

# WEEKLY WEATHER AND CROP BULLETIN

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

U.S. DEPARTMENT OF AGRICULTURE  
National Agricultural Statistics Service and World Agricultural Outlook Board

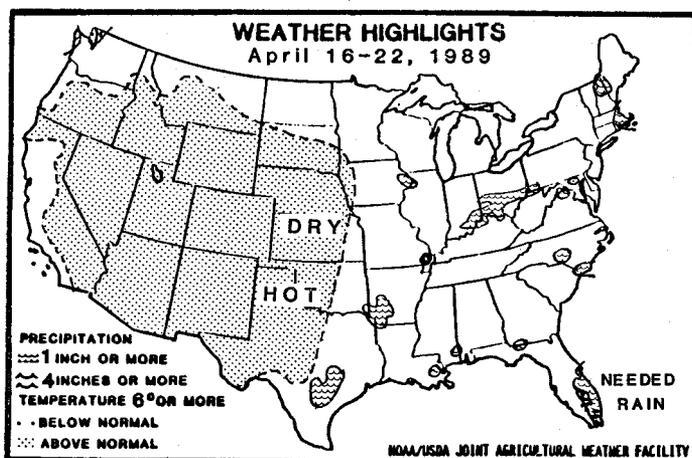
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## National Weather Summary

April 16-22, 1989



**WEDNESDAY:** The cold front pressed southward toward the Gulf of Mexico and triggered scattered showers and thunderstorms from southern Texas to the Carolinas. Showers and a few thunderstorms were scattered across the Northwest and northern Rockies. The southwest remained hot, while the remainder of the Nation enjoyed pleasant spring weather.

**THURSDAY:** Scattered thunderstorms intensified over the southern Plains, while rain showers developed in the western Corn Belt. Showers and thunderstorms were also scattered down the Southern Atlantic Coast and a Pacific front spread rain into the Northwest. Clear skies and light winds allowed for cool weather across the Northeast. Unseasonable warm air prevailed over the Southwest as a number of record-high temperatures for the date were again broken.

**FRIDAY:** Warm and dry weather covered the Southwestern and Central States as an unfavorable high pressure ridge in the upper atmosphere prevented any Pacific frontal systems from moving inland into the Rockies and Plains. Widespread light rain continued across the Northwest, while only scattered showers fell in the upper Mississippi Valley, lower Great Lakes, northern New England, and southern Florida.

**SATURDAY:** Record setting heat continued to bake the central portions of the country due to a large upper air high pressure area. This was the hottest day ever to occur this early in the season at Rapid City, SD, where the temperature hit 93 degrees. Rain showers reached along the northern Pacific coast and into the Intermountain Plateau. Showers and thunderstorms brought much needed rain across eastern Iowa and into Illinois during the evening. Thunderstorms caused heavy rain into Sunday morning.

