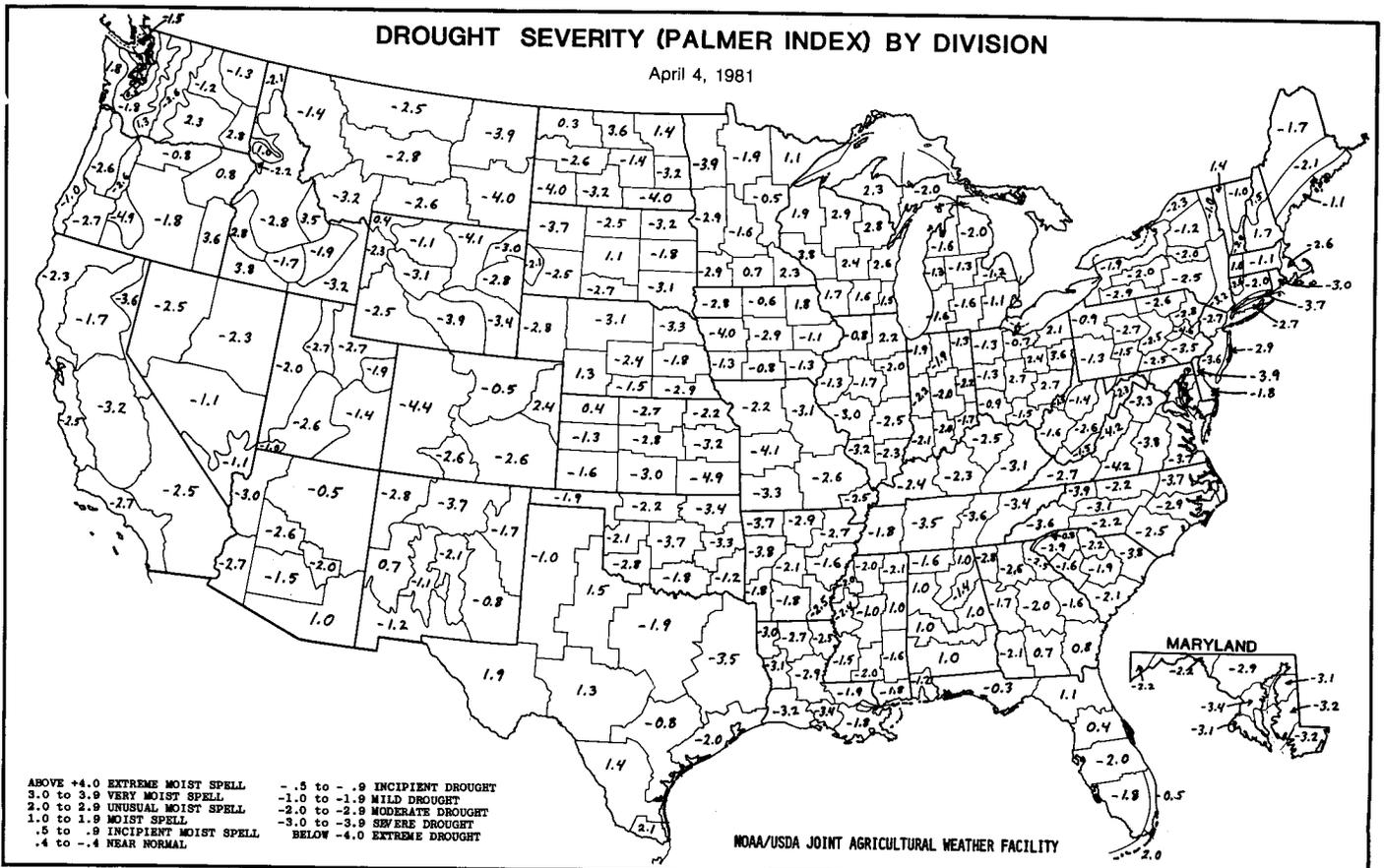
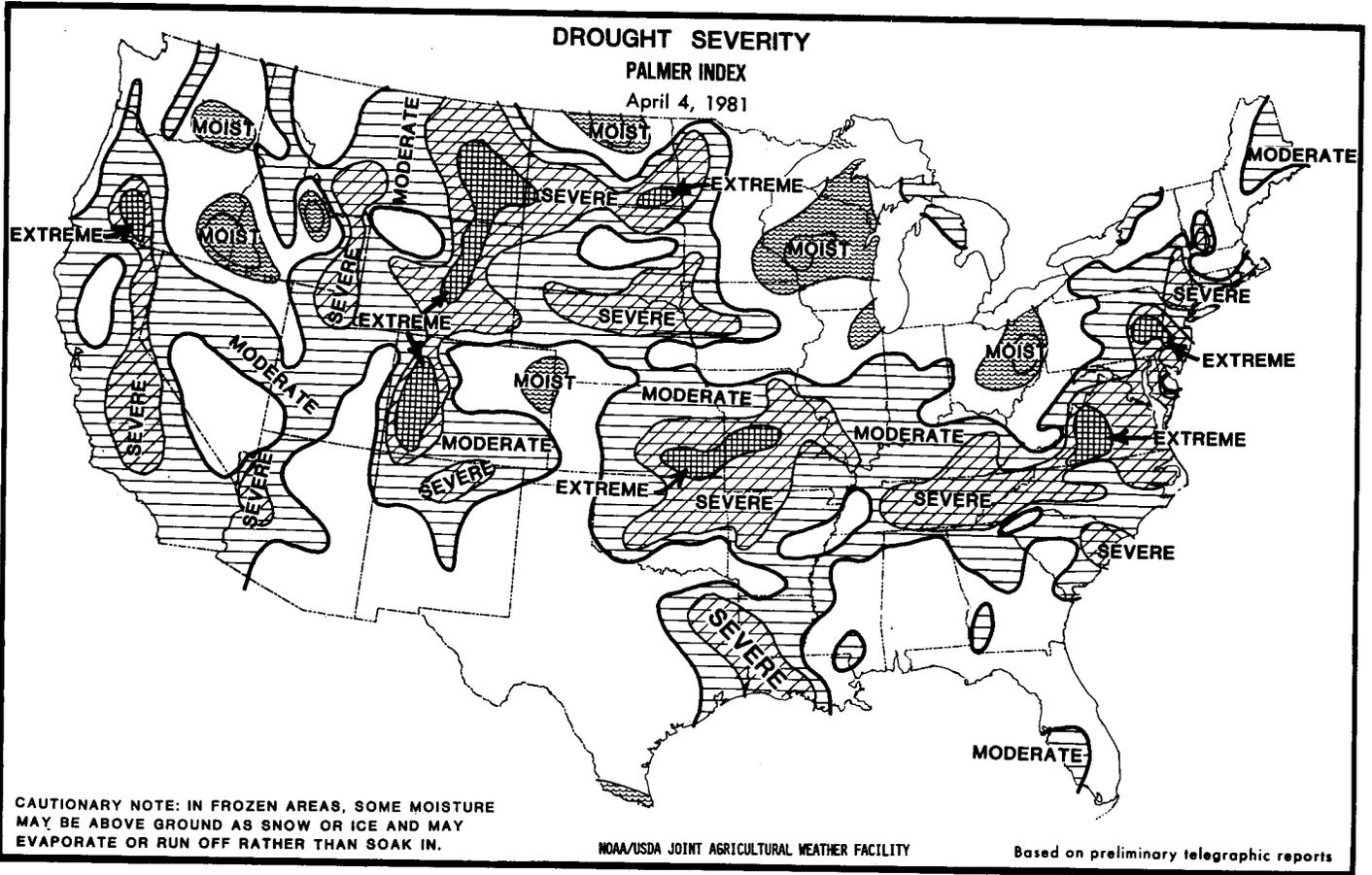
SUNDAY...Showers and thunderstorms were scattered from the gulf coast to New England. Some very heavy rain fell in Alabama and parts of Georgia. Warm temperatures continued along the east coast, but it was much cooler west of the cold front. Rain covered the area from the northern Pacific coast through Idaho and strong westerly winds whipped the mountains of the Northwest. An isolated thunderstorm struck Helena, Mont., with 52 mph winds and quarter-inch hail.

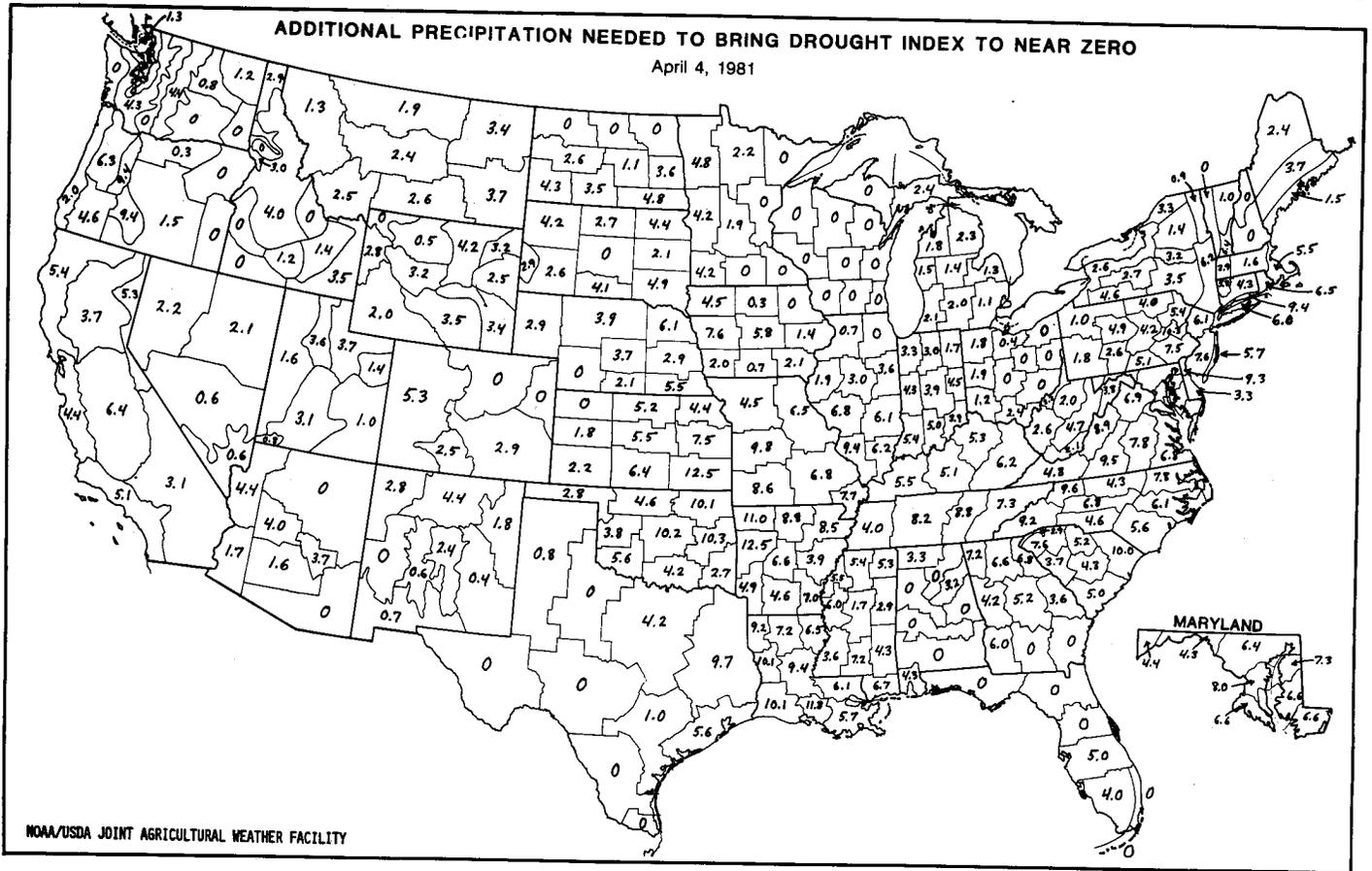
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**NOTICE - CROP MOISTURE INDEX MAPS
TO BEGIN APRIL 21**

To satisfy various public informational needs on the widespread drought, three versions of Drought Severity Index (Palmer) maps have been released weekly since early this year. Now that spring has arrived and planting of crops is progressing, it is customary to begin issuing the Crop Moisture Index weekly and the Drought Severity Index monthly. This schedule will be initiated this year beginning with the April 21 issue of the Bulletin.

The current schedule calls for three map versions of the Crop Moisture Index and only the national, broadview by category ("extreme, moderate", etc.) version of the Drought Severity Index, such as is shown at the top of page 4. The other two map versions of the Drought Severity Index, depicted on the bottom of page 4 and top of page 5, will be discontinued while their counterparts or similar versions of the Crop Moisture Index are being issued. This will reduce the chance of confusion between similar maps of the two Indexes. However, some groups needing the detailed, long term effects, such as to help delineate disaster areas or effects on water-sensitive economies (availability of irrigation water supplies, for instance) will have to contact our office directly. If this creates difficulties for you, send your comments to Don Haddock, Managing Editor of the Bulletin.

MOISTURE INDEXES: DROUGHT SEVERITY VS. CROP MOISTURE

Don Haddock, NOAA/USDA Agricultural Weather Facility

A better understanding of the two moisture indexes will improve their usefulness and help assure their proper application. To help accomplish this, the peculiarities of each index are described in a simple, straightforward manner.

The Drought Severity Index measures the long term (months, years) moisture condition as it influences water-sensitive economies, while the Crop Moisture Index indicates the short term (up to about 4 to 5 weeks) moisture effect on crops and field activities. It is possible for the two indexes to give opposite values for the same region, one indicating it is wet, and the other indicating it is dry.

DROUGHT SEVERITY INDEX (PALMER)

Characteristics: depicts prolonged abnormal dryness or wetness even in winter when crops use little or no water; responds slowly; changes very little week to week; and reflects long term moisture runoff, recharge, and deep percolation in addition to evapotranspiration.

Time Period: covers the duration of an unusual dry or wet spell, which may be a few months or years. The index is influenced slightly more by weather and crop water needs of the most recent months than those at the beginning of a particular dry or wet weather spell.

Uses: applicable in measuring disruptive effects of prolonged dryness or wetness on water-sensitive economies; designating disastrous areas of drought or wetness; reflecting the general, long term status of water supplies (in aquifers, reservoirs, streams, and rivers) for humans, industry, crop

irrigation and livestock watering; and sometimes indicating seasonal effects on crops when a particular dry or wet spell began near the crop planting time and continued throughout the growing season (usually 3 to 5 months).

Limitation: does not take into account frozen precipitation evaporating or running off after melting rather than soaking into the soil, and is generally not indicative of the short term status of drought/wetness such as frequently affects crops and field operations.

CROP MOISTURE INDEX

Characteristics: a modified version of the Drought Severity Index that indicates short term abnormal dryness or wetness affecting warm season crops and field operations; responds rapidly; can change considerably from week to week; and the index value is near zero (indicates normal conditions) at the beginning and ending of the growing season when crops use little or no water.

Uses: applicable in measuring the short term week-to-week status of dryness or wetness affecting warm season crops and field activities.

Time period: spans about 4 weeks, with the most recent week having the greatest influence and the earliest week having the least.

Limitations: the index may not be applicable for germination of shallow-rooted crops which are unable to extract the deep or subsoil moisture from a 5-foot profile, or for cool season crops growing when temperatures are averaging below about 55°F.