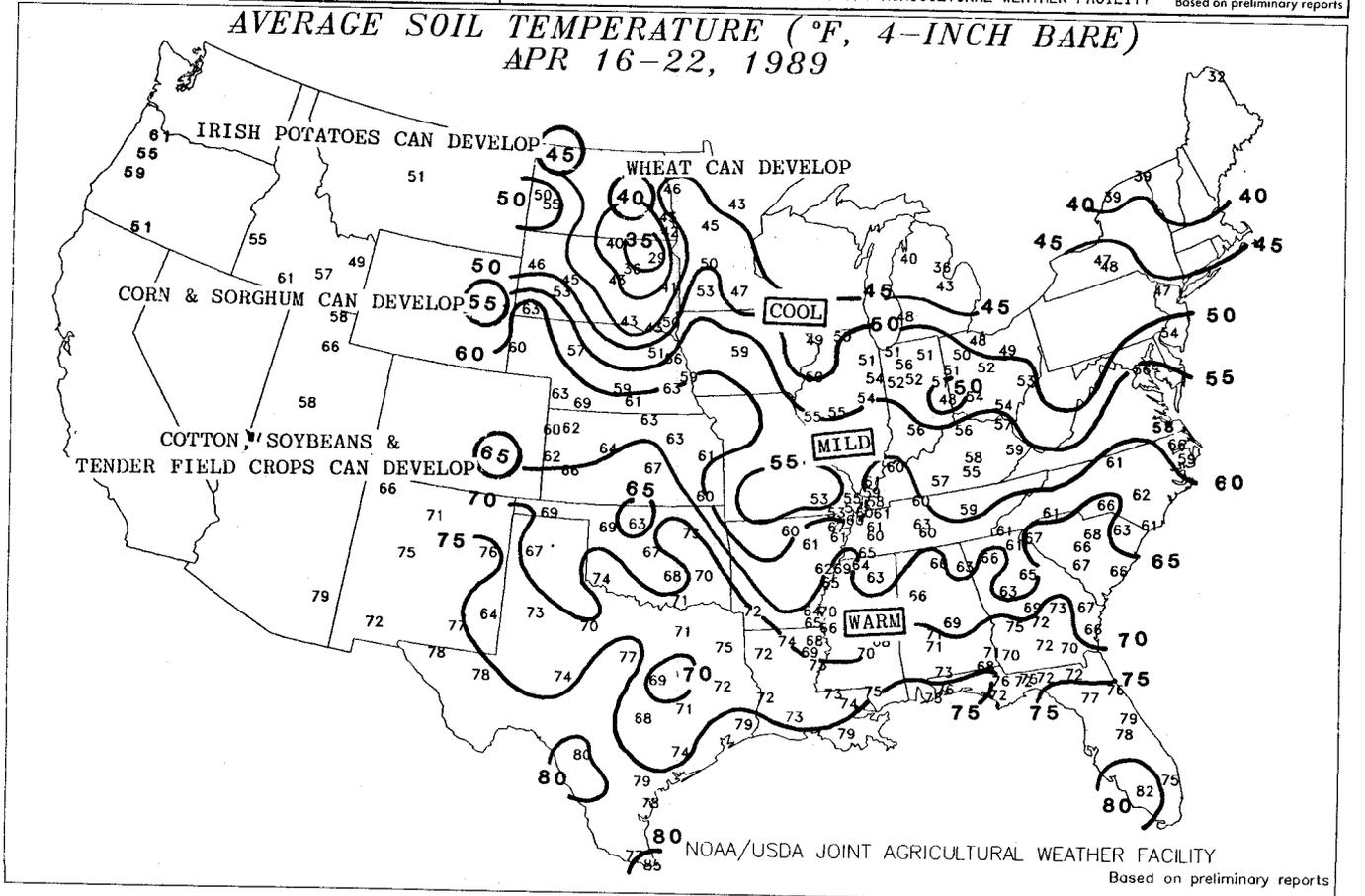
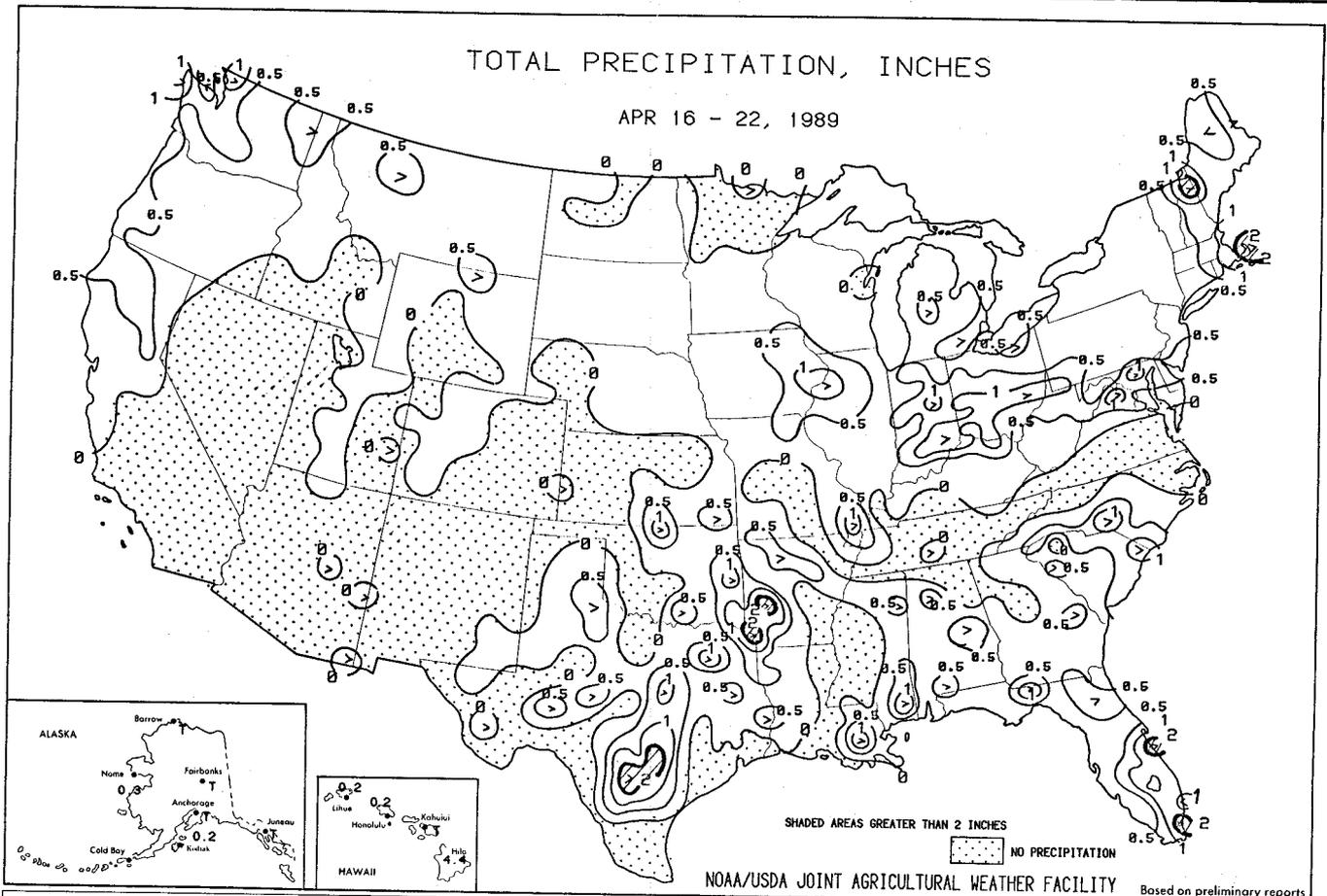
**HIGHLIGHTS:** The unseasonable hot weather in the West spread into the central portions of the Nation toward the end of the week. Showers and thunderstorms brought scattered rain across the southern Plains, Gulf and Atlantic Coast States, eastern Corn Belt, and Pacific Northwest. Dry conditions again prevailed in the northern and central Plains and western Corn Belt, although beneficial rains fell over eastern Iowa and northwestern Illinois at week's end.

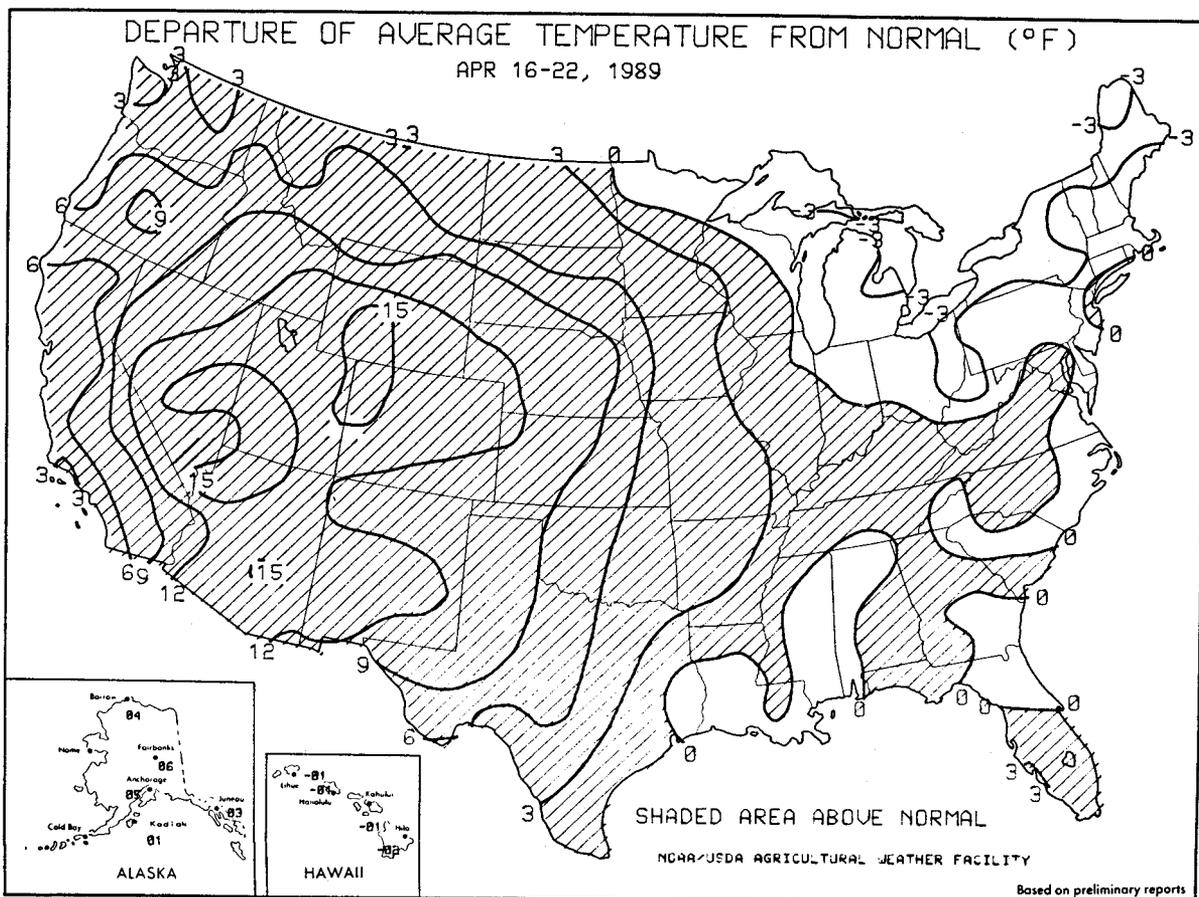
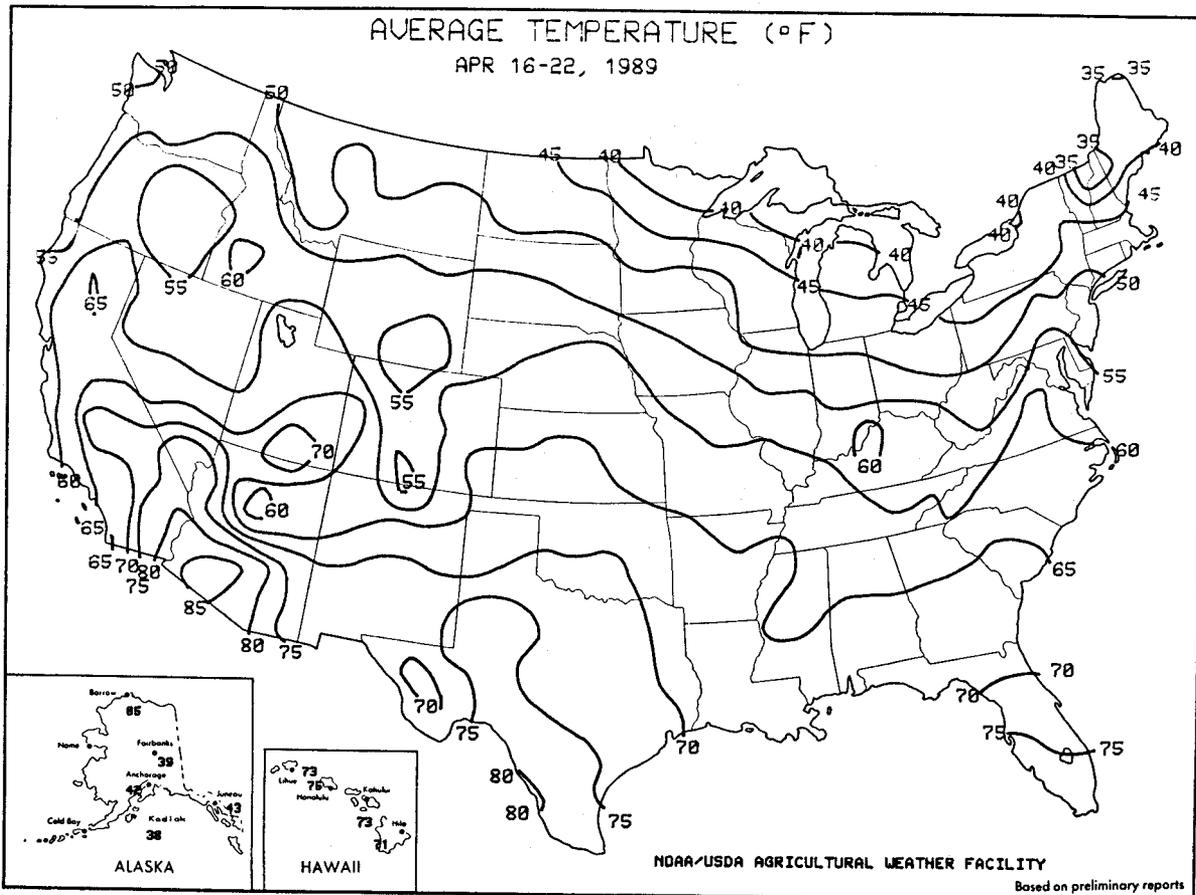
**SUNDAY:** A cold front pushed south across the North Central States and triggered showers and thunderstorms. Cold air moved south out of Canada behind the front and caused a dramatic drop in temperatures over the northern Plains. A low pressure system off the Atlantic coast produced rain and drizzle over New England. Warm and breezy weather prevailed in the central and southern Plains.

**MONDAY:** The cold front swept southeastward, causing showers across the Great Lakes and Corn Belt and into the central Plains. The temperature dropped from 60 to 48 degrees in 1 hour as the front passed through Chicago, IL. Scattered thunderstorms brought locally heavy rain to southern Florida. Dry and warm weather dominated the Eastern, Southern, and Western States.