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Weather Data for the Week Ending Mar. 29, 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 Mar. 2	PCT. NORMAL SINCE Mar. 2	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMPERATURE °F		PRECIPITATION	
																		90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	80	49	86	41	64	5	4.0	2.8	2.1	8.4	125	14.8	87	83	29	0	0	4	3		
MOBILE	80	58	84	50	69	5	1.6	.1	1.1	3.5	44	13.5	76	88	40	0	0	4	2		
MONTGOMERY	77	53	82	46	65	4	5.7	4.5	2.5	9.1	138	17.3	115	89	45	0	0	4	4		
AK ANCHORAGE	39	26	44	21	32	2	.2	.1	.1	.3	50	2.4	104	79	50	0	7	3	0		
BARROW	6	-8	-14	-13	-2	7	T	T	T	T	0	.4	40	91	82	0	7	1	0		
FAIRBANKS	37	22	39	17	28	8	T	T	T	T	0	1.0	71	49	38	0	7	1	0		
JUNEAU	46	32	52	27	39	4	.4	-.3	.3	2.2	56	11.5	102	92	5	0	3	4	0		
KODIAK	46	34	48	28	39	5	.3	.5	.1	7.9	184	26.6	186	69	48	0	1	3	0		
NOME	27	17	35	-4	20	8	.3	.1	.1	1.0	111	3.9	150	76	70	0	7	5	0		
AZ FLAGSTAFF	51	26	60	17	38	0	.9	.5	.5	4.7	235	7.2	129	--	24	0	7	2	1		
PHOENIX	80	53	89	49	67	3	.2	.1	.2	1.2	150	3.1	163	50	17	0	0	1	0		
TUCSON	75	45	84	38	60	-1	.2	.1	.2	2.2	367	4.3	215	64	26	0	0	1	0		
WINSLOW	63	33	73	25	48	-1	.1	.0	.1	.3	60	1.2	86	--	0	3	1	0			
YUMA	83	52	90	47	68	0	T	T	T	.2	50	1.0	77	48	22	1	0	1	0		
AR FORT SMITH	78	46	85	39	62	4	.4	.6	.4	3.6	82	7.9	79	81	25	0	0	1	0		
LITTLE ROCK	81	56	87	47	68	11	.6	.6	.6	3.8	67	10.0	70	65	20	0	0	2	1		
CA BAKERSFIELD	68	46	81	42	57	-3	.3	.1	.3	2.2	220	4.1	137	--	39	0	0	2	0		
EUREKA	55	41	57	38	48	-1	.5	.4	.4	4.7	90	15.9	89	95	63	0	0	4	0		
FRESNO	68	44	79	40	56	-1	T	.4	T	2.2	110	6.5	120	72	37	0	0	0	0		
LOS ANGELES	68	51	88	49	60	2	T	.4	T	2.5	125	6.2	87	73	48	0	0	1	0		
RED BLUFF	69	43	78	39	56	0	.3	.2	.3	5.2	179	12.6	117	32	0	0	1	0			
SAN DIEGO	69	56	83	53	63	3	.2	.1	.2	2.9	153	8.4	158	75	52	0	0	1	0		
SAN FRANCISCO	62	45	70	43	54	0	.1	.4	.1	3.7	132	12.0	115	81	47	0	0	1	0		
STOCKTON	70	41	80	37	56	0	0	-.4	0	3.0	142	8.1	111	--	35	0	0	0	0		
CO DENVER	61	34	74	28	48	5	.3	-.1	.3	2.7	180	3.4	131	55	24	0	2	1	0		
GRAND JUNCTION	54	32	70	27	43	-3	.5	.3	.4	1.5	167	1.8	90	73	34	0	3	3	0		
PUEBLO	67	37	78	28	52	6	.1	.1	T	1.0	167	1.6	107	50	22	0	1	1	0		
CT BRIDGEPORT	60	43	70	35	51	8	1.3	.5	.7	1.7	43	6.8	72	97	62	0	0	4	1		
HARTFORD	66	45	77	38	55	13	1.0	.1	.4	1.2	27	8.8	79	70	50	0	0	3	0		
DC WASHINGTON	78	58	86	48	68	16	1.6	.9	.9	2.2	56	5.4	59	73	41	0	0	2	1		
FL APALACHICOLA	76	61	78	49	69	3	1.2	.2	1.0	3.1	57	7.7	61	98	62	0	0	3	1		
DAYTONA BEACH	83	63	89	51	73	5	1.1	.4	1.1	3.0	79	8.8	99	92	55	0	0	1	1		
FORT MYERS	88	65	90	58	76	5	0	.6	0	1.4	41	3.8	53	99	55	3	0	0	0		
JACKSONVILLE	81	59	88	45	70	5	1.4	.6	1.1	5.7	139	11.3	107	92	50	0	0	3	1		
KEY WEST	83	74	85	73	79	2	0	.4	0	.8	44	3.5	64	87	67	0	0	0	0		
MIAMI	83	71	85	68	77	4	0	.6	0	1.4	61	6.7	99	84	58	0	0	0	0		
ORLANDO	87	63	90	55	75	6	.1	.6	.1	1.9	49	6.5	69	95	44	2	0	1	0		
TALLAHASSEE	79	52	81	44	66	1	2.2	1.1	1.4	9.1	140	19.3	127	91	53	0	0	4	2		
TAMPA	83	65	85	59	74	5	0	.7	0	1.7	40	7.5	78	90	55	0	0	0	0		
WEST PALM BEACH	82	66	84	58	74	2	T	.8	T	2.5	66	7.1	78	85	55	0	0	0	0		
GA ATLANTA	79	54	85	47	66	10	3.3	2.1	1.7	5.4	84	13.0	84	80	25	0	0	3	3		
AUGUSTA	78	50	84	38	64	4	1.7	.8	1.1	3.8	75	9.9	79	91	42	0	0	3	1		
MACON	79	54	84	46	67	5	3.4	2.4	2.6	6.1	105	16.0	113	97	45	0	0	3	2		
SAVANNAH	79	57	86	45	68	6	1.7	.9	1.1	5.1	104	9.0	84	87	45	0	0	3	2		
HI HILO	--	--	--	--	72	0	2.8	.3	--	--	--	--	--	--	0	0	0	0	0		
HONOLULU	84	71	85	68	72	0	.1	.4	.1	.7	20	2.5	23	76	49	0	0	3	0		
KAHULUI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
LIHUE	--	--	--	--	76	4	.9	0	--	--	--	--	--	--	0	0	0	0	0		
ID BOISE	54	32	68	27	43	-2	.4	2	.3	3.1	281	5.3	136	77	37	0	4	2	0		
LEWISTON	53	39	56	34	46	-1	.4	.3	2.1	1.9	175	4.1	128	71	42	0	0	3	0		
POCATELLO	49	29	59	27	39	-1	.1	.1	.1	1.8	180	3.2	114	76	42	0	5	2	0		
IL CAIRO	76	55	82	46	65	10	.7	.4	.7	3.0	55	7.7	57	--	0	0	1	1	1		
CHICAGO	67	41	87	30	54	11	.6	.1	.4	1.1	37	3.4	56	72	40	0	1	2	0		
MOLINE	69	39	85	29	54	10	T	-.8	T	.7	23	3.3	54	63	33	0	1	0	0		
PEORIA	69	43	82	34	56	11	.3	.6	.2	1.1	32	3.9	57	67	31	0	0	2	0		
ROCKFORD	64	36	81	27	50	8	.1	.7	T	.8	26	3.4	55	67	35	0	2	3	0		
7 SPRINGFIELD	74	50	87	39	62	14	.3	.6	.2	2.5	78	5.0	74	63	24	0	0	2	0		
IN EVANSVILLE	73	47	84	36	60	9	.9	.1	.8	2.7	50	6.1	58	78	43	0	0	2	1		
FORT WAYNE	66	40	80	32	53	9	.7	.1	.4	1.4	41	5.1	62	76	45	0	2	4	0		
INDIANAPOLIS	70	43	85	33	56	9	.7	.2	.3	1.9	45	5.2	55	71	38	0	0	2	0		
SOUTH BEND	67	46	85	34	56	14	.7	.2	.3	1.2	36	3.9	50	72	44	0	0	5	0		
IA BURLINGTON	71	46	86	35	59	13	T	-.8	T	.4	13	2.2	36	--	0	0	1	0	0		
DES MOINES	66	45	87	32	55	12	.2	.4	.2	.6	22	2.0	40	63	36	0	1	1	0		
DUBUQUE	65	41	80	33	53	12	1.1	.2	1.1	1.5	43	4.3	66	49	--	0	0	1	1		
KS SIOUX CITY	65	39	86	27	52	10	.1	-.3	-.1	1.8	100	2.6	76	76	34	0	1	1	0		
CONCORDIA	71	41	87	33	56	9	.1	-.3	.1	1.4	70	1.6	46	74	25	0	0	1	0		
DODGE CITY	69	37	79	30	53	5	T	-.3	T	1.6	114	2.0	80	70	18	0	1	0	0		
GOODLAND	65	32	80	29	49	6	.2	-.1	.2	3.8	380	4.7	247	73	22	0	4	1	0		
TOPEKA	69	44	82	35	57	8	.6	.1	.6	2.3	85	2.8	60	69	36	0	0	1	1		
WICHITA	73	44	82	38	58	7	T	-.6	T	2.2	100	2.7	66	68	22	0	0	0	0		
KY LEXINGTON	72	48	82	35	60	10	1.5	.5	1.1	3.0	56	7.9	61	66	34	0	0	3	1		
LOUISVILLE	75	49	86	38	62	11	2.1	1.0	2.0	3.6	63	7.2	56	67	36	0	0	3	1		
LA BATON ROUGE	81	58	85	50	69	4	.1	1.1	.1	1.8	31	10.2	68	88	50	0	0	3	0		

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

Weather Data for the Week Ending Mar. 29, 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 Mar. 2	PCT. NORMAL SINCE Mar. 2	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F			
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
LAKE CHARLES	76	59	79	50	68	3	.1	-.8	.1	1.9	44	7.1	54	84	58	0	0	2	0
NEW ORLEANS	79	64	84	60	72	7	.4	-.7	.2	2.9	48	12.1	77	87	61	0	0	5	0
SHREVEPORT	82	51	87	44	67	4	.1	1.0	.1	2.2	46	8.6	68	88	37	0	0	1	0
ME CARIBOU	47	35	58	22	41	10	1.9	1.4	1.0	4.1	164	8.5	123	72	67	0	2	5	1
PORTLAND	58	41	67	31	50	12	1.2	.4	.9	2.5	63	10.5	95	90	55	0	1	3	1
MD BALTIMORE	72	49	80	39	61	12	.7	-.1	.5	1.6	39	5.1	52	75	46	0	0	2	0
MA BOSTON	65	47	73	42	56	12	1.0	.2	.7	1.5	34	9.2	79	77	47	0	0	3	1
CHATHAM	56	43	70	40	50	--	1.2	--	.7	2.2	--	10.0	93	66	0	0	4	1	
MI ALPENA	58	39	81	28	48	15	.7	.2	.3	1.4	64	3.9	72	--	--	0	1	4	1
DETROIT	65	44	75	31	55	12	.2	.5	.2	.8	28	4.4	68	80	43	0	1	3	0
FLINT	63	42	72	31	52	12	.7	-.1	.4	1.3	54	3.9	67	79	50	0	2	3	0
GRAND RAPIDS	63	37	77	25	50	9	.6	-.1	.4	1.5	52	3.9	61	70	41	0	2	3	0
HOUGHTON LAKE	56	39	70	25	48	13	.6	-.1	.3	1.1	50	4.2	82	70	49	0	1	5	0
LANSING	64	41	75	31	53	12	.6	0	.4	1.3	46	3.2	51	63	52	0	2	2	0
MUSKEGON	61	37	80	30	49	9	1.2	.6	.8	3.2	119	7.5	123	90	64	0	4	6	1
SAULT STE. MARIE	52	31	67	22	41	9	.5	-.2	.4	1.1	39	5.5	80	80	49	0	2	4	0
MN DULUTH	41	27	49	11	34	2	1.5	1.0	.6	2.4	114	5.5	98	92	51	0	4	5	1
INT'L FALLS	47	29	64	20	38	7	.6	.3	.3	1.4	100	1.9	63	83	51	0	6	2	0
MINNEAPOLIS	55	35	78	27	45	7	.6	.2	.4	1.2	63	3.6	77	73	43	0	2	5	0
ROCHESTER	57	36	75	27	46	9	.9	.4	.7	1.4	67	3.6	113	85	56	0	2	5	1
SAINT CLOUD	53	33	74	25	43	7	.4	0	.2	1.4	88	2.9	91	88	--	0	2	4	0
MS JACKSON	82	53	87	43	68	6	1.3	.1	.5	6.1	95	11.5	73	87	39	0	0	4	2
MERIDIAN	83	52	87	42	68	6	4.5	3.2	2.9	11.6	166	18.7	115	84	36	0	0	3	3
MO COLUMBIA	72	48	83	35	60	11	.2	.6	.2	1.5	47	3.4	51	46	30	0	0	1	0
KANSAS CITY	70	46	84	33	58	10	.4	.4	.4	1.8	58	2.6	45	66	38	0	0	2	0
SAINT LOUIS	75	50	87	43	62	12	.2	.7	.2	3.2	89	6.1	81	64	32	0	0	2	0
SPRINGFIELD	72	44	78	36	58	7	.1	-.8	.1	2.4	71	5.1	67	62	32	0	0	1	0
MT BILLINGS	56	31	67	25	43	5	.1	.2	.1	1.7	155	2.0	83	54	23	0	5	1	0
GLASGOW	57	30	65	22	44	9	-.1	0	T	.4	80	.5	36	84	35	0	4	3	0
GREAT FALLS	48	30	64	26	39	2	.4	.2	.4	2.2	200	3.0	107	68	39	0	6	3	0
HAVRE	53	31	64	26	42	6	.7	.5	.5	1.1	183	1.1	73	85	35	0	3	2	0
HELENA	51	31	68	27	41	4	.1	.1	T	1.2	171	1.4	88	62	36	0	4	3	0
KALISPELL	47	33	55	29	40	4	.7	.5	.1	1.8	180	5.3	143	82	49	0	4	3	0
MILES CITY	57	34	69	26	45	7	T	.2	T	.3	50	.5	33	75	27	0	3	0	0
MISSOULA	50	31	65	27	41	2	.2	0	.1	1.4	200	2.3	85	88	47	0	3	2	0
NE GRAND ISLAND	67	37	84	32	52	9	T	.4	T	3.2	213	3.6	133	76	29	0	1	0	0
LINCOLN	69	40	85	35	55	10	.4	.1	.4	2.4	126	2.8	85	78	32	0	0	1	0
NORFOLK	66	39	85	35	52	11	T	.4	T	2.6	153	3.1	103	73	32	0	0	1	0
NORTH PLATTE	65	31	82	27	48	6	.5	.2	.5	3.2	246	3.5	159	82	31	0	5	1	0
OMAHA	67	42	84	32	54	11	.6	.1	.6	1.6	80	2.0	54	74	36	0	1	1	1
NV VALENTINE	63	33	81	27	48	9	.2	.1	.1	1.4	156	1.6	89	66	33	0	4	2	0
ELY	49	22	59	12	35	-2	.6	.4	.6	1.9	190	2.9	145	71	40	0	6	2	1
LAS VEGAS	72	48	81	42	60	1	0	.1	0	.9	180	1.8	129	35	13	0	0	0	0
RENO	57	29	71	25	43	0	.1	0	.1	.7	100	1.7	59	75	24	0	6	1	0
WINNEMUCCA	55	26	70	18	40	-1	.1	0	.1	1.1	138	2.1	84	74	28	0	7	1	0
NH CONCORD	65	43	74	28	54	15	1.1	.5	.5	1.9	63	10.1	125	73	42	0	1	4	0
NJ ATLANTIC CITY	65	43	70	32	54	7	2.5	1.6	1.4	3.4	69	7.7	64	95	51	0	1	3	2
TRENTON	70	54	77	48	62	15	1.4	.6	.7	2.1	50	5.9	61	--	--	0	0	3	1
NM ALBUQUERQUE	65	32	74	21	48	-3	T	.1	T	.8	133	1.6	107	58	10	0	4	0	0
ROSWELL	73	42	82	34	57	2	0	-.1	0	.2	50	.7	54	--	--	0	0	0	0
NY ALBANY	66	43	79	28	54	13	.7	.1	.5	.9	30	6.5	87	65	49	0	2	3	0
BINGHAMTON	65	45	75	35	55	17	.5	.2	.3	.9	27	5.7	70	63	42	0	0	3	0
BUFFALO	65	43	78	34	54	15	.6	.1	.3	2.1	64	6.7	76	69	38	0	0	3	0
NEW YORK	65	50	74	44	58	11	1.1	.2	.6	1.9	43	7.9	75	68	54	0	0	4	1
ROCHESTER	68	47	81	36	57	17	.5	.1	.3	1.3	45	5.7	74	65	35	0	0	3	0
SYRACUSE	69	45	83	35	57	16	.8	.1	.4	1.4	40	5.4	60	63	40	0	0	3	0
NC ASHEVILLE	75	60	80	39	67	15	2.0	1.1	1.6	3.7	73	8.9	72	85	26	0	0	3	1
CHARLOTTE	77	53	82	46	65	9	1.0	.1	.7	2.1	41	6.2	49	89	36	0	0	3	1
GREENSBORO	77	53	83	46	65	11	1.0	.2	.6	2.9	71	7.2	67	83	35	0	0	3	1
HATTERAS	72	57	77	53	64	9	.3	.5	.2	2.5	58	6.3	48	82	63	0	0	3	0
RALEIGH	78	53	84	46	65	10	.8	0	.5	2.7	71	6.7	64	81	41	0	0	2	1
WILMINGTON	75	54	81	42	65	5	1.1	.3	.8	3.8	83	8.0	71	80	53	0	0	3	1
ND BISMARCK	55	27	65	19	41	6	T	.3	T	.1	11	.7	39	89	35	0	6	0	0
FARGO	50	32	66	18	41	6	.2	.2	.2	.7	64	1.3	65	87	54	0	3	2	0
WILLISTON	59	28	71	22	44	9	T	.2	T	.2	29	.6	38	83	30	0	5	1	0
OH AKRON-CANTON	68	48	76	38	58	15	1.2	.4	.9	2.9	81	8.3	97	61	35	0	0	2	1
CINCINNATI	71	45	83	36	58	9	1.5	.6	1.3	3.2	70	7.7	69	63	33	0	0	3	1
CLEVELAND	68	46	77	35	57	14	.4	.4	.3	1.9	53	5.5	63	70	40	0	0	3	0
COLUMBUS	72	48	82	40	60	14	1.6	.8	1.2	2.5	66	7.9	87	65	35	0	0	3	1
DAYTON	70	43	82	35	57	11	.7	.1	.6	2.0	54	5.6	64	72	42	0	0	3	1
TOLEDO	66	43	79	31	55	12	.2	.4	.1	.8	29	4.7	70	77	42	0	2	3	0
YOUNGSTOWN	69	45	78	35	57	14	1.2	.4	.7	3.1	82	7.8	85	59	33	0	0	2	1
OK OKLAHOMA CITY	75	47	83	41	61	6	.7	.1	.7	3.6	150	4.9	96	67	24	0	0	1	1

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

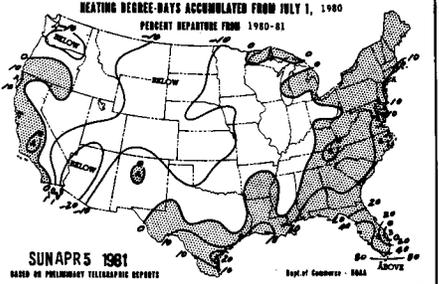
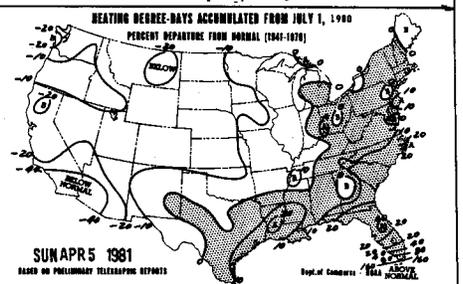
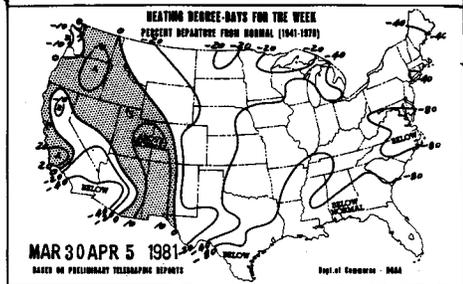
Weather Data for the Week Ending Mar. 29, 1981

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 Mar. 2	PCT. NORMAL SINCE Mar. 2	TOTAL, IN., SINCE Jan. 1	PCT. NORMAL SINCE Jan. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION			
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE		
OR TULSA	77	51	86	41	64	9	T	-	.8	T	1.7	55	4.1	64	66	24	0	0	0	0	
OR ASTORIA	53	42	56	38	48	2	3.6	2.3	1.4	7.2	99	18.3	73	84	59	0	0	7	4	0	
OR BURNS	49	25	64	20	37	-3	T	.1	T	1.7	213	3.4	89	90	38	0	7	1	4	0	
OR MEFORD	58	36	67	31	47	0	.1	.2	T	1.3	68	3.7	48	96	44	0	1	2	0	0	
OR PEWDLTON	53	37	55	34	45	-2	.2	0	T	1.5	125	3.8	93	64	41	0	0	1	0	0	
OR PORTLAND	55	42	63	40	48	0	.4	.2	T	2.6	65	8.0	57	90	63	0	0	4	0	0	
OR SALEM	54	38	62	33	46	-1	.8	.1	T	3.7	77	9.1	55	84	61	0	0	4	1	0	
PA ALLENTOWN	70	48	78	35	59	14	1.2	.4	T	1.8	44	7.1	71	66	48	0	0	4	0	0	
PA ERIE	66	46	77	34	56	16	1.3	.5	T	2.4	73	8.5	105	71	50	0	0	4	0	0	
PA HARRISBURG	71	47	78	36	59	11	.7	0	T	1.6	44	7.9	90	78	37	0	0	4	0	0	
PA PHILADELPHIA	71	49	78	40	60	12	1.4	.6	T	2.6	64	6.2	65	81	48	0	0	3	1	0	
PA PITTSBURGH	69	47	80	36	58	13	.8	0	T	2.6	65	7.3	79	67	33	0	0	4	0	0	
PA SCRANTON	69	48	78	35	58	15	1.0	.4	T	1.3	45	10.0	143	67	43	0	0	3	1	0	
RI PROVIDENCE	64	44	75	36	54	11	1.8	.9	T	2.2	49	7.8	67	83	52	0	0	4	2	0	
SC CHARLESTON	77	53	85	42	65	4	1.6	.7	T	1.2	3.6	71	6.8	59	92	53	0	0	3	1	
SC COLUMBIA	80	51	88	37	65	5	1.1	.2	T	.6	2.9	56	7.8	62	90	43	0	0	3	1	
SD GREENVILLE	76	51	80	44	63	7	2.1	.9	T	1.8	3.6	60	7.7	53	80	32	0	0	4	1	
SD ABERDEEN	53	35	66	26	44	7	1.1	.7	T	.8	2.1	175	2.5	114	87	44	0	2	3	1	
SD HURON	56	34	72	27	45	6	1.2	.8	T	.6	2.1	162	2.2	88	87	44	0	2	3	1	
SD RAPID CITY	59	31	72	25	45	7	T	.4	T	.1	9	.4	19	75	28	0	5	1	0	0	
SD SIOUX FALLS	58	38	81	29	48	9	.7	.3	T	.4	2.1	131	2.6	79	78	46	0	2	3	0	0
TN CHATTANOOGA	77	48	83	40	63	7	3.0	1.8	T	5.8	91	13.0	81	84	26	0	0	4	2	0	
TN KNOXVILLE	77	49	82	41	63	7	2.3	1.3	T	3.9	74	8.7	58	82	26	0	0	4	2	0	
TN MEMPHIS	79	56	84	47	68	10	.2	-1.1	T	5.1	88	10.1	64	70	35	0	0	1	0	0	
TN NASHVILLE	76	49	84	39	63	7	1.2	.2	T	4.3	77	9.8	66	74	29	0	0	2	1	0	
TX ABILENE	78	51	84	40	64	3	0	-.4	T	0	2.0	167	4.6	139	54	23	0	0	0	0	0
TX AMARILLO	71	41	82	31	56	5	.1	-.1	T	2.0	250	2.3	135	54	15	0	1	2	0	0	0
TX AUSTIN	81	54	88	46	68	3	T	-.6	T	2.6	113	6.0	80	84	38	0	0	1	0	0	0
TX BEAUMONT	80	61	85	52	70	5	T	-.8	T	2.0	56	8.8	73	85	54	0	0	2	0	0	0
TX BROWNSVILLE	85	65	88	56	75	3	T	-.2	T	3.5	500	6.1	165	89	51	0	0	0	0	0	0
TX CORPUS CHRISTI	83	62	87	50	72	3	T	-.3	T	2.4	200	6.8	139	90	47	0	0	0	0	0	0
TX DEL RIO	84	55	89	48	70	2	T	-.2	T	1.5	188	2.4	96	62	26	0	0	0	0	0	0
TX EL PASO	72	43	82	35	58	-2	0	.1	T	.4	67	2.0	133	41	16	0	0	0	0	0	0
TX FORT WORTH	78	50	84	41	64	3	.5	-.3	T	4	3.5	113	5.9	80	69	35	0	0	1	0	0
TX GALVESTON	72	64	75	58	68	2	.1	-.5	T	.4	13	3.9	44	72	70	0	0	0	1	0	0
TX HOUSTON	83	56	89	46	69	4	.2	-.5	T	2.0	65	6.6	63	89	42	0	0	2	0	0	0
TX LUBBOCK	75	43	82	35	58	3	0	-.1	T	1.2	133	2.1	117	55	18	0	0	0	0	0	0
TX MIDLAND	75	43	83	36	59	-1	0	.1	T	.4	67	1.7	113	59	18	0	0	0	0	0	0
TX SAN ANGELO	77	45	83	36	61	-1	0	-.3	T	0	2.2	200	4.5	167	66	22	0	0	0	0	0
TX SAN ANTONIO	83	52	89	43	67	2	T	-.5	T	1.2	63	5.0	85	77	36	0	0	0	0	0	0
TX VICTORIA	83	57	88	47	70	3	T	-.5	T	1.0	48	4.4	70	91	43	0	0	0	0	0	0
TX WACO	78	49	82	41	64	1	T	-.7	T	2.5	89	5.7	80	89	44	0	0	2	0	0	0
TX WICHITA FALLS	80	48	87	39	64	4	.4	-.1	T	2.3	115	5.8	132	67	24	0	0	1	0	0	0
UT BLANDING	54	27	64	21	40	-3	T	-.2	T	2.6	260	3.0	97	74	19	0	6	1	0	0	0
UT SALT LAKE CITY	52	35	61	31	44	-1	.2	.3	T	2.2	110	3.7	80	74	38	0	3	4	0	0	0
VT BURLINGTON	64	46	73	30	55	18	.9	.4	T	2.1	95	8.0	143	68	51	0	1	5	1	0	0
VA LYNCHBURG	75	51	83	43	63	11	1.0	.3	T	2.2	56	6.5	68	74	39	0	0	3	1	0	0
VA NORFOLK	79	53	85	43	66	12	.8	-.1	T	2.5	66	5.8	55	77	39	0	0	2	1	0	0
VA RICHMOND	79	53	88	42	66	13	1.3	.6	T	2.4	63	5.8	59	81	37	0	0	3	1	0	0
VA ROANOKE	74	49	80	39	62	10	1.1	.4	T	2.6	68	5.4	55	71	28	0	0	2	1	0	0
WA COLVILLE	51	33	55	25	42	0	.7	.5	T	2.1	162	4.9	102	71	28	0	3	6	0	0	0
WA OMAK	57	34	61	27	45	--	T	--	T	.6	--	3.7	100	90	37	0	4	1	0	0	0
WA QUILLAYUTE	51	40	54	36	45	2	5.1	2.9	T	13.7	114	29.3	75	88	76	0	0	6	3	0	0
WA SEATTLE-TACOMA	51	40	56	37	45	-1	.7	0	T	2.6	65	9.5	68	85	62	0	0	4	0	0	0
WA SPOKANE	48	32	52	25	40	-2	.3	0	T	1.7	94	4.0	66	90	48	0	5	3	0	0	0
WA WALLA-WALLA	54	40	56	35	47	-1	.3	0	T	3.0	188	7.2	136	81	48	0	0	0	0	0	0
WA YAKIMA	56	32	58	25	44	-1	T	-.1	T	.1	17	1.8	67	72	39	0	5	1	0	0	0
WV BECKLEY	71	46	79	38	59	12	1.0	.1	T	2.6	55	5.3	45	64	24	0	0	4	0	0	0
WV CHARLESTON	75	50	84	41	63	11	.9	.1	T	2.6	59	8.2	73	75	22	0	0	3	1	0	0
WV HUNTINGTON	76	50	83	41	63	12	.9	.1	T	2.4	52	7.3	68	74	23	0	0	2	1	0	0
WV PARKERSBURG	73	49	82	43	61	11	.7	-.1	T	1.9	45	5.9	58	61	26	0	0	3	0	0	0
WI GREEN BAY	60	36	73	28	48	11	2.2	1.7	T	2.5	119	5.2	118	87	43	0	3	3	1	0	0
WI LA CROSSE	62	39	80	31	51	10	2.4	1.8	T	2.3	2.9	121	5.2	124	88	42	0	1	3	1	0
WI MADISON	65	35	82	28	50	11	.3	-.3	T	.6	26	3.1	66	74	37	0	5	3	0	0	0
WI MILWAUKEE	63	38	77	28	51	11	.3	-.3	T	.8	31	4.0	73	70	39	0	2	3	0	0	0
WY CASPER	49	29	66	18	39	2	.9	.6	T	1.7	155	2.4	120	87	27	0	4	3	0	0	0
WY CHEYENNE	53	26	69	20	40	2	.2	.1	T	.9	75	1.4	67	68	24	0	6	1	0	0	0
WY LANDER	51	27	60	21	39	2	.7	.3	T	2.7	180	3.6	138	69	32	0	7	2	0	0	0
WY SHERIDAN	53	31	68	21	42	4	.3	-.2	T	.8	62	1.4	50	79	34	0	5	3	0	0	0
PR SAN JUAN	85	75	87	73	80	3	1.4	.9	T	5.8	252	11.2	130	82	59	0	0	6	1	0	0

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING APR. 5, 1981.
BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1, 1980.

Table with columns for STATES AND STATIONS, WEEKLY DEPARTURE*, SEASONAL ACCUMULATION +, and DEPARTURE FROM 1979-80. Rows list various cities across the United States.



National Summaries of Weather and Agriculture

MARCH WEATHER SUMMARY

HIGHLIGHTS: Much needed precipitation came to most of the Plains, the West and the Southeast; however, the eastern portion of the central Plains had below normal rain. Eastern Montana and Wyoming, western and northeastern North Dakota were also well below the normal precipitation. The drought got worse in eastern United States from northern Georgia to New England, the lower Great Lakes and the Ohio Valley. The West had near to above normal precipitation and some snowpack began to build in the mountains. Temperatures remained warmer than normal through most of the month in the northern and central Plains and Rockies, thawing frozen soils.

FIRST WEEK ... On the first day of March, a low pressure system off the coast of California and a cold front from the southern Plains to New England produced showers and thundershowers from central California to the Ohio Valley and lighter rain through New England. As the western low center moved eastward and encountered warm, moist air from the Gulf of Mexico, showers and thunderstorms produced moderate to heavy precipitation from the southern Plains through the central Plains and across the South to the Florida Panhandle. Lighter rain fell throughout the East. Later in the week, another storm brought more rain to the Pacific Northwest.

SECOND WEEK ... A weather system moving across the lower Great Lakes region produced only light amounts of precipitation from Illinois to Pennsylvania and New England. Snow covered the ground from Ohio to New England and accumulated an inch or more in central Pennsylvania. At mid-week, low pressure in the central Rockies induced a southerly flow from the Gulf and spread showers through the southern Plains. Some heavy amounts covered southern Texas. Lighter showers fell in the Southeast. A frontal system moving into central California caused showers and some thunderstorms before carrying snow to the mountains and the central Plateau.

THIRD WEEK ... A cold air mass moved out of Canada through the Great Lakes and enveloped most of the East in much cooler air. Freezing temperatures reached into northern Florida. Snow fell through the southern Appalachians and their eastern foothills. Amounts up to 10 inches were measured at some locations. Two Pacific frontal systems caused heavy showers in central California and lighter amounts throughout the West. Snow again accumulated in the Sierras and northern Rockies. Temperatures continued warm for this time of year through the central and northern Plains.

FOURTH WEEK ... A storm off the southeast coast caused some welcome rain in North Carolina and Virginia but moved eastward too fast to allow enough rain to relieve the drought much. At midweek, a late winter storm developed in the central Rockies and moved very slowly eastward. Precipitation covered the winter wheat areas of the central Plains and spread northward to the

Lakes area. Later, a cool front spread showers and thunderstorms eastward from central Texas. On the last 2 days of the month, the front brought showers to the area east of the Appalachians. Some heavy thunderstorms and tornadoes moved through the Southeast.