**TUESDAY:** The front extended from New England to the southern Plains and separated warm weather over the Middle Atlantic States and Southeast from the cool air over the North Central States. The contrast was especially noticeable across Indiana where snow was falling at South Bend with a temperature of 34, while Evansville had a temperature of 73. Thunderstorms developed along and ahead of the front from central Texas, across the Ohio Valley, and to the mid-Atlantic Coast.

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# National Weather Data for Selected Cities

Weather Data for the Week Ending April 22, 1989

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 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	79	48	84	41	64	0	.1	-1.0	.1	9.5	91	17.7	87	94	34	0	0	1	0
MOBILE	82	56	86	50	69	0	.2	-1.1	.2	7.9	73	11.2	56	99	42	0	0	1	0
MONTGOMERY	81	52	84	44	66	0	.5	-1.1	.5	14.5	157	19.4	108	99	37	0	0	1	1
AK ANCHORAGE	48	35	52	31	42	5	T	-1.1	T	.3	23	.7	25	78	45	0	2	0	0
BARROW	12	-2	18	-8	5	4	T	-1.1	T	.6	200	.9	131	87	76	0	7	0	0
FAIRBANKS	48	31	50	26	39	6	T	0	T	.2	33	1.7	108	79	36	0	5	5	0
JUNEAU	51	34	57	29	43	3	.1	-1.6	0	1.8	34	8.7	68	99	58	0	3	3	0
KODIAK	45	32	55	28	39	1	.2	-1.7	.1	5.0	76	8.9	52	92	60	0	3	3	0
NOME	33	25	36	18	29	10	.3	-1.2	.2	1.7	172	4.6	205	98	80	0	0	0	0
AZ PHOENIX	100	70	106	67	85	16	0	0	0	1.1	108	2.3	100	28	8	7	7	5	0
PRESCOTT	83	48	86	43	66	15	0	-1.2	0	.6	27	2.2	42	38	10	0	0	0	0
TUCSON	99	61	104	56	80	14	0	-1.1	0	.6	87	1.8	77	27	6	7	0	0	0
YUMA	99	68	104	66	84	12	0	0	0	.1	54	.7	86	35	12	7	0	0	0
AR FORT SMITH	84	51	92	46	68	5	.1	-1.3	.1	6.5	94	16.5	147	94	35	1	0	1	0
LITTLE ROCK	79	55	88	49	67	4	T	-1.3	T	9.0	106	20.8	128	66	38	0	0	0	0
CA BAKERSFIELD	85	56	90	52	71	4	T	-1.3	T	.9	61	1.8	53	80	31	1	0	0	0
EUREKA	63	50	69	46	57	7	0	-1.2	0	.9	61	1.8	53	80	31	1	0	0	0
FRESNO	82	56	87	47	69	8	.6	0	.2	8.7	118	16.3	84	91	70	0	0	3	0
LOS ANGELES	68	57	70	53	63	3	0	-1.3	0	2.3	90	3.9	61	85	32	0	0	0	0
REDDING	76	53	83	41	64	3	.7	-1.1	.7	.9	35	3.2	40	90	63	0	0	1	0
SACRAMENTO	75	50	83	43	63	4	.1	-1.2	.1	12.0	166	15.2	69	92	39	0	0	1	1
SAN DIEGO	69	61	71	60	65	4	0	-1.2	0	6.4	208	8.4	84	95	43	0	0	1	0
SAN FRANCISCO	68	51	74	49	60	4	.2	-1.1	.2	4.2	109	1.8	29	83	61	0	0	0	0
CO DENVER	80	46	89	37	63	14	T	-1.4	T	1.1	45	2.9	81	63	18	0	0	0	0
GRAND JUNCTION	82	53	85	48	68	15	T	-1.2	T	1.1	45	2.9	81	63	18	0	0	0	0
PUEBLO	83	44	93	35	63	11	0	-1.3	0	.7	56	3.0	126	41	12	0	0	0	0
CT BRIDGEPORT	61	41	70	39	51	1	0	-1.3	0	.3	21	1.4	75	52	14	2	0	0	0
HARTFORD	60	36	72	30	48	-2	0	-1.9	0	4.2	63	8.1	62	64	33	0	0	0	0
DC WASHINGTON	70	48	80	43	59	1	.4	-1.5	.4	6.0	84	8.7	63	79	30	0	2	3	0
FL APALACHICOLA	79	61	83	58	70	1	.8	.2	.5	6.8	122	12.1	111	83	33	0	0	2	1
DAYTONA BEACH	79	60	87	56	70	1	T	-1.7	T	6.5	100	9.7	71	98	58	0	0	1	0
JACKSONVILLE	81	57	87	52	69	-1	.4	-1.2	.4	3.1	68	10.6	105	97	52	0	0	1	0