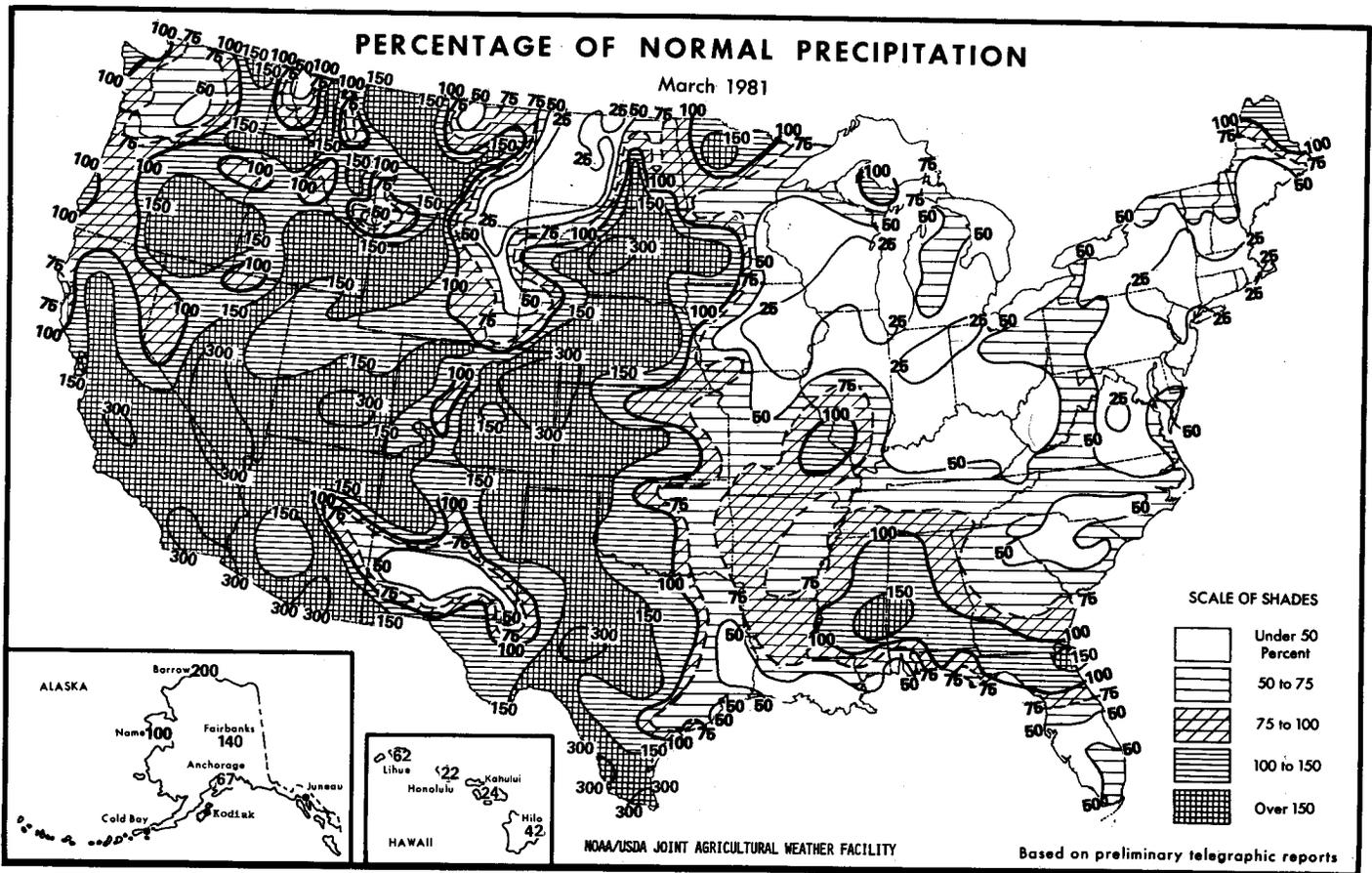
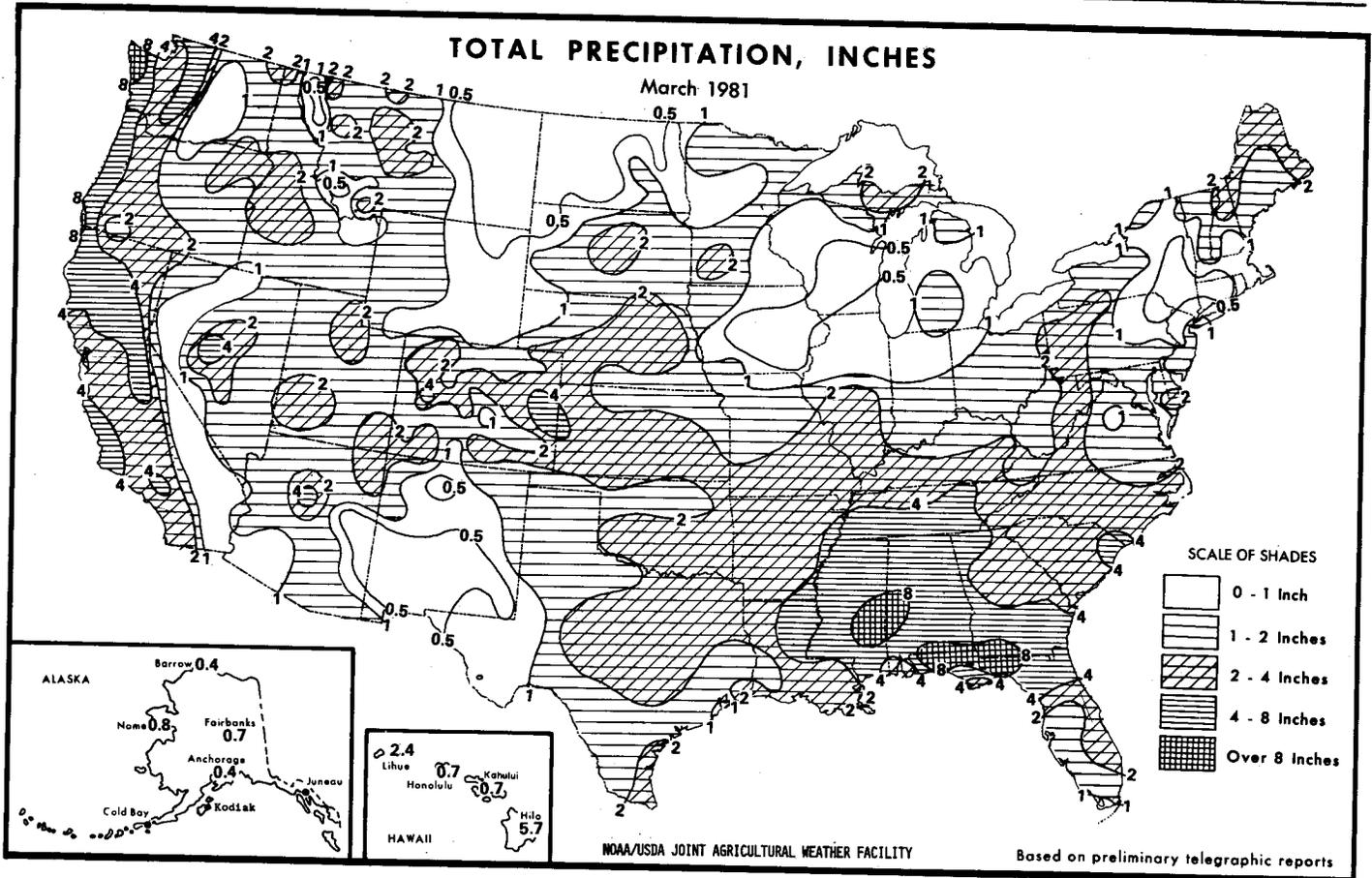
MARCH FIELDWORK

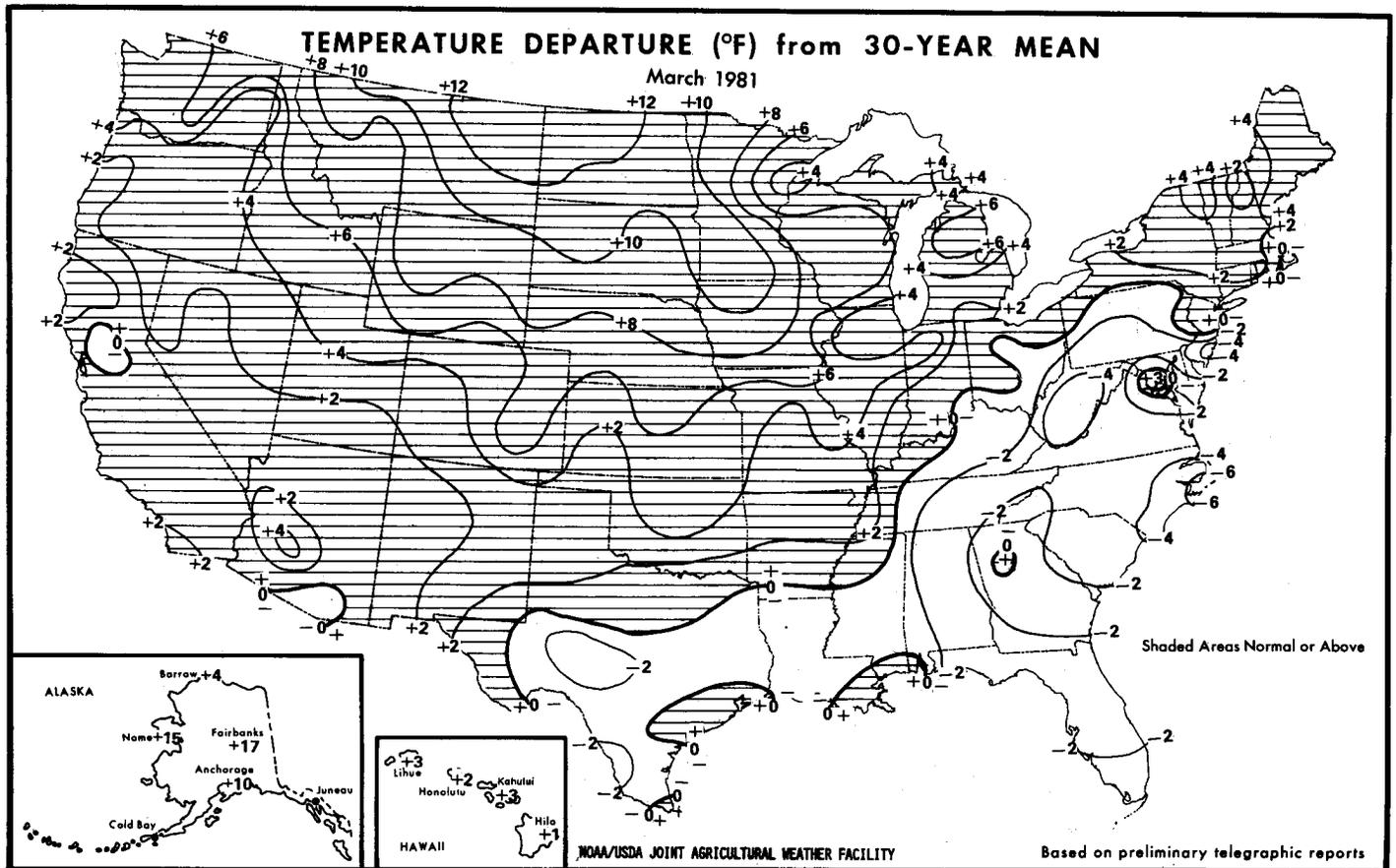
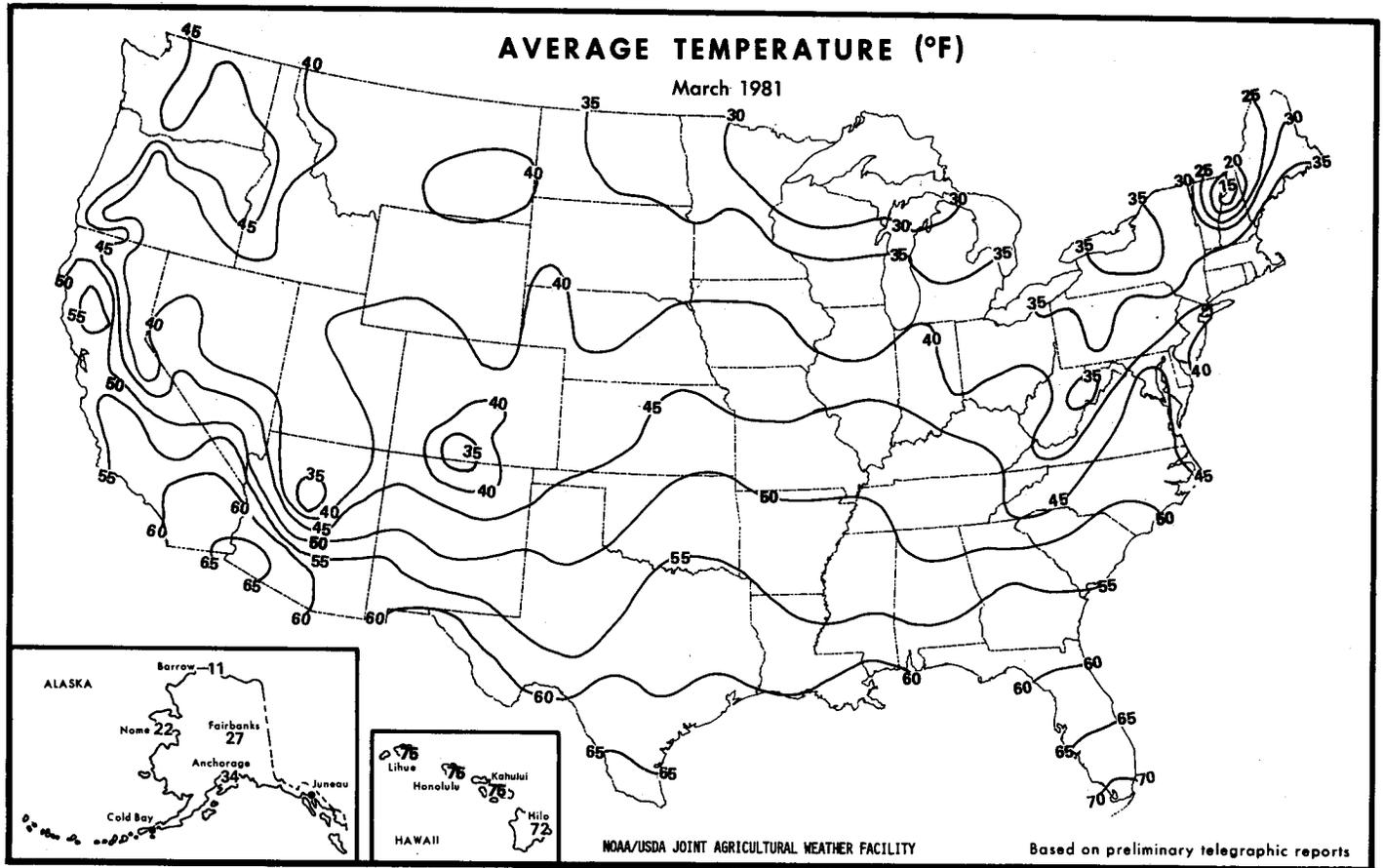
During the first of March heavy rainfall held fieldwork and planting activities to a minimum in the South, but helped replenish soil moisture supplies. Timely rains in the Great Plains improved winter wheat conditions. As March began corn planting was active from Arizona to Florida and Georgia. By the end of March, planting extended as far north as Virginia and the 1981 crop was emerging in the extreme South. Planting progress was generally well ahead of last year and the average. In the Corn Belt, growers prepared land in anticipation of very early planting. Plowing was well ahead of normal. Grain sorghum planting centered in Texas; planting progress was ahead of normal. Cotton planting was concentrated in Texas and Arizona. Some replanting was necessary in Texas where fields failed to develop because of cold and wet weather. Planting was in full swing in Arizona as March ended. Earliest plantings produced good stands and were growing well. By the end of March rice seeding was active in Texas, Louisiana, and Mississippi. Tobacco growers seeded plantbeds. Transplanting began in Georgia where plants were in fair to good condition. Peach trees reached full bloom as far north as South Carolina and buds were swelling in New Jersey.

Winter Wheat

Winter wheat is generally rated fair to mostly good in all major producing States. Above-normal temperatures and timely rains improved winter wheat prospects in many areas. By the end of March, the crop was greening as far north as Montana, jointing in the Southern States, and heading on early planted stands in the Southwest. Wind damage and winterkill appeared light as plants greened.

Kansas winter wheat was rated good on April 1. Rains during March improved prospects but much more moisture is needed. Short soil moisture supplies continued to pose a very serious problem for spring growth. Winter wheat in Texas varied from poor to excellent condition. However, most fields showed reasonably good growth during March. Additional moisture is needed. Fields began jointing in the Panhandle area by mid-month. Oklahoma wheat rated good in all areas except the Panhandle where the condition was fair. Arizona winter wheat made excellent progress with the earliest fields heading during the month. In Montana, wheat was in fair to good condition. Growth was beginning in southern areas during the last week of the month.





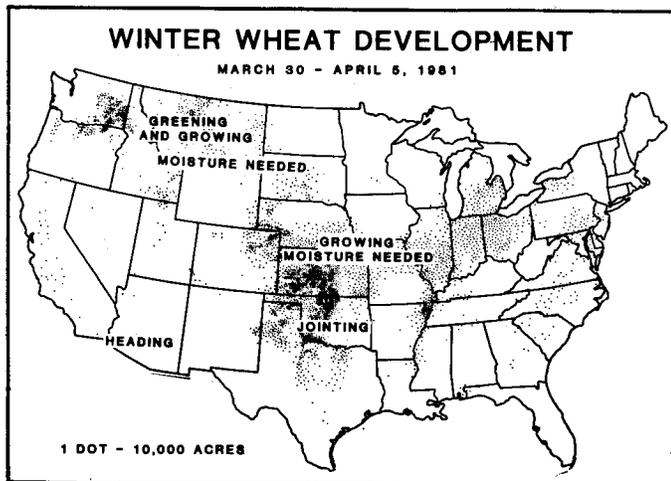
Temperature and Precipitation Data for March 1981

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham . . .	51	- 2	7.3	+ 1.1	LA. Baton Rouge . . .	59	- 1	1.7	- 3.4	Youngstown . . .	36	+ 1	2.0	- 1.2
Moblie . . .	60	+ 1	3.0	- 4.1	Lake Charles . . .	59	- 1	1.7	- 2.1	OKLA. Okla. City . . .	52	+ 4	2.9	+ .8
Montgomery . . .	54	- 3	6.0	0	New Orleans . . .	62	+ 1	2.7	- 2.8	Tulsa . . .	53	+ 5	1.7	- .8
ALASKA. Anchorage . . .	34	+10	.4	- .2	Shreveport . . .	56	- 1	3.3	- .8	OREG. Astoria . . .	48	+ 4	5.8	- .8
Barrow . . .	-11	+ 4	.4	+ .2	MAINE. Caribou . . .	28	+ 4	3.4	+ 1.2	Burns . . .	38	+ 2	1.6	+ .7
Fairbanks . . .	27	+17	.7	+ .2	Portland . . .	36	+ 4	1.4	- 2.2	Medford . . .	47	+ 2	1.2	- .4
Juneau . . .	---	---	---	---	MD. Baltimore . . .	42	- 1	1.1	- 2.6	Pendleton . . .	46	+ 2	1.4	+ .4
Kodiak . . .	---	---	---	---	MASS. Boston . . .	39	+ 1	1.6	- 3.4	Portland . . .	49	+ 3	2.3	- 1.3
Nome . . .	22	+15	.8	0	Chatham . . .	37	---	1.4	---	Salem . . .	47	+ 2	3.5	- .8
ARIZ. Flagstaff . . .	34	+ 0	4.0	+ 2.2	MICH. Alpena . . .	32	+ 6	1.0	- .9	PA. Allentown . . .	38	0	1.0	- 2.6
Phoenix . . .	64	+ 4	1.0	+ .2	Detroit . . .	37	+ 2	.8	- 1.7	Erie . . .	33	0	1.6	- 1.2
Tucson . . .	57	- 1	2.0	+ 1.4	Flint . . .	36	+ 3	.8	- 1.3	Harrisburg . . .	39	- 2	1.0	- 2.2
Winslow . . .	45	0	.3	- .1	Grand Rapids . . .	35	+ 2	1.3	- 1.2	Philadelphia . . .	40	- 2	1.6	- 2.1
Yuma . . .	65	+ 1	.7	+ .5	Houghton Lake . . .	33	+ 6	.9	- .8	Pittsburgh . . .	36	- 2	2.1	- 1.5
ARK. Fort Smith . . .	52	+ 2	3.0	- .6	Lansing . . .	36	+ 3	1.1	- 1.3	Scranton . . .	36	- 1	.5	- 2.1
Little Rock . . .	53	+ 1	3.1	- 1.9	Marquette . . .	27	+ 5	2.3	+ .2	R. I. Providence . . .	39	+ 2	.6	- 3.4
CALIF. Bakersfield . . .	57	0	2.2	+ 1.4	Muskegon . . .	35	+ 2	1.0	- 1.4	S. C. Charleston . . .	54	- 3	2.4	- 2.4
Eureka . . .	50	+ 2	4.6	- .2	S. Ste. Marie . . .	27	+ 3	1.2	- .5	Columbia . . .	51	- 3	2.3	- 2.4
Fresno . . .	55	+ 1	2.6	+ 1.0	MINN. Duluth . . .	27	+ 3	1.1	- .7	Greenville . . .	49	- 2	3.2	- 2.1
Los Angeles . . .	58	+ 1	3.2	+ 1.5	Internat Falls . . .	29	+ 8	1.2	+ .1	S. D. Aberdeen . . .	36	+ 9	2.0	+ 1.1
Red Bluff . . .	55	+ 2	4.9	+ 2.4	Minneapolis . . .	38	+10	.7	- 1.0	Huron . . .	36	+ 7	1.9	+ .8
San Diego . . .	61	+ 3	3.7	+ 2.1	Rochester . . .	36	+ 8	.5	- 1.2	Rapid City . . .	40	+ 9	1.3	+ .3
San Francisco . . .	53	0	3.6	+ 1.1	St. Cloud . . .	36	+10	1.1	- .2	Sioux Falls . . .	38	+ 8	1.9	+ .5
Stockton . . .	54	+ 1	3.2	+ 1.2	MISS. Jackson . . .	55	- 1	6.2	+ .6	TENN. Chattanooga . . .	48	- 2	4.4	- 1.2
COLO. Denver . . .	41	+ 4	2.3	+ 1.1	Meridian . . .	56	0	11.8	+ 5.6	Knoxville . . .	47	- 3	2.8	- 2.1
Grand Junction . . .	44	+ 3	1.4	+ .6	MO. Columbia . . .	45	+ 3	1.3	- 1.3	Memphis . . .	54	+ 3	5.0	- .1
Pueblo . . .	46	+ 6	1.2	+ .5	Kansas City . . .	45	+ 4	1.4	- 1.2	Nashville . . .	47	- 2	3.4	- 1.6
CONN. Bridgeport . . .	38	0	.7	- 2.8	St. Louis . . .	47	+ 4	3.0	0	TEX. Abilene . . .	55	0	2.4	+ 1.4
Hartford . . .	38	+ 2	.3	- 3.5	Springfield . . .	47	+ 3	2.3	- .7	Amarillo . . .	49	+ 3	1.9	+ 1.1
D. C. Washington . . .	48	+ 3	1.5	- 1.8	MONT. Billings . . .	42	+ 9	1.8	+ .8	Austin . . .	59	- 1	3.1	+ 1.2
FLA. Apalachicola . . .	59	- 2	3.0	- 1.7	Glasgow . . .	39	+14	.3	- .1	Beaumont . . .	61	+ 1	2.1	- 1.0
Daytona Beach . . .	60	- 4	3.0	- .4	Great Falls . . .	37	+ 6	2.1	+ 1.1	Brownsville . . .	68	0	3.5	+ 2.8
Ft. Myers . . .	68	- 1	1.3	- 1.8	Havre . . .	38	+11	1.1	+ .6	Corpus Christi . . .	64	- 1	2.4	+ 1.3
Jacksonville . . .	59	- 2	5.4	+ 1.8	Helena . . .	38	+ 7	1.1	+ .4	Del Rio . . .	62	- 1	1.6	+ .9
Key West . . .	71	- 4	.8	- .8	Kalispell . . .	39	+ 8	1.4	+ .5	El Paso . . .	57	+ 2	.4	0
Lakeland . . .	64	---	1.0	---	Miles City . . .	41	+11	.3	- .4	Fort Worth . . .	56	+ 1	3.4	+ .9
Miami . . .	70	- 1	1.3	- .8	Missoula . . .	40	+ 7	1.4	+ .7	Galveston . . .	61	0	.5	- 2.1
Orlando . . .	64	- 2	1.9	- 1.6	NEBR. Grand Island . . .	42	+ 6	3.1	+ 1.9	Houston . . .	61	0	1.7	- 1.0
Tallahassee . . .	57	- 3	8.8	+ 2.9	Lincoln . . .	43	+ 6	2.0	+ .5	Lubbock . . .	51	+ 2	1.2	+ .3
Tampa . . .	63	- 3	1.7	- 2.2	Norfolk . . .	41	+ 8	2.6	+ 1.2	Midland . . .	52	- 2	.6	0
W. Palm Beach . . .	68	- 2	2.5	- .8	N. Platte . . .	40	+ 6	2.7	+ 1.7	San Angelo . . .	54	- 3	2.8	+ 1.9
GA. Atlanta . . .	52	+ 1	3.9	- 1.9	Omaha . . .	43	+ 8	.9	- .7	San Antonio . . .	61	0	2.0	+ .5
Augusta . . .	52	- 3	2.6	- 2.1	Valentine . . .	39	+ 8	1.3	+ .5	Victoria . . .	62	0	1.4	- .5
Macon . . .	56	- 1	3.4	- 1.8	NEV. Ely . . .	36	+ 3	1.3	+ .4	Waco . . .	56	- 1	3.0	+ .6
Savannah . . .	57	- 1	3.9	- .5	Las Vegas . . .	56	+ 2	1.4	+ 1.1	Wichita Falls . . .	54	+ 1	1.9	+ .3
HAWAII. Hilo . . .	72	+ 1	5.7	- 8.0	Reno . . .	42	+ 2	.6	- .1	UTAH. Blanding . . .	39	+ 1	2.6	+ 1.7
Honolulu . . .	75	+ 2	.7	- 2.5	Winnemucca . . .	39	+ 1	1.0	+ .3	Salt Lake City . . .	44	+ 4	2.1	+ .5
Kahului . . .	75	+ 3	.7	- 2.2	N. H. Concord . . .	34	+ 2	.9	- 1.9	VT. Burlington . . .	34	+ 5	1.3	- .6
Lihue . . .	75	+ 3	2.9	- 1.8	N. J. Atlantic City . . .	36	- 5	1.4	- 2.9	VA. Lynchburg . . .	43	- 3	1.8	- 1.7
IDAHO. Boise . . .	45	+ 4	2.8	+ 1.8	Trenton . . .	41	0	.9	- 2.9	Norfolk . . .	45	- 3	1.9	- 1.5
Lewiston . . .	47	+ 4	1.9	+ .9	N. MEX. Albuquerque . . .	46	0	.8	+ .3	Richmond . . .	45	- 2	1.5	- 1.9
Pocatello . . .	39	+ 4	1.7	+ .8	Roswell . . .	52	+ 3	1.1	- .4	Roanoke . . .	43	- 2	2.3	- 1.0
ILL. Cairo . . .	49	+ 2	2.4	- 2.3	N. Y. Albany . . .	35	+ 2	.3	- 2.3	WASH. Colville . . .	43	+ 6	1.7	+ .6
Chicago . . .	38	+ 2	.6	- 1.9	Binghamton . . .	32	+ 1	.7	- 2.2	Omak . . .	46	+ 7	.6	- .2
Moline . . .	39	+ 3	.7	- 1.9	Buffalo . . .	34	+ 2	1.7	- 1.2	Quillayute . . .	47	+ 5	11.7	+ .9
Peoria . . .	41	+ 4	.9	- 1.9	New York . . .	41	0	1.1	- 2.9	Seattle-Tacoma . . .	49	+ 5	2.2	- 1.4
Rockford . . .	37	+ 3	.7	- 2.0	Rochester . . .	35	+ 2	1.0	- 1.6	Spokane . . .	41	+ 3	1.6	+ .1
Springfield . . .	44	+ 5	2.3	- .4	Syracuse . . .	36	+ 3	1.0	- 2.0	Walla Walla . . .	49	+ 3	2.9	+ 1.5
IND. Evansville . . .	45	+ 1	1.7	- 3.0	N. C. Asheville . . .	45	- 1	3.2	- 1.5	Yakima . . .	48	+ 6	1.1	- .5
Ft. Wayne . . .	38	+ 1	.7	- 2.2	Charlotte . . .	49	- 2	2.1	- 2.4	W. VA. Beckley . . .	36	- 4	1.8	- 2.4
Indianapolis . . .	40	0	1.3	- 2.5	Greensboro . . .	46	- 2	2.6	- 1.1	Charleston . . .	41	- 4	1.8	- 2.2
South Bend . . .	41	+ 5	.9	- 1.9	Hatteras . . .	45	- 6	2.4	- 1.4	Huntington . . .	43	- 1	1.7	- 2.4
IOWA. Burlington . . .	43	+ 6	.5	- 2.2	Raleigh . . .	46	- 3	2.4	- 1.0	Parkersburg . . .	41	- 2	1.4	- 2.4
Des Moines . . .	43	+ 9	.4	- 1.9	Wilmington . . .	50	- 4	3.0	- 1.1	WISC. Green Bay . . .	35	+ 6	.4	- 1.3
Dubuque . . .	38	+ 6	.4	- 2.6	N. DAK. Bismarck . . .	35	+10	.1	- .6	La Crosse . . .	38	+ 7	.6	- 1.4
Sioux City . . .	41	+ 8	1.8	+ .3	Fargo . . .	34	+10	.7	- .1	Madison . . .	37	+ 7	.3	- 1.6
KANS. Concordia . . .	45	+ 6	1.3	- .3	Williston . . .	38	+13	.2	- .4	Milwaukee . . .	36	+ 5	.5	- 1.7
Dodge City . . .	44	+ 3	2.3	+ 1.2	OHIO. Akron-Canton . . .	36	0	2.0	- 1.2	WYO. Casper . . .	38	+ 7	.8	- .1
Goodland . . .	41	+ 5	3.6	+ 2.7	Cincinnati . . .	40	- 2	1.7	- 2.4	Cheyenne . . .	37	+ 5	.7	- .4
Topeka . . .	46	+ 5	1.6	- .6	Cleveland . . .	36	0	1.6	- 1.5	Lander . . .	39	+ 8	2.0	+ .8
Wichita . . .	48	+ 4	2.2	+ .4	Columbus . . .	40	+ 1	1.1	- 2.3	Sheridan . . .	39	+ 8	.6	- .6
KY. Lexington . . .	43	- 1	1.8	- 3.0	Dayton . . .	39	0	1.2	- 2.0	P. R. San Juan . . .	80	+ 4	4.3	+ 2.3
Louisville . . .	46	+ 2	1.5	- 3.6	Toledo . . .	37	+ 1	.6	- 1.9					

Based on 1941-70 normals

National Agricultural Summary

March 30 - April 5, 1981



HIGHLIGHTS: Heavy rainfall in the Southeast delayed planting activities and caused localized flooding. Mild temperatures and light rains throughout the Great Plains improved winter wheat conditions. Soil moisture was still short to adequate in most areas. Farmers had only 2 to 3 days suitable for fieldwork in parts of the Southeast; elsewhere up to 6 days were available. Winter wheat rated fair to mostly good. Greening extended into Montana; stands were jointing in the South and heading in the Southwest. Corn planting advanced northward into Ohio; progress remained well ahead of normal. Cotton planting centered in Arizona and Texas. Sorghum planting was generally confined to Texas. Rice planting was active in Texas, Louisiana, and Mississippi. Peach trees bloomed as far north as Virginia and buds swelled in New Jersey. Livestock were in fair to good condition; calving and lambing continued with light losses of newborn.

SMALL GRAINS: Winter wheat rated fair to mostly good throughout the Nation. Most areas reported only normal winterkill or wind damage. The crop was greening as far north as Montana, jointing in the southern third of the Nation, and heading in the Southwest. Seeding of spring grains progressed ahead of normal.

Kansas winter wheat made rapid growth following warm temperatures and recent rainfall. Greenbugs increased, but control measures were effective. Planting of spring grains neared completion.

Oklahoma winter wheat was 50% jointed, ahead of last year's 30% and the 45% average. Conditions improved as a result of recent rains and above normal temperatures. Warm weather encouraged growth of small grains in Texas. However, some dryland fields were showing signs of moisture stress.

OTHER CROPS: Cotton planting centered in Arizona and Texas, although limited planting was underway in the Southeast. Planting in Texas reached 12% complete, 2 points ahead of both last year and average. Some replanting was necessary in south Texas due to the weather and insect damage. Arizona planting was in full swing, with earliest plantings growing well. Planting just started in South Carolina and Alabama. In California, preplanting fieldwork was underway.

Corn planting advanced northward into parts of Ohio. Heavy rains slowed planting in the Southeast, but progress remained well ahead of normal. Emerging plants in the extreme South were in fair to good condition.

Grain sorghum planting remained centered in Texas, where 63% was planted, 6 points ahead of a year earlier and 15 points ahead of normal. Rapid progress was made from central Texas southward.

Rice seeding remained confined to the Texas and Louisiana gulf coast and parts of Mississippi. Texas planting reached 66% complete, 23 points ahead of normal. Louisiana planting was 36% finished, 4 points ahead of average, and Mississippi growers were 12% finished. Arkansas and California producers prepared land but had not seeded any rice.

Tobacco plantbeds were in fair to mostly good condition. Transplanting reached 47% complete in Georgia and 18% complete in South Carolina; plants were in fair to good condition.

FRUITS AND NUTS: Deciduous fruit growers continued pruning late-blooming trees and applied sprays throughout all major production areas. Deciduous fruit buds swelled as far north as New Jersey while blooming was evident as far north as Virginia.

Florida's citrus groves were in very good condition. Irrigation in all areas supplemented the lack of rainfall. The late orange harvest was slow to moderate due to higher than normal acid levels.

Arizona grapes and deciduous fruit made good growth. The Valencia harvest was in full swing. Grapefruit picking made slow, steady progress, but lemon picking tapered off rapidly as harvesting neared completion.

Texas grapefruit and Valencia orange harvests continued. Pecans were beginning to tassel in southern areas and starting to bud in northern regions.

California lemon, Navel orange, and avocados harvests continued. Prune trees were nearly finished blooming in the San Joaquin Valley.

VEGETABLES: Warm days and mild nights prevailed in Florida's vegetable growing areas. Total shipments were up 36% from the previous week. The only vegetables showing declines were celery, chinese cabbage, and okra.

Arizona's lettuce harvest tapered off in the west, but increased in central areas. Harvest of other vegetable crops made good progress.

California's asparagus harvest slowed in the desert area, but picked up in the delta. Good supplies of broccoli, celery, and cauliflower were available from the central coast. Strawberry picking increased on the south coast.

Summer vegetable planting continued active in Texas. Producers harvested cabbage, carrots, and onions.

PASTURES AND LIVESTOCK: Pastures generally rated fair to good except in parts of the Southwest and in the northern Plains where poor conditions were reported due to dry conditions. Recent rainfall and warm temperatures should promote growth in many regions of the Nation. Cattle were in fair to good condition as calving and lambing continued. Losses of newborn were reported light.

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 ESS State offices in cooperation with the National Weather Service.

ALABAMA: Temperatures 4° above normal. Highs in 80's. Rainfall totals over 1.00 in. northern and central counties. Heaviest Auburn, 6.00 in., Montgomery over 4.00 in.

Soil moisture adequate. Plowing 77% complete. Fieldwork: 2.6 days suitable. Planting progress: Corn 44%, 11% 1980, 16% average; cotton 7%, 4% 1980. Condition: Corn fair; wheat good; pastures and livestock fair. Activities: Plowing, planting, fertilizer and chemical application, care of livestock and poultry.