KEY WEST	84	72	88	68	78	0	.3	-1.4	.3	4.6	82	8.1	67	95	44	0	0	1	0
MIAMI	85	70	88	64	77	2	1.0	1.0	1.0	2.4	110	3.2	54	89	57	0	0	3	1
ORLANDO	82	63	86	59	73	0	.9	.1	.5	2.1	52	3.4	43	92	50	0	0	3	1
TALLAHASSEE	82	54	86	49	68	0	1.8	.9	1.8	2.4	48	6.3	62	98	48	0	0	1	0
TAMPA	85	64	88	56	75	2	.1	-1.3	.1	7.9	91	11.2	62	97	42	0	0	1	1
WEST PALM BEACH	83	67	87	61	75	1	.1	-1.3	.1	1.9	41	3.9	39	94	44	0	0	2	0
GA ATLANTA	78	54	84	48	66	3	1.9	1.1	.7	8.4	175	10.4	103	96	55	0	0	4	3
AUGUSTA	79	51	88	46	65	1	0	-1.0	0	8.3	90	15.2	82	81	33	0	0	0	0
MACON	80	52	87	44	66	0	.4	-1.4	.4	8.6	117	13.3	87	98	39	0	0	1	0
SAVANNAH	79	54	86	51	67	0	0	-1.8	0	10.4	133	16.8	102	96	38	0	0	0	0
HI HILO	76	65	79	63	71	-2	.1	-1.7	.1	5.0	81	6.1	49	96	42	0	0	1	0
HONOLULU	82	67	85	62	75	-1	4.4	1.4	2.5	23.9	102	57.9	125	93	63	0	0	7	2
KAHULUI	79	67	82	65	73	-1	.2	-1.1	.2	3.8	81	12.3	111	72	47	0	0	1	0
LIHUE	77	69	79	67	73	-1	T	-1.2	T	16.2	445	23.1	219	80	53	0	0	0	0
ID BOISE	75	47	83	36	61	12	.2	-1.6	.2	10.0	143	28.4	168	80	61	0	0	1	0
LEWISTON	70	49	79	44	59	8	T	-1.3	T	3.7	197	6.0	131	74	25	0	0	0	0
POCATELLO	73	43	82	37	58	12	.2	-1.1	.2	1.9	105	3.7	90	70	34	0	0	1	0
IL CHICAGO	61	38	73	30	50	0	T	-1.3	T	3.1	180	5.1	140	71	23	0	0	1	0
MOLINE	65	41	79	31	53	1	.2	-1.7	.1	2.2	39	3.7	45	83	43	0	1	2	0
PEORIA	67	40	79	29	53	1	1.2	.2	.8	3.4	62	5.9	69	83	45	0	1	5	1
QUINCY	70	45	81	36	58	3	.7	-1.2	.5	3.8	67	5.9	69	88	44	0	0	1	3
ROCKFORD	61	38	69	30	50	0	.2	-1.8	.2	2.6	43	3.9	44	87	40	0	0	1	1
SPRINGFIELD	68	44	76	32	56	0	.4	-1.6	.2	2.9	51	4.3	53	88	42	0	1	3	0
IN EVANSVILLE	74	44	82	37	59	1	.5	-1.5	.4	4.4	73	6.5	70	84	47	0	1	2	0
FORT WAYNE	62	37	69	30	50	-1	.2	-1.7	.2	10.0	132	20.3	150	92	37	0	0	1	0
INDIANAPOLIS	66	41	73	33	54	0	.4	-1.4	.3	5.8	58	6.3	66	88	40	0	2	2	0
SOUTH BEND	61	37	72	29	49	-1	.4	-1.6	.6	6.5	104	9.6	85	88	43	0	0	2	0
IA DES MOINES	71	45	82	34	58	6	.2	-1.6	.2	4.0	66	6.7	64	81	38	0	2	3	0
SIoux CITY	74	43	90	30	59	7	.1	-1.4	.1	.9	20	3.3	50	76	32	0	0	1	0
WATERLOO	64	40	75	26	52	3	.8	0	.8	1.1	34	2.4	50	75	25	1	2	2	0
KS CONCORDIA	78	49	97	30	63	9	T	-1.5	T	2.2	47	3.6	55	80	37	0	1	3	1
DODGE CITY	83	51	100	39	67	11	.5	-1.4	.5	.6	18	1.7	35	77	29	2	1	0	0
GOODLAND	80	45	96	36	63	12	T	-1.4	T	1.3	48	1.8	50	80	23	3	0	0	0
TOPEKA	77	48	92	28	63	7	0	-1.3	0	1.1	60	1.4	58	70	20	2	0	0	0
WICHITA	78	50	89	37	64	7	T	-1.7	T	3.7	85	5.8	92	83	34	1	1	0	0
KY BOWLING GREEN	74	44	82	35	59	0	.1	-1.5	.1	2.6	69	3.8	72	85	37	0	0	1	0
LEXINGTON	69	43	77	35	56	0	T	-1.9	T	7.8	90	24.9	145	94	34	0	0	0	0
LOUISVILLE	73	46	80	39	60	2	.4	-1.5	.4	8.4	108	22.5	154	83	38	0	0	1	0
LA ALEXANDRIA	81	54	86	49	67	-1	.4	-1.5	.4	9.6	123	22.2	155	85	32	0	0	1	0
BATON ROUGE	84	56	87	51	70	1	.2	-1.2	.2	6.9	77	21.2	117	91	43	0	0	1	0
LAKE CHARLES	81	55	84	49	68	-1	T	-1.3	0	6.5	75	12.1	66	89	34	0	0	0	0
NEW ORLEANS	81	57	83	50	69	0	T	-1.9	T	6.8	118	12.0	87	97	46	0	0	1	0