ARIZONA: Winter storm latter part of week, lowered temperatures 10 to 20°. Precipitation mostly eastern two-thirds of State, mostly 0.10 to 0.50 in., local amounts over 0.75 in. White Mountains, Mogollon Rim. Snowfall 1 to 10 in. above 6,000 ft. Average temperatures 5° below normal to 3° above.

Land preparations, planting cotton full swing, earliest planting growing well. Small grains good progress, heading increasing accelerated rate. Some grain western areas approaching maturity well ahead normal. Sugarbeets approaching maturity. Alfalfa haying made good progress. Safflower good stand, growing well. Land preparations, planting sorghum, corn underway. Few fields corn, sorghum up to stand central areas. Lettuce, mixed vegetable harvest seasonal progress. Lettuce harvest tapering off west, volume central areas increasing. Cantaloup, watermelon planting complete, weeding, thinning vine turning active. Grapes, deciduous fruit good growth. Valencia orange harvest full swing, grapefruit slow steady progress, lemons tapering off rapidly, nearing completion. Ranges poor to fair. Livestock fair, water supplies short to adequate.

ARKANSAS: Temperatures ranged 3 to 10° above normal. Highest temperature 89°, lowest 28°. Most rainfall 2.86 in., least 0.10 in.

Wheat good condition and beginning to joint. Land preparation nearing completion ahead of schedule. Rice, cotton and soybeans nearly ready for planting. Limited planting started on corn and sorghum. Average of 5 days suitable for fieldwork. Soil moisture supplies short, especially areas depleted by drought. Livestock showing gain on cool season pastures.

CALIFORNIA: State experienced below normal temperatures and only scattered amounts of rain. For most of the period a large high pressure area dominated the area. Very cool nighttime temperatures were the rule with sunny and mild days.

Small grains doing well, many fields heading. Insecticides being applied. Sugarbeets look good, cultivation and thinning underway. Cotton, rice, other field crops, preplant fieldwork underway where unhampered by too wet fields. Alfalfa first cutting being made. Many fields being sprayed for aphids, weevils. Prune bloom near complete San Joaquin Valley. Lemons, Navel orange, Bacon avocado harvest continued. Spray application for fungus, blight, continued. Artichoke supply heavy. Asparagus slows Desert, increases Delta. Broccoli good supply Central Coast, Oxnard; quality good. Celery supply adequate Oxnard, quality improving. Cauliflower very heavy from Central Coast. Sweet corn up in Delta. Lettuce gaining momentum Kern, Westside; near peak Oxnard. Melons doing well Desert. Potatoes excellent, harvest to begin Kern; Tule-lake movement slow. Processing spinach active Central Valley. Strawberries increasing South Coast, Fresno to begin. Sweetpotato ground preparation active, Merced. Tomato planting con-

tinues doing well. Warmer temperatures increased range grass growth. Calving, lambing continue mountain districts. Stock water supplies adequate.

COLORADO: Cold front brought considerable wind and 2 to 4 in. of snow in mountains and west. Precipitation on 3rd and 4th averaged 0.10 to 0.30 in. over most of the State. Temperatures averaged 6 to 9° above normal in the east and near normal elsewhere.

Barley seeded 32%, 6% 1980, 14% average. Sugarbeets seeded 13%, 1% 1980, 6% average. Winter wheat condition good. Pastured 8%, 16% 1980. Spring wheat seeded 15%, 3% 1980. Fieldwork: 3.5 days suitable. Ranges and pastures fair condition. Livestock good condition.

FLORIDA: Mostly warm and dry air dominated. A weak cold front brought some showers to the Panhandle, north; the 30th and 31st. Another weak cold front moved from the Panhandle southward on the 5th, bringing widely scattered, light showers to local areas. Temperatures were generally 2 to 5° above seasonal normal through the 3rd and near seasonal normal 5th and 6th. Rainfall averaged 1.00 to 2.00 in. Panhandle, north, generally less than 0.25 in. Central, south with numerous stations reporting none.

Soil moisture short south and central, mostly adequate north and west. Corn good condition, planting about complete. Peanut planting underway central areas, land being prepared north and west. Tobacco transplanting continued. Wheat and oats good condition. Sugarcane harvest complete, young cane making good growth. Pastures continued to improve. Good to excellent condition eastern Panhandle through northern tier counties, poor to fair elsewhere. Cattle fair to good. Grove condition very good. Rain need continues, irrigation active all areas. General bloom over. Late type orange harvest slow to moderate due to higher than normal acid level. Warm days, mild nights prevailed in vegetable areas. Skies were mostly clear with no rainfall reported. Temperatures were above normal most of the week. Winds were light to moderate. Total shipments up 36% from previous week. Harvest gained snap beans, cabbage, cauliflower, sweet corn, cucumbers, eggplant, parsley, peppers, potatoes, radishes, squash, strawberries and tomatoes. Supplies about steady carrots, escarole, and lettuce. Supplies declined celery, chinese cabbage and okra. Commercial strawberry season declining Hillsborough-Manatee area. Some growers opening fields to u-pic and processors. Watermelon crop showing very good growth and progress. Harvest few early fields expected late this week.

GEORGIA: Temperatures well above normal; 7 to 9° in north, 3° to 5° in south. Averages from mid-50s in mountains to upper 60s in extreme south. Rainfall well above normal. Most rain fell on 30th and 31st. Amounts between 1.00 and 3.00 in. but 5.00 to 7.00 in. reported in west central.

Soil moisture mostly adequate to surplus. Only three days suitable for fieldwork due to heavy rains. Soil erosion and washing in mid-section of State. Corn 73% planted, 27% last year, average 56%. Emerged fields rated fair to good condition. Tobacco 47% transplanted, 32% last year, 61% average; condition fair to good. Watermelons 60% planted, 32% last year, average 67%; condition fair to good. Small grains improved to fair to mostly good. Cotton

and peanut planting slow starting. Peaches fair to good condition. Apples fair to mostly good condition. Sprays applied to pecan and fruit trees. Vegetables rated in fair condition. Pastures and cattle continue fair to good condition. Hog condition improved, fair to mostly good.

HAWAII: Weather continued favorable. Rains beneficial, major crop areas. Winds gusty at times but no serious crop damage except for few leaf strippings banana fields exposed areas. Most plantings making fair to good progress. Vegetables: Supplies gradually increasing. More cucumber shipments expected. Harvesting of semi-head lettuce also up. Bananas: Production declining seasonally. Rains beneficial. Few leaf strippings from gusty winds. Papayas: Rains beneficial. Production increasing. Pineapples: Harvesting light but increasing gradually. Sugar: Active harvesting. Pastures: Generally fair to good. Rains added more moisture.

IDAHO: Temperatures ranged from 1 to 4° below normal. Precipitation ranged from 0 to 1.14 in. All stations except Rexburg reporting precipitation.

Spring wheat planted 26%, 24% 1980, 16% average. Spring barley 18%, 14% 1980, 12% average. Sugarbeets 18%, 16% 1980, 18% average. Dry peas 22%, 5% 1980, 8% average. Lentils 11%, 4% 1980, 6% average. Onions 20%, 34% 1980, 50% average. Potato planting just beginning, winter wheat 81% good, 19% excellent. Irrigation water short to adequate. Two days suitable for fieldwork.

ILLINOIS: Temperatures 8 to 15° above normal. Precipitation locally heavy extreme northwest and south, 0.10 to 0.30 in. elsewhere.

Winter wheat condition 14% excellent, 71% good, 15% fair. Oats seeding 85% complete, 4% 1980, 25% average. Alfalfa condition 6% excellent, 60% good, 34% fair. Pasture 1% excellent, 38% good, 54% fair, 7% poor; supplying 25% roughage requirements of livestock, 10% 1980, 18% average. Soil moisture 1% adequate, 99% short. Fieldwork: 6.0 days suitable.

INDIANA: Sunny, warm week. Winds blew soils and increased dryness of fields and forests. Temperatures averaged 10° above normal and ranged from 28 to 85°. Rainfall averaged 0.60 in. north, west and central; 1.20 in. in Southeast.

Soil temperatures near 50°. Sunshine 62% of possible. Fieldwork averaged 6 days. Topsoil and subsoil moisture mostly short to adequate. Spring cropland 80% tilled, 1980 50%, average 50%. Oats 80% seeded, 1980 5%, average 20%. Wheat fair to good condition. Wheat 4 in. tall, 1980 3 in., average 3 in. Wheat 3% joined, 1980 3% average 3%. Pasture condition fair.

IOWA: A mild week turning much cooler at the weekend. Most of the week's rain fell with squall-line frontal showers and thunderstorms the 3rd ending as light rain or drizzle the 4th.

Topsoil moisture: 69% short, 31% adequate. Subsoil moisture: 55% short, 44% adequate, 1% surplus. Plowing: 84% complete, last year 51%, normal 55%. Oat acreage planted: 84% complete, last year 5%, normal 23%. Fieldwork: 5.8 days suitable. Crop conditions: Pasture, fair to good, winter wheat, fair to good, alfalfa hay, fair to good. Livestock excellent condition.

KANSAS: Precipitation generally 0.50 to 0.75 in. in all but southwest. Temperatures averaged 52° northwest to 60° east and south central or 8 to 13° above normal.

Wheat rapid growth following warm weather and recent moisture. Greenbugs increasing but control measure generally effective. Planting spring

oats, barley nearing completion. Corn planting started in south and eastern areas.

KENTUCKY: Much needed rain fell on 4th. Rainfall amounts generally between 1 and 2 in. Weather unusually warm with temperatures 10 to 15° above normal.

Soil moisture mostly short prior to general weekend rains. Most days favorable for fieldwork and farmers on or ahead of schedule. To date this has been one of the earliest springs on record. Corn 4% planted; most advanced in southern areas of south central region. Tobacco beds 90% seeded and plants up in 20% of beds. Watering of beds necessary, but generally in good condition. Wheat beginning to make rapid growth and averaging 7 inches in height. Pastures supplying 33% of roughage needs and will show rapid improvement following rains. Fruit trees 50% budding or blooming, generally earlier than usual, which could be a problem with hard freeze.

LOUISIANA: Rainfall minimal. Temperatures 3 to 5° above normal. Extremes: 41 and 88°.

Soil moisture short to adequate. Fieldwork: 4.1 days suitable. Spring plowing 76% complete, 41% 1980. Corn planted 61%, 25% 1980, 39% average. Emerged 39%. Rice planted 36%, 27% 1980, 32% average. Emerged 23%. Sugarcane condition fair to good. Wheat condition good. Pastures, livestock fair to good. Supplemental feeding continues. Vegetables fair to good. Strawberry harvest active.

MARYLAND AND DELAWARE: Temperatures averaged 10° above normal. Highs in the upper 60's to low 70's and lows in the low 40's. Precipitation ranged 0.50 to 1.75 in.

Soil moisture supplies mostly short to adequate. Pasture fair. Plowing two weeks ahead of normal. Small grains fair to good condition. Tobacco beds 96% planted, growers stripping and preparing for market. Fruit prospects good.

MICHIGAN: Temperatures averaged 6 to 7° above normal Upper and 12 to 13° above normal Lower. Precipitation moderate. Rainfall of 1.50 to 1.70 in. reported Upper and 0.30 to 1.15 in. Lower.

Maple syrup boiling remains active. Spring fieldwork starting but limited mostly to field tillage and fertilizer application. Localized seeding oats and sugarbeets begun southern Lower.

MINNESOTA: Temperatures averaged 2 to 4° above normal in the northeast district, 5 to 7° above normal elsewhere except southeast up to 9° above normal. Extremes 81° at Waseca, Redwood Falls and Lamberton, 11° at Duluth. Precipitation averaged near normal in eastcentral and northwest district, 0.50 in. above normal elsewhere except in the southcentral and southeast up to 1 in. above normal. Most stations reported snowfall, but snowdepth has returned to near zero.

Warm, dry winter enabled farmers to start fieldwork much earlier than normal. Major activities; Planting of spring wheat and oats. Earlier seedings have had to be reseeded. Fieldwork expected to be in full swing around April 13. Topsoil moisture rated 4% very short, 29% short, 61% adequate, 6% surplus. Seeding: Spring wheat 17%, 1980 0%, normal 1%; oats 13%, 1980 0%, normal 2%; barley 3%, 1980 0%, normal 0%.

MISSISSIPPI: Temperatures averaged above normal. Extremes; 35 and 87°. Widespread rains early in week and again over weekend. Tornado March 31 in Covington County injured several people and damaged several homes.

Soil moisture adequate. Fieldwork: 2.3 days suitable. Rains during week limited field activity. Plowing 69% completed. Corn 43% planted, 17% last year, 25% average. Rice 12% planted. Winter wheat 73% jointing, 46% last year; condition good. Watermelons 58% planted,

16% last year. Pasture condition fair to good. Livestock condition good to fair.

MISSOURI: Warm weather continued with temperatures averaging 10° above normal. Precipitation averaged from 0.25 to 1.25 in. in the Bootheel. The month of March ended with precipitation levels below normal.

Fieldwork: 5.9 days suitable. Plowing 78% complete, last year 54%. Oats 88% seeded, last year 24%. Corn 4% planted, last year 0. Condition of winter wheat fair to good. Pasture condition poor to fair. Supplies of hay and other roughages short to adequate. Topsoil moisture supply short.

MONTANA: Heavy precipitation fell over parts of northcentral and central regions early in week. Amounts over an inch were common from Sweetgrass Hills south to Cascade. Temperatures were again mild and averaged from near normal over parts of west and southwest to 10° above normal over northeast. Highest 72° at Broadus, lowest 1° below zero at Cooke City.

Topsoil and subsoil moisture remains short eastern third; short to adequate elsewhere, except northwest and northcentral where topsoil adequate, and northwest where subsoil adequate. Days suitable for fieldwork: 5.0. Winter wheat condition generally fair to good, growing some areas. Little planting progress past week. Seeding well underway southcentral and southeast, starting elsewhere. Calving 60%, lambing 55%, shearing 65% complete. Losses lighter than normal. Range and pastures greening in many areas.

NEBRASKA: Precipitation: 1.00 to 2.00 in. over southwest through northeast including north central area. Panhandle and southeast received 0.75 in. of moisture. Temperatures: Near 10° above normal.

Winter wheat mostly fair to good. Winterkill light. Soilborne wheat mosaic reported in southeast, east central and south central. Greenbug activity reported in a few counties. Oats seeding 55% complete, 5% last year, 25% normal. Sugarbeet planting well advanced. Topsoil moisture short to adequate. Subsoil moisture short. Continuing moisture supplies needed. Field tillage operations for spring planted crops near completion. Varying degrees of wind erosion reported. Days suitable: 4.6.

NEVADA: Wind gusts to 59 mph accompanied weak winter storms. Snow, rain most areas, several thunder showers central portion. Temperatures generally 2 to 5° below normal, except extreme south which had 1° above. Extremes: 11 and 81°.

Fieldwork hampered by gusty winds and scattered precipitation. Winter grains greening slowly due recent winter type weather. Calving, lambing good progress.

NEW ENGLAND: Unusually warm weather. Highs ranged from 60° to 80° for the week. A storm on the 2nd and 3rd left 0.50 to 1.00 in. rain across the region, with the heavier amounts in the south.

Warm weather finished the maple syrup production except in cooler, higher elevations. Quality remained excellent to last day. Most producers pleased with the results of this season.

NEW JERSEY: Temperatures averaged 9 to 12° above normal. Extremes: 27° at Long Valley and Neshanic Station on 3rd and 81° at Pemberton on 3rd. Rainfall averaged 1.71 in. north, 1.74 in. central and 2.47 in. south.

Soil moisture, in percent of field capacity, averaged: 99 north, 97 central and 97 south. Four inch soil temperature averaged: 49 north, 52 central and 54 south.

Showers during period beneficial. Early planting on schedule. Pasture growth started. Liming and fertilizing continues.

NEW MEXICO: Mild and dry first of week. Windy and colder on 3rd and warming again 4th and 5th. Temperatures averaged near normal most areas.

Soil moisture remains in short supply. Land preparation, irrigating, and some early planting continue to be the major activities. Irrigated wheat and barley in good condition. Dryland crop in fair condition. Wind, insects, and rabbits continue to damage wheat and barley. Alfalfa in good condition, however some insect problems in the south. Lettuce and onions in good condition. Ranges in poor condition and in need of moisture. Cattle and sheep in fair to good condition with supplemental feeding required most areas.

NEW YORK: Temperatures averaged 11 to 18° above normal. Scattered showers and a few thunder storms deposited from 0.25 to 1.75 in. of rain.

Soil conditions dry in many areas, allowing earlier fieldwork than normal.

NORTH CAROLINA: Temperatures were a few degrees above normal. Precipitation was less than normal in east to 2.02 in. at Asheville.

Fieldwork: 5.0 days suitable. Soil moisture: 4% very short, 53% short, 43% adequate. Conditions: Wheat, oats, barley, rye and pasture fair to mostly good; Tobacco plant beds fair to mostly good; Irish potatoes fair to mostly good, improving; peaches mostly good; Truck crops mostly fair to good; tobacco plant supply adequate. Plantings: Irish potatoes 85%, 1980 35%; corn 21%, 1980 5%; summer cabbage, sorghum, flue-cured tobacco underway. Major activities: Plowing and preparing land for spring planting, caring for tobacco plant beds, planting home gardens, topdressing small grains and pastures and spraying fruit trees.

NORTH DAKOTA: Average temperatures 4 to 8° above normal. All areas had high temperature in 60's. Low temperatures from teens to mid-20's. Extremes from 71° northwest to 16°, also northwest. Precipitation above normal central, northeast, east central and southeast. Remainder below normal. Average precipitation ranged from 0.01 in. northwest, 4% of normal, to 0.91 in. southwest, 253% of normal.

Moisture in central and east brightened crop prospects. Still quite dry west. About one-half State short topsoil moisture. Field activities slowly picking up, expected to be general this week. Some progress on seeding. Hard red spring wheat 4% seeded, durum 1%, barley 1%, oats 1%. No seeding this time last year. Also, average for date for all crops less than one-half of one percent. Forage supplies a concern. Pastures supplying about 6% of forage needs. Rain needed to pick up growth in west.

OHIO: Average temperatures were in the mid to upper 50's. Highs were in the upper 70's and low 80's. Averages were from 8 to 16° above normal. Lows were in the upper 20's and low 30's. Precipitation ranged from 0.25 to 1.90 in. Heaviest amounts fell on the 4th; four days had measurable amounts. Soil temperatures warmed to well above normal and averaged in the upper 40's to low 50's in the north and in the low to mid 50's in the central and south.

Wheat rated fair to good. Weekend rains brought relief to dry areas. Field activities included fertilizing, topdressing wheat, fruit tree pruning, and vegetable planting. Sugarbeets, potatoes and corn planting began. Oats planted 45%, tobacco sown 55%, 10% 1980, 35% average. Fieldwork: 6.0 days suitable. Pasture condition fair. Soil moisture 49% short, 49% adequate, 2% surplus.

OKLAHOMA: Temperatures averaged from 3° above normal southeast to 8° above normal northeast. Southeast averaged 0.44 in. of rain, east central

0.28 in., central 0.16 in. and south central 0.14 in. Other areas averaged less than 0.10 in. or received no rain at all.

Wheat condition improved as warm temperatures and recent rains very beneficial. Topsoil moisture adequate 70% counties. Subsoil adequate 20% counties. Wheat jointing: 50%, 1981; 30%, 1980; 45% average. Days suitable for fieldwork: 6.7.

OREGON: The weather wet and mild. Temperatures averaged near normal in west but 2 to 4° below normal east. Rainfall heavy along coast; over 0.50 in. in Willamette Valley; 0.10 to 0.33 in. in east.

Soil moisture supplies adequate to surplus west, adequate east. Winter wheat condition mostly good to excellent. Fertilizing and spraying continuing. Spring wheat seeding complete lower elevations, not started higher elevations. Seed crops good, some rust showing up. Hay and mint fields good. Anjou pears, apples, cherries, and prunes in bloom; peaches past bloom. Most fruits about 2 weeks early, weather could cause problems. Caneberries and strawberries in good shape; sprays going on. Cranberries out of dormancy. Filbert pruning about complete. Early potato planting winding down in Hermiston-Boardman; late plantings well underway. Malheur County potatoes and onions going in; western onions waiting for open weather. Green peas continue to go in. Livestock condition good. Range and pasture fair to mostly good; some excellent. Western pastures wintered well. Cool nights slowing growth.

PENNSYLVANIA: Warmest week and highest temperatures since September. Temperatures averaged 10 to 17° above normal. Extremes: 83 and 22°. Rapid movement of weather systems brought rainfall almost every other day and even snow flurries in the western mountains. Precipitation 0.50 in. to 1.00 in. most areas and 1.00 to 1.80 in. south-east.

PUERTO RICO: Island average rainfall 2.01 in. or 1.32 in. above normal. Highest weekly total 6.63 in. Temperatures averaged about 79 to 78° on coasts and 74 to 72° interior divisions.

SOUTH CAROLINA: Warmer than usual except briefly near normal mid-week. Extremes: 34 and 83°. Frequent showers mostly during first half included 1.48 in. at Charleston.

Soil moisture near adequate. Days available for fieldwork: 4.5. Corn planting 65%, exceeding last year's 6 and average 42. Cotton seeded 1%, ahead of last year and average. Tobacco plants adequate, 18% transplanted. Peach condition fair to good; peach tree short life syndrome being studied in Ridge Piedmont peach damage in spots. Wheat and other small grain looking better in improving weather, conditions fair to good. Isolated patches of wheat yellowed due to environmental problems. Coastal tomatoes virtually planted or replanted, 90% compared to year ago 82. Tomato, cucumber and melon conditions fair. Watermelons 55% planted, 22 year ago, 51 average.

SOUTH DAKOTA: Warm weather throughout week. Average temperatures 5 to 9° above normal. Extremes: 87 and 15°. Precipitation heaviest central and east. Very little in west.

Fieldwork was halted by heavy rains early in week but was going again by weekend. Topsoil moisture adequate in east except for small strip in southeast which is short. West is critical except for strip in southwest and west central which is short. Subsoil moisture supplies short in most parts. Critical northwest and portions of most other districts. Winter wheat and rye good condition. Some greening. Little winter-kill. Livestock good condition. Ranges and pastures poor. Stock water supplies low. Feed supplies adequate east, short west. Calving 36%

completed; lambing 59%. Oats seeded 17%, 1980 1%, average 4%. Barley seeded 14%, 1980 1%, average 3%. Spring wheat 27%, 1980 2%, average 6%.

TENNESSEE: Two cold fronts moved through at the beginning and end of the week bringing significant amounts of rainfall. Temperatures were from 8 to 12° above normal. Rainfall amounts averaged more than 1.00 in. while many areas received more than 2.00 in. across the State.

Fieldwork: 4.4 days suitable. Soil moisture short to adequate. Spring plowing 70% complete, 1980 40%, average 49%. Tobacco plantbeds 94% seeded, 1980 69%, average 82%. Pastures 12% poor, 80% fair, 8% good. Wheat and oats fair to good. Early corn planting has begun. Fruit trees in bloom. Cattle in good condition, not yet on pasture.

TEXAS: Weather: Two Pacific cold fronts move across Texas; first generated showers southeast Texas 28th; vigorous front scattered thunderstorms north, central Texas 1st. Week windy. Temperatures 2 to 8° above normal. Rainfall 0.10 to 0.50 in. below normal.

Commercial vegetables: Rio Grande Valley, watermelons, potatoes, cabbage making steady progress. Harvest of carrots continued. Onion harvest picked up. Harvest of grapefruit, Valencia oranges continued. South Texas plantings of watermelons, cantaloups, tomatoes gained momentum. Coastal Bend cucumber planting active. Watermelons showing good progress. San Antonio-Winter Garden area, harvest of carrots continued. Planting of watermelons, cantaloups active. East Texas planting of tomatoes, watermelons picked up, sweetpotatoes planting resumed. North Texas, potatoes, onions making excellent progress. High Plains, onion, potato planting active. Pecan trees beginning to tassel South Texas, North Texas beginning to bud. Peach trees bloomed throughout State.

Range and livestock: Range, pastures showed improvement during week. Grasses, weeds providing good grazing. Livestock in good to excellent condition. Calf, lamb losses at minimum.

Crops: Warm temperatures improving crop conditions, cool night temperatures scattered southern area slowed development spring planted crops. Some replanting necessary. High winds across State, surface drying problem where moisture supply short. Cotton planting Blacklands. Some replanting necessary South Texas fields weather, insect damage. Preplant irrigation southern High Plains; land preparation slowed blowing sand. Sorghum planting Low Plains. Rapid progress Central Texas southward. Some replanting necessary South Central Texas insect herbicide damage. Corn planting rapid progress; some fields seeded High Plains. Small grain fields steady progress, warm temperatures. Short moisture supplies problem dryland wheat High Plains; yields expected low. Some wheat, oat fields Blacklands southward heat out. Control measure greenbug infestations Cross-Timbers, Low Plains. Reported wheat condition Statewide is 11% excellent; 43% good; 36% fair; and 10% poor. Peanut planting underway South Texas moisture conditions favorable; cool soils spotty development. Limited flooding underway rice fields. Short supply irrigation water problem some areas. Sugarbeet planting rapid progress High Plains. Cotton planted 12%, 10% 1980, 10% average. Rice planted 66%, 37% 1980, 43% average. Rice emerged 6%, 12% 1980. Sorghum planted 65%, 37% 1980, 48% average. Corn planted 43%, 38% 1980, 31% average. Peanuts planted 2%, 1% 1980, 6% average. Sugarbeets planted 45%, 41% 1980, 48% average.

UTAH: Recurring periods of moisture reported over much of the region. Rain was predominant at low elevations early in week with a change to snow at all elevations during the latter part of the

week. Average temperatures ranged between 5° below and 4° above normal.

Soil moisture shows slight improvement. Land preparation in progress in most areas. Fruit tree pruning and dormant spraying completed. Early trees in full bloom. Recent moisture improved range feed and pasture prospects. Livestock on western ranges in good condition.

VIRGINIA: Temperatures averaged 6° above normal. Extremes: low 21° at Wytheville, high 88° at Richmond. Widespread showers mid and late week averaged 0.60 in., heaviest at Washington National: 1.59 in.

Soil moisture rated short to adequate, but improving. Fieldwork: 4.8 days suitable. Corn seeding active, 5% planted, 2% last year. Apple and peach prospects excellent. Early peaches blooming. Pasture fair, wheat excellent. Tobacco plant beds: 88% seeded, excellent condition. Liming, fertilizing, land preparation active. Planting gardens. Supplemental feeding for livestock continues. Applying herbicides to small grains. Cattle markets active.

WASHINGTON: West: Temperatures averaged near normal for most of the region. Precipitation averaged much above normal for most of the region. (Continued on page 24--see State)

International Weather and Crop Summary

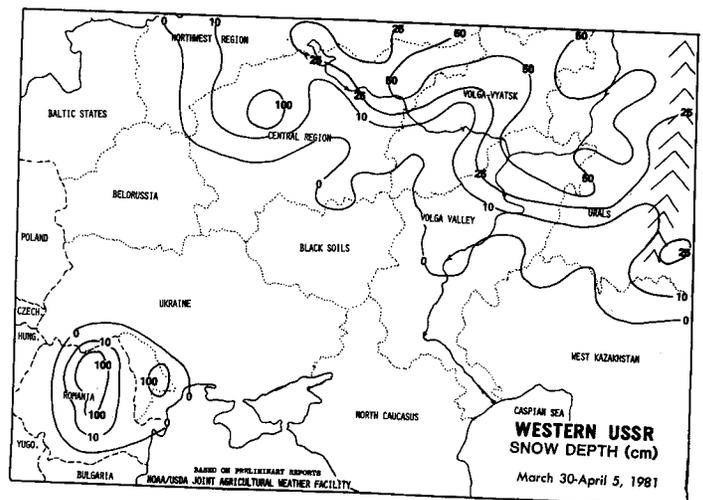
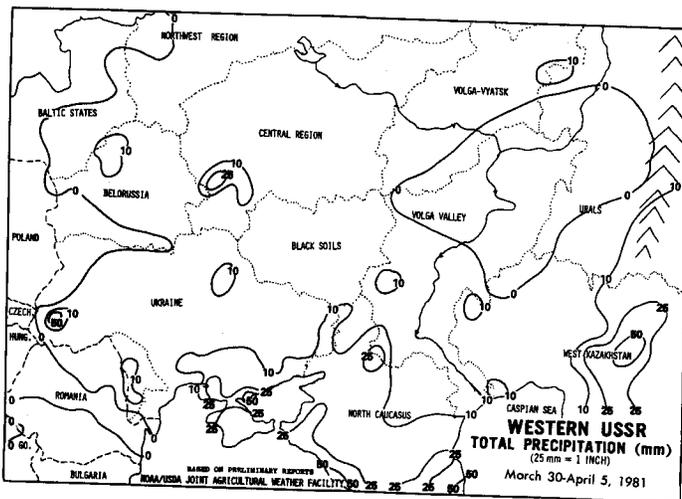
MARCH 30 - APRIL 5, 1981

HIGHLIGHTS

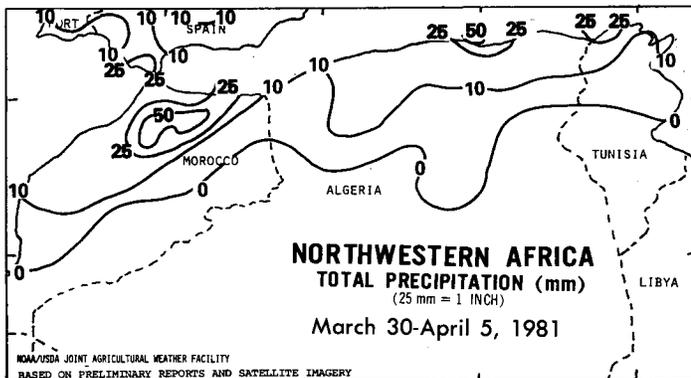
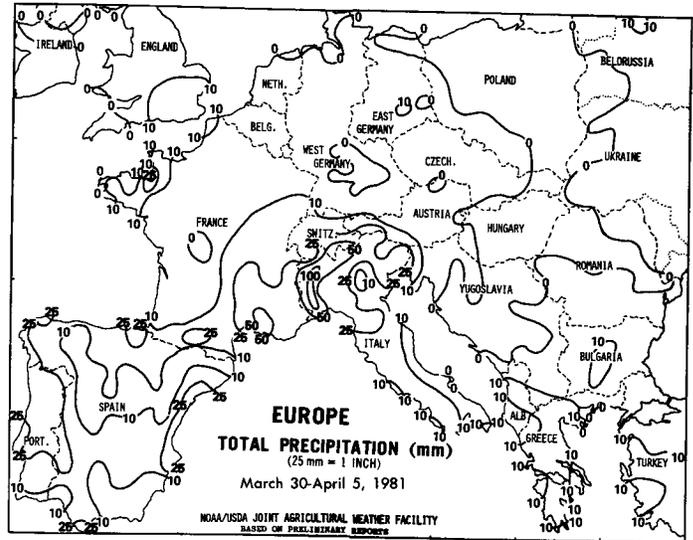
- WESTERN USSR:** Freezing temperatures brought winter grain growth to an abrupt halt, and may have caused some superficial burning of foliage. Only the North Caucasus and the south-eastern Ukraine received above-normal rainfall.
- EUROPE:** Moderate rainfall benefited winter grains in northern portions of Portugal, Spain, and Italy. Warm and dry weather favored crop development in most of the North and East.
- NORTHWESTERN AFRICA:** Moderate rainfall across the region maintained favorable winter grain growing conditions in Tunisia and Algeria and prevented further yield losses in northern Morocco, but came too late to help crops in southern Morocco.
- SOUTH AFRICA:** Dry weather provided excellent conditions for maturing crops as the harvest season begins.
- SOUTH ASIA:** Only light rain occurred in wheat harvest areas of northern India and Pakistan. Above normal rains in Bangladesh and eastern India continued to benefit early rice.
- CHINA:** Continuing heavy rain in southern China created unfavorable conditions for newly sown crops.
- SOUTH AMERICA:** Rainfall was mostly light, except in Argentina where showers may have slowed harvest progress. The harvest season has begun in nearly all crop areas.
- MEXICO:** Sunny, warm weather aided crop development and field operations.

WESTERN USSR: High pressure dominated the region during most of the week, spreading cold air southward into the winter grain belt. Lowest temperatures of -7 to -8 Celsius in the eastern Ukraine and North Caucasus occurred on the 31st and the 1st. Conditions then gradually warmed, but winter grain growth had been brought to an abrupt halt. However, with soils being wet, and the cold not persisting, only superficial burning of wheat plants would be expected. This would set back plant development less than a week in the

localized area, compromising to some extent the benefits of the recent, warmer-than-normal weather. Late in the week, a low pressure system south of the Black Sea dumped above normal rainfall over the southeastern Ukraine and much of the North Caucasus. Precipitation over the rest of the winter grain belt remained relatively light. The snow line retreated a little further to the northeast, with nearly all winter grain areas snow free.