Based on 1951-80 normals

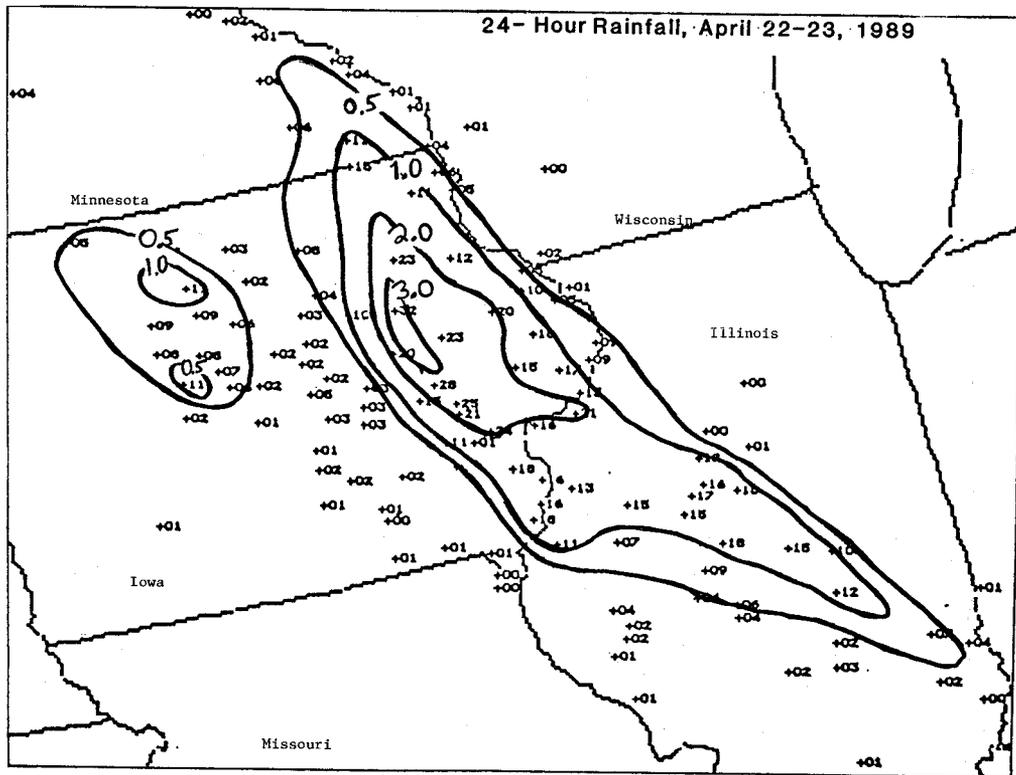
Weather Data for the Week Ending April 22, 1989

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 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	72 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	81	54	87	48	68	1	.2	-.9	.2	4.7	66	16.0	109	99	40	0	0	2	0
ME CARIBOU	43	29	52	23	36	-3	.6	-.3	.3	3.5	81	6.8	78	95	56	0	4	3	0
PORTLAND	51	34	63	28	42	-2	.8	-.1	.7	4.9	72	8.4	60	89	48	0	3	4	1
MD BALTIMORE	68	42	78	39	55	0	.9	-.1	.5	6.8	110	13.2	109	85	34	0	0	2	0
SALISBURY	67	42	80	36	55	-1	.4	-.4	.4	10.5	163	15.0	114	94	35	0	0	1	0
MA BOSTON	52	39	59	32	46	-4	1.1	-.2	1.0	6.0	88	9.2	63	86	46	0	0	1	0
CHATHAM	50	39	56	31	44	-2	2.2	1.3	2.1	9.6	139	14.8	96	87	73	0	1	1	1
MI ALPENA	53	26	69	20	39	-3	1.1	-.5	1.1	4.5	122	6.6	98	88	26	0	7	2	2
DETROIT	59	35	68	32	47	-2	.8	-.1	.7	4.3	88	6.3	76	89	40	0	3	3	1
FLINT	59	32	68	28	46	-2	.2	-.5	.1	3.5	82	5.4	73	83	33	0	5	3	0
GRAND RAPIDS	58	33	68	29	46	-2	.2	-.7	.1	4.1	79	6.1	70	92	35	0	4	4	0
HOUGHTON LAKE	55	30	64	21	43	-1	1.1	-.5	.1	3.9	104	5.6	85	71	30	0	4	1	0
LANSING	59	32	68	28	45	-2	.2	-.4	.1	3.4	75	5.2	70	89	34	0	5	3	0
MARQUETTE	48	25	55	19	37	-2	.2	-.7	.2	4.0	74	7.4	80	86	36	0	6	2	0
MUSKOGON	58	35	68	29	46	-1	.2	-.6	.1	2.5	51	5.1	58	84	33	0	4	3	0
SAULT ST. MARIE	48	26	57	20	37	-3	.3	-.2	.2	4.2	114	8.3	110	86	34	0	7	2	0
MN ALEXANDRIA	60	34	71	19	47	3	T	T	T	1.7	62	2.6	61	84	38	0	4	1	0
DULUTH	53	29	60	21	41	1	T	T	T	2.7	83	4.9	92	72	27	0	5	0	0
INT'L FALLS	50	26	62	13	38	-2	T	T	T	1.4	62	3.1	82	82	34	0	6	1	0
MINNEAPOLIS	64	39	73	30	51	4	.1	-.4	.1	2.8	89	4.3	90	73	29	0	3	3	0
ROCHESTER	61	39	72	26	50	4	.2	-.4	.2	2.6	74	3.4	68	82	37	0	2	1	0
MS GREENWOOD	80	49	88	42	64	-1	0	-1.3	0	6.5	62	20.2	101	93	34	0	0	0	0
JACKSON	82	49	88	42	65	-1	0	-1.3	0	6.2	64	13.1	69	95	34	0	0	0	0
MERIDIAN	81	48	84	42	65	-1	.2	-1.1	.2	12.0	112	19.1	94	98	35	0	0	1	0
MO CAPE GIRARDEAU	76	48	86	40	62	-1	.1	-.9	.1	7.0	85	20.9	147	92	38	0	0	1	0
COLUMBIA	73	45	87	36	59	2	T	T	T	4.7	76	7.6	77	82	40	0	0	0	0
KANSAS CITY	76	48	91	32	62	5	T	T	T	3.6	73	5.2	70	79	36	1	1	1	0
SAINT LOUIS	73	51	85	44	62	4	T	T	T	6.4	108	10.4	107	67	37	0	0	1	0
SPRINGFIELD	76	49	86	37	62	5	T	T	T	5.1	80	8.7	86	84	45	0	0	1	0
MT BILLINGS	68	38	84	23	53	7	.3	-.2	.2	3.0	129	4.9	121	71	30	0	3	4	0
GLASGOW	67	32	83	14	50	5	.1	-.1	.1	1.0	134	2.3	161	82	32	0	4	2	0
GREAT FALLS	68	36	82	20	52	8	.6	-.2	.5	2.2	116	4.3	121	80	30	0	2	4	0
HAVRE	64	32	78	15	48	3	.2	-.1	.1	.7	53	1.5	63	81	38	0	3	3	0
HELENA	68	34	83	24	51	7	.2	-.1	.2	1.6	113	3.8	152	81	30	0	3	1	0
KALISPELL	63	34	76	26	48	4	.1	-.1	.1	2.1	131	4.7	112	88	34	0	4	3	0
MILES CITY	66	37	83	24	52	5	.1	-.2	.1	1.6	105	2.9	108	64	30	0	3	3	0
MISSOULA	65	33	80	24	49	4	.5	-.2	.3	2.8	187	4.0	109	92	31	0	3	4	0
NE GHAND ISLAND	78	45	94	30	62	10	.1	-.6	.1	.5	14	1.8	39	74	24	2	1	1	0
LINCOLN	76	44	94	25	60	7	.1	-.6	.0	.3	7	2.2	40	80	30	2	2	2	0
NORFOLK	77	46	95	32	61	11	.1	-.4	.1	1.4	47	3.2	74	75	24	3	2	2	0
NORTH PLATTE	80	41	93	32	61	11	.1	-.4	.1	.5	21	1.8	55	80	20	3	1	1	0
OMAHA	74	47	96	32	61	7	.2	-.5	.2	.7	17	2.2	40	72	35	1	1	1	0
SCOTTSBLUFF	80	39	92	30	60	12	T	T	T	1.1	58	2.2	78	70	19	2	3	0	0
VALENTINE	77	39	96	27	58	11	.2	-.3	.1	.9	46	1.7	63	75	22	2	2	3	0
NV RLY	76	40	81	33	58	16	T	T	T	.6	39	1.6	53	51	15	0	0	0	0
LAS VEGAS	94	66	97	62	80	16	0	0	0	.1	9	.6	42	27	11	6	0	0	0
RENO	74	44	83	34	59	12	0	-.1	0	.5	44	1.5	46	59	16	0	0	0	0
WINNEMUCCA	76	36	83	29	56	10	0	-.2	0	1.0	80	1.9	68	63	15	0	1	0	0
NH CONCORD	56	31	68	24	43	-2	.7	-.1	.6	5.5	106	8.3	80	90	35	0	5	3	1
NJ ATLANTIC CITY	66	37	78	31	51	0	.5	-.2	.4	7.7	120	13.6	103	92	35	0	2	2	0
NM ALBUQUERQUE	85	52	89	49	69	13	T	T	T	.5	62	1.4	91	37	10	0	0	0	0
CLOVIS	86	52	95	46	69	11	0	-.2	0	.3	29	1.0	51	67	18	3	0	0	0
ROSWELL	92	55	99	50	74	12	T	T	T	.3	46	1.1	75	47	17	6	0	1	0
NY ALBANY	57	34	71	29	45	-3	.2	-.5	.2	5.2	101	7.2	75	85	32	0	4	1	0
BINGHAMTON	53	33	67	26	43	-3	.1	-.6	.1	5.3	103	8.8	88	77	32	0	3	2	0
BUFFALO	52	33	65	29	43	-4	.4	-.4	.4	4.9	95	9.3	88	90	37	0	3	1	0
NEW YORK	62	46	72	38	54	1	.3	-.6	.2	6.8	100	12.2	94	69	31	0	0	3	0
ROCHESTER	54	31	67	27	43	-5	.2	-.4	.2	5.0	113	7.7	85	91	34	0	5	1	0
SYRACUSE	56	32	73	27	44	-4	.1	-.7	.1	4.5	82	7.3	68	91	34	0	4	1	0
NC ASHEVILLE	73	42	80	36	58	3	T	T	T	4.9	66	11.2	81	90	35	0	0	1	0
CHARLOTTE	77	52	85	48	64	3	.2	-.5	.2	7.3	101	13.6	92	89	31	0	0	2	0
GREENSBORO	73	47	82	38	60	0	0	-.7	0	8.5	137	13.9	107	86	31	0	0	0	0
HATTERAS	68	53	76	48	61	0	0	-.7	0	19.3	307	25.7	170	92	55	0	0	0	0
NEW BERN	75	49	84	42	62	-1	T	T	T	9.1	158	15.7	114	92	39	0	0	0	0
RALEIGH	75	47	85	40	61	-1	T	T	T	8.5	147	16.3	128	89	32	0	0	1	0
WILMINGTON	75	50	88	44	63	-2	.5	-.2	.3	13.9	224	18.1	136	98	43	0	0	3	0
ND BISMARCK	66	31	88	14	49	4	T	T	T	.9	55	1.8	67	85	29	0	5	1	0
FARGO	61	32	73	14	46	2	.2	-.3	.2	2.4	113	4.5	146	80	34	0	4	1	0
GRAND FORKS	57	31	73	18	44	1	.1	-.3	0	1.4	82	3.1	107	86	42	0	5	2	0
WILLISTON	67	33	89	15	50	6	T	T	T	1.3	91	2.7	113	73	23	0	3	1	0
OH AKRON-CANTON	60	34	73	30	47	-3	.2	-.5	.1	5.6	98	9.9	95	88	37	0	3	2	0
CINCINNATI	68	44	78	37	56	1	.9	-.1	.9	9.2	140	17.1	138	86	42	0	0	1	1
CLEVELAND	59	34	70	31	47	-3	.6	-.2	.5	6.1	113	9.9	99	98	41	0	4	3	1
COLUMBUS	62	39	72	31	50	-3	1.0	-.2	.5	6.6	116	11.6	110	86	41	0	2	2	1