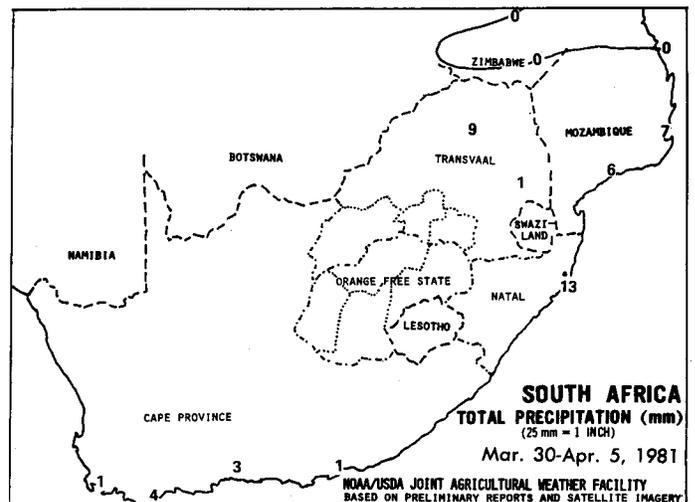


EUROPE: A low pressure system stalled over the Mediterranean, producing above normal rainfall in northern Italy. Generous rains also continued across much of the Iberian Peninsula. Winter grain production in drought-stricken southern portions of Spain and Portugal may not have benefited much from the moisture. Crops in these areas which did manage to germinate last fall were so far along in their development that the moisture probably only prevented further yield losses. The moisture was of more benefit in northern portions of Portugal, Spain, and Italy. With crops not yet in the heading stage, some improvement in potential yields is likely due to the rainfall. Most other parts of Europe had beneficially dry weather during the week. Winter grain growth continued in all countries, as temperatures held above normal in the north and dipped only slightly below normal in the south.

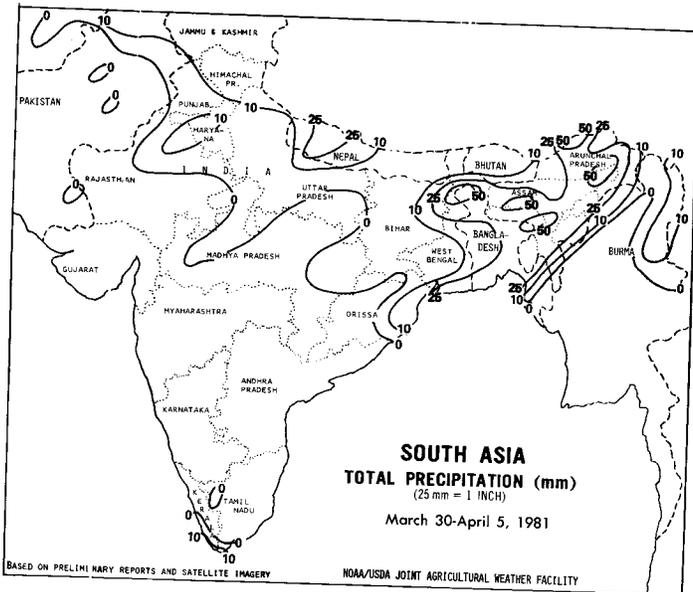
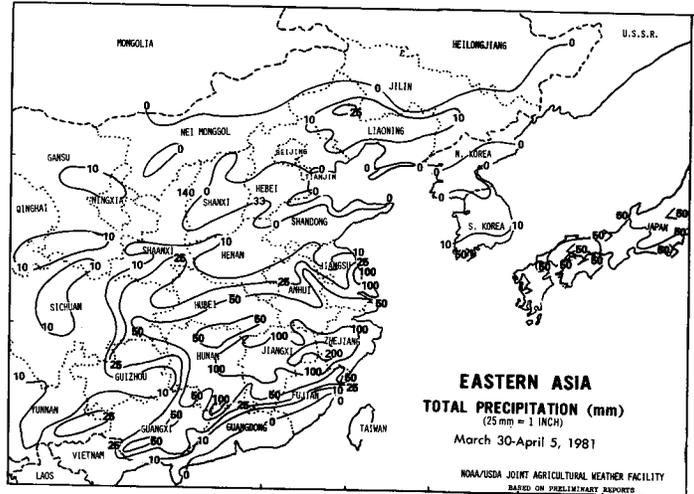


NORTHWESTERN AFRICA: Moderate rainfall in most crop areas across the region had mixed impacts on winter grains. The moisture improved growing conditions in northern Morocco, but irreversible yield losses had already occurred. These rains should assure that further losses do not occur. The moisture came too late for winter grains in the south. Crop areas in Algeria and Tunisia had adequate moisture due to persistent rains early in the week, and yield prospects remain favorable.

SOUTH AFRICA: Mild, dry weather prevailed throughout South Africa's corn producing region during the week. Virtually no measurable rain was reported anywhere in the country. The corn crop should be in the late grain filling period or maturing. Early corn harvesting should make rapid progress with nearly ideal weather as the ITCZ (Intertropical Convergence Zone) has retreated toward the equator in its northward seasonal migration. During the 1980/81 growing season, crops benefited from timely moisture and favorable temperatures at key stages of crop development which, in turn, raised prospects for excellent crop yields.

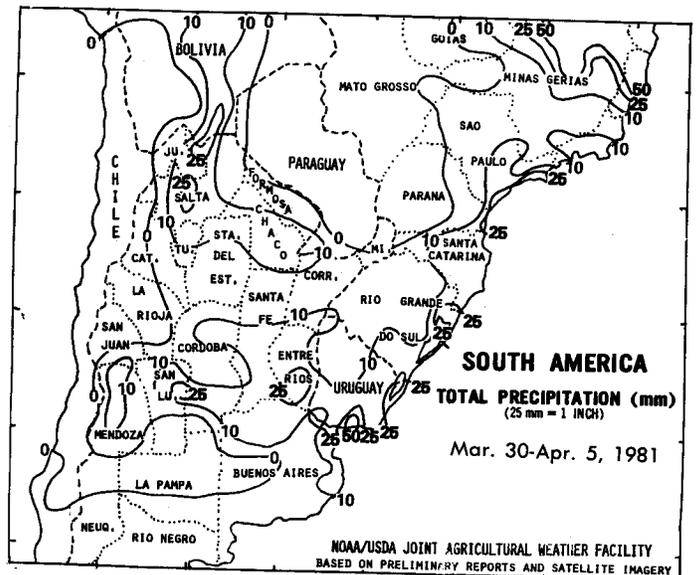


EASTERN ASIA: Most winter grain areas received only light rainfall, but dryness posed somewhat of a threat only in parts of Hebei. Moisture conditions remained favorable over most of the crop area, with temperatures holding near normal. Above normal rainfall in southern portions of the belt kept winter grains beneficially moist. Excessively wet weather continued just to the south of the Yangtze River. Temperatures were near normal during the week, but more than twice normal rainfall since early March has created unfavorable conditions for newly sown crops. This onset of heavy rains has occurred even earlier than last year, when wet conditions were also a problem in this area. Drier weather returned to southern coastal provinces. Warm temperatures and abundant moisture from earlier rains provided good growing conditions for early rice. In South Korea, light rain and warmer weather favored growth of winter grains. Beneficial above normal rainfall occurred along the southern coast.



SOUTH ASIA: Above normal rainfall continued across portions of Bangladesh, northern India, and northern Pakistan. Most areas of India where active winter grain harvesting should have been in progress received only light rainfall. Winter grains in foothill areas of the western Himalayas were still immature enough to benefit from above normal rainfall. Continued wet weather in Bangladesh and Eastern India maintained good growing conditions for early rice. Dry weather returned to nearly all of peninsular India.

SOUTH AMERICA: In Brazil, significant rainfall (10-25 mm) was confined mostly to coastal areas, east of major crop-producing regions, and extreme northern portions of Minas Gerais. Dry weather prevailed elsewhere, except for about 5 mm of rain in Rio Grande do Sul. The soybean harvest is over 50 percent complete in many northern and western crop areas while, in the major producing state of Rio Grande do Sul, significant harvesting has just begun. Continued dryness in southern portions may have some impact on local yields; but, prospects remain highly favorable for Brazil's overall crop yields. In Argentina, weekly rainfall totals of 10-25 mm may have slowed harvest activities somewhat for corn, sorghum and soybeans; but, as in Brazil, conditions remain favorable for an excellent crop year. Harvesting has commenced in all crop areas of Cordoba, Santa Fe, and northern Buenos Aires.



(Continued on page 24--see International)

WEATHER PATTERNS CAUSE DRYNESS IN SPAIN AND NORTHERN ITALY

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Extreme dryness developed over the Iberian Peninsula and Po Valley of northern Italy during the winter of 1980-81, greatly diminishing winter grain prospects. The accompanying figures illustrate the cumulative precipitation from November 1 through March 29 at Madrid, Spain, and Milan, Italy. These stations' precipitation records are fairly typical of the agricultural regions in which they are located.

Spain has a predominantly Mediterranean-type climate, with most of its rain normally falling in winter. September and October are usually quite dry, but in 1980 these months were even drier than average. However, normal to above-normal rainfall occurred during the first half of November over most of the agricultural regions. Thereafter, little significant precipitation occurred until the week of February 9-15, when about 40 millimeters were reported at Madrid. Another 23 millimeters were recorded during the week of March 23-29,* but this amount still left Madrid (and most of the region) with only about half the seasonal amount of total precipitation for the 5-month period.

Autumn rains were sufficient to allow winter grain sowing in some parts of Spain, but only spotty germination occurred in other areas. Winter grain yield prospects are worst in the south (Andalusia), but reductions are expected in northern crop areas as well. Moreover, reservoir water supplies for spring-planted crops have not been replenished.

The situation for the Po Valley, as illustrated by the precipitation record for Milan, is somewhat different. Here the dryness did not begin until late December, then was unbroken until early March. Even the rainfall observed between March 8 and 29 was, however, below average. The result is that, as of March 29,* the region had, like much of Spain, received only about half the rainfall usually occurring between early November and late March.

Growing conditions have been less unfavorable in the eastern part of the Po Valley than in the western part (around Milan). Irreversible yield losses have occurred in the west. Precipitation has also been deficient on the southerly slopes of the Alps, resulting in low irrigation water supplies.

The synoptic weather maps for November 1980 - March 1981 reveal that the same climatic regime which brought dryness to Spain also caused the dryness in northern Italy (through a different mechanism). Cyclones (low pressure systems) of Atlantic origin, forming far to the west of Iberia, constitute approximately 54% of the disturbances causing rainfall over Spain in winter (Escardo, 1970). These cyclones were not altogether absent during the period November 1980 - March 1981, but they appear to have been weaker than in "normal" years. On the other hand, cyclo-

genesis (formation or deepening of low-pressure systems) along the associated weak fronts over the Mediterranean area were rather frequent. In a "normal" year, however, such cyclogenesis occurs mostly west of 10° East longitude (Cantu, 1977), providing some rain to Spain but also, with southerly winds bringing moisture from the sea, conditions favorable for rainfall in the Po Valley of Italy.

During the period under study here, 11 of the 14 cases of cyclogenesis observed occurred east of 10° East longitude. Consequently, the resulting cyclones were too far east to provide much rain for Iberia; and, being situated so far east, gave northerly or northeasterly winds to northern Italy, resulting in drying foehn winds blowing down from the Alps onto the agricultural regions of the Po Valley.

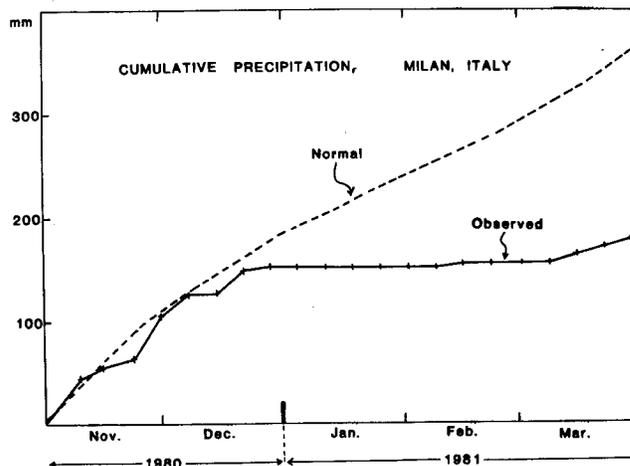
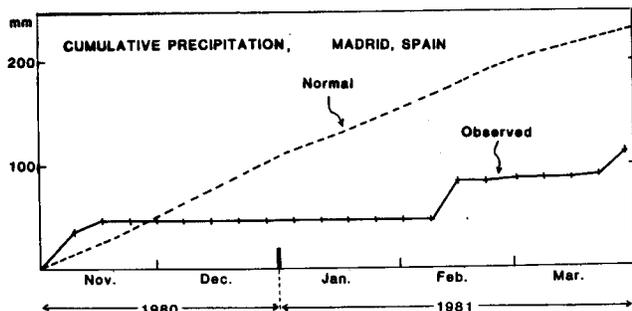
The eastward displacement of cyclogenesis over the Mediterranean during the past winter season also explains the distribution of rainfall in the southern portion of the Mediterranean Basin. Morocco, for example, experienced a very dry season -- so dry that approximately 80% of the Moroccan winter grain crop has been lost. Again, this situation was due to the fact that storms tended to form too far to the east to affect Morocco. On the other hand, the coasts of Algeria and Tunisia experienced nearly normal rainfall -- due to the winds blowing counterclockwise around the eastern Mediterranean cyclones, bringing moist unstable air from the sea onto the coast from the north.

The storm track which resulted from the pattern of cyclogenesis sketched here -- storms forming in the eastern Mediterranean and moving northeastward -- also accounts for the abnormal wetness during the period over southern Italy, the Balkan Peninsula, and the southern part of European USSR.

References

Cantu, V., "The Climate of Italy," *Climates of Central and Southern Europe*, Elsevier Publishing Co., Amsterdam-Oxford-New York, 1977.
Escardo, A., "The Climate of the Iberian Peninsula," *Climates of Northern and Western Europe*, Elsevier Publishing Co., Amsterdam-London-New York, 1970.

*See discussion of Europe on page 21 of this Bulletin for developments since March 29.



FIRST CLASS MAIL



State (Continued from page 20)

Prior to the rain, activities included transplanting of lettuce, pasture seeding and fertilizing of winter wheat. Some seed beets and spinach also planted. Berry crops looked good. Early lettuce seedlings up and seed cabbage started to bolt. Daffodil harvest near completion while tulip harvest just started. Dairymen cleaning manure pits, when weather permitted.

East: Temperatures from 3° above normal in the Okanogan to 2° below in the Central Basin and the Palouse-Blue Mountains. Precipitation averaged near normal except for the Palouse-Blue Mountains which was much above. Wind and cold temperatures hindered fruit pollination and the early spraying for insect and disease control. Frost protection necessary in all areas of the Yakima Valley. Vineyard pruning about complete; some bud swelling evident. Fieldwork in full swing throughout the region except the southeast, which experienced excessive amounts of rain. Preparation for spring seeding continued. Hay fields being worked. Concern continued about foot rot and striped rust, with reports of powdery mildew surfacing in winter wheat. Asparagus suffered major injury to early spears, delaying harvest 2 weeks. There is concern of a potential spring freeze to grain crops. Soil moisture in the dryland areas ranges from fair to good, while hay supplies remained adequate throughout eastern areas.

WEST VIRGINIA: Temperatures averaged 14° above normal. Extremes: 85 and 18°. Precipitation near normal in central, southern and southwest sections, below normal elsewhere.

Soil moisture adequate to short. Days suitable for fieldwork; 4.5. Main activities: Plowing, preparing seed beds. Hay, grain and other feed supplies adequate.

WISCONSIN: Temperatures averaged 10° above norms during a week of weather extremes. Record highs in 80's 31st, dropped to 50's 1st, back to 80 2nd and in 40's and 50's 4th, 5th. Lows ranged from 20's to 50's. Extremes: 82 and 18. Precipitation heavy north half where up to 3.00 in. rain fell, less than 1.00 in. southeast. Rain changed to snow north, with 4 to 8 in. Lake Superior snowbel Severe storms evening 3rd produced most of week's rainfall. Tornado at West Bend killed 3 people and destroyed considerable property.

Crop season underway southern half where some oats planted in March. Fieldwork: 3.0 days suitable. Oats 13% planted, 1980 less than 1%, average 1%. A little spring wheat and barley seeded. Fall plowed ground works up well. Spring plowing 7% done, 1980 less than 1%, average 2%. Frost in ground yet except southern areas. Winter

wheat and hay fields greening. Tobacco growers preparing and steaming beds. Bud swelling on fruit trees. Maple sap flow near end, good run except northwest. Feed and bedding supplies mostly adequate. Soil moisture short to adequate south, adequate to surplus north.

WYOMING: Weather continued unseasonably warm. All areas above normal temperatures. Majority of stations reported above normal precipitation. Highest temperature 75° in Lower Platte Drainage. Lowest temperature 15° in Green and Bear Drainage and Belle Fourche Drainages.

Topsoil moisture adequate 51% of State. Subsoil moisture short 67%. Average 4 days suitable for fieldwork. Acreage planted: Spring wheat 15%; oats 15%; sugarbeets 10%; barley 45%. Winter wheat mostly good; little wind damage. Spring calves born, 46%. Range ewes lambing 35%. Farm flock ewes lambing 60%. Sheep shorn: Range 40%; farm flock 65%. Spring grazing prospects mostly fair. Feed supplies mostly adequate.

International (Continued from page 22)

MEXICO: Abundant sunshine and seasonal warmth favored field activities and kept young crops progressing well. The dry pattern is aiding late planting of corn and cotton in the higher elevations. Winter wheat should generally be heading in the northwest, and some of the earliest fields will soon be ready for harvest. Irrigation water supplies are generally near normal over most of the country; however, dryness is slowly increasing over non-irrigated districts of the northeastern citrus and southern Plateau corn belts and causing some concern.