Weather Data for the Week Ending April 22, 1989

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 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	64	43	74	36	53	0	1.3	.5	.7	9.3	168	14.7	144	81	43	0	0	0	0
TOLEDO	60	33	69	27	47	-2	.4	.5	.3	4.8	100	7.4	86	88	39	0	0	0	0
YOUNGSTOWN	59	32	70	28	45	-4	.3	.3	.2	5.1	88	8.9	84	90	33	0	0	0	0
OK OKLAHOMA CITY	81	56	89	48	69	7	0	0	0	2.8	70	6.1	98	84	36	0	0	0	0
TULSA	79	55	89	46	67	4	.2	.8	.3	3.5	58	8.7	95	83	38	0	0	0	0
OR ASTORIA	60	43	69	32	51	3	.6	.5	.1	12.4	113	27.2	93	93	57	0	1	1	0
BURNS	67	37	76	33	52	8	.1	.1	.1	1.3	94	1.9	48	82	27	0	0	0	0
MDFORD	71	47	84	39	59	8	.4	.4	.4	4.8	183	7.7	95	90	45	0	0	0	0
PENDLETON	66	47	76	42	56	5	.1	.1	.1	2.2	124	5.5	120	72	38	0	0	0	0
PORTLAND	65	47	73	41	56	5	.4	.1	.3	7.7	144	13.8	90	90	47	0	0	0	0
SALEM	66	45	75	39	56	6	.3	.3	.2	7.3	119	13.7	77	94	49	0	0	0	0
PA ALLENTOWN	62	37	72	31	50	-2	.1	.1	.1	5.1	75	9.1	69	79	32	0	1	1	0
ERIE	55	32	70	29	44	-3	.3	.5	.3	6.2	114	11.2	113	88	38	0	5	5	0
HARRISBURG	65	41	74	35	53	-1	.3	.5	.3	4.6	78	8.8	76	77	28	0	0	0	0
PHILADELPHIA	66	43	77	37	55	0	.2	.6	.2	6.3	98	12.0	97	82	34	0	0	0	0
PITTSBURGH	61	36	76	31	49	-3	.2	.6	.1	6.6	109	12.0	107	79	33	0	2	2	0
SCRANTON	58	36	68	29	47	-3	.1	.7	0	3.2	66	6.0	66	74	30	0	1	2	0
RI PROVIDENCE	58	39	74	30	49	-1	1.0	.1	1.0	7.0	97	10.7	72	82	43	0	2	3	1
SC CHARLESTON	79	54	87	51	67	1	.6	0	.6	7.7	123	10.9	84	95	44	0	0	0	0
COLUMBIA	79	52	88	47	65	1	.1	-.7	0	8.5	108	13.6	84	95	35	0	0	0	0
FLORENCE	78	51	87	47	64	0	.7	0	.5	8.8	138	13.3	100	97	37	0	0	0	0
GREENVILLE	76	47	82	42	61	-1	T	-1.0	T	7.1	76	13.5	75	92	36	0	0	2	1
SD ABERDEEN	65	37	81	22	51	5	.1	-.4	.1	2.3	101	3.2	94	88	37	0	3	1	0
HURON	69	37	82	24	53	6	T	-.5	T	2.7	103	3.7	99	84	27	0	3	2	0
RAPID CITY	73	40	93	25	56	10	.1	-.4	-.1	1.7	71	2.0	61	76	27	1	3	2	0
SIoux FALLS	71	39	83	26	55	7	T	-.5	T	1.5	48	2.3	49	81	24	0	2	1	0
TN CHATTANOOGA	79	46	84	40	63	1	0	-1.0	0	9.7	99	22.2	113	92	31	0	0	0	0
KNOXVILLE	76	45	81	39	61	0	0	-.9	0	6.1	73	17.3	101	89	33	0	0	0	0
MEMPHIS	80	52	89	42	66	2	0	-1.4	T	7.6	79	26.0	140	80	30	0	0	0	0
NASHVILLE	77	46	85	38	62	1	0	-1.0	0	7.6	85	21.4	124	81	29	0	0	0	0
TX ABILENE	87	61	91	57	74	8	T	-1.6	T	2.3	87	5.9	128	82	32	2	0	0	0
AMARILLO	85	52	98	43	68	11	.1	-.2	.1	1.1	73	1.8	71	67	21	2	0	0	0
AUSTIN	84	63	86	54	73	4	1.3	.5	1.3	4.2	111	8.9	113	99	49	0	0	0	0
BEAUMONT	81	57	83	52	69	-1	T	-1.0	T	5.0	84	12.0	84	100	49	0	0	0	0
BROWNSVILLE	86	65	88	56	76	0	0	-.4	0	.7	45	2.7	64	100	50	0	0	0	0
CORPUS CHRISTI	84	61	86	51	73	-1	0	-.5	0	2.8	141	5.7	113	100	55	0	0	0	0
DEL RIO	89	64	93	55	76	3	0	-.5	0	1.1	57	3.1	93	79	32	3	0	0	0
EL PASO	93	55	98	50	74	9	T	0	T	.6	141	1.5	116	39	10	6	0	0	0
FORT WORTH	82	60	86	51	71	4	0	-1.0	0	5.4	102	11.6	132	85	46	0	0	0	0
GALVESTON	76	66	80	60	71	1	T	-.6	T	2.8	69	9.2	99	95	66	0	0	0	0
HOUSTON	83	59	86	51	71	1	0	-.9	0	4.5	86	10.2	85	99	54	0	0	0	0
LUBBOCK	92	55	100	51	73	12	T	-.2	T	.7	48	2.3	92	77	16	5	0	0	0
MIDLAND	94	57	101	51	75	10	T	-.2	T	.4	39	1.9	98	78	18	6	0	0	0
SAN ANGELO	87	61	92	54	74	6	.8	-.3	.8	2.9	151	6.6	194	88	36	2	0	0	0
SAN ANTONIO	85	63	88	50	74	4	.7	-.1	.7	3.1	97	6.3	97	94	42	0	0	0	0
VICTORIA	85	63	87	52	74	1	.1	-.6	.1	2.2	73	6.6	92	98	48	0	0	0	0
WACO	84	61	88	53	73	4	.7	-.3	.7	4.0	87	8.7	105	92	45	0	0	0	0
WICHITA FALLS	87	56	92	48	72	7	T	-.7	T	1.9	48	6.4	112	90	35	3	0	0	0
UT CEDAR CITY	79	49	82	43	64	16	0	-.2	0	.8	42	2.0	63	42	12	0	0	0	0
SALT LAKE CITY	78	51	85	44	64	14	0	-.5	0	2.1	63	4.1	69	62	19	0	0	0	0
VT BURLINGTON	53	32	64	27	42	-2	.3	-.4	.3	4.5	106	5.5	72	82	36	0	4	3	0
VA NORFOLK	70	47	86	41	58	-1	T	-.6	T	11.8	200	20.9	163	89	42	0	0	0	0
RICHMOND	72	44	88	37	58	-1	0	-.7	0	8.6	152	14.9	124	92	35	0	0	0	0
ROANOKE	73	44	84	36	59	1	0	-.7	0	4.1	69	7.4	62	77	28	0	0	0	0
WA QUILLAYUTE	57	40	64	30	49	3	1.2	-.4	.5	15.7	89	37.5	85	98	60	0	1	5	0
SEATTLE-TACOMA	63	44	67	39	53	4	.8	-.3	.4	8.5	157	14.8	94	94	51	0	0	0	0
SPOKANE	62	40	72	35	51	4	.6	-.4	.4	3.7	175	5.9	95	84	40	0	0	3	0
YAKIMA	68	40	76	30	54	4	.5	-.4	.3	1.6	182	2.4	79	90	31	0	1	3	0
WV BECKLEY	66	41	77	31	54	1	T	-.8	T	4.8	73	11.0	84	79	30	0	1	1	0
CHARLESTON	70	41	80	32	55	-1	.2	-.6	.1	7.5	114	16.5	126	94	31	0	1	2	0
HUNTINGTON	71	42	82	36	56	-1	.5	-.3	.5	7.9	120	20.1	159	87	32	0	0	0	0
PARKERSBURG	65	38	79	31	52	-4	.8	-.1	.7	7.2	120	15.3	134	88	37	0	1	2	1
WI GREEN BAY	58	33	70	27	45	0	T	-.7	T	3.1	83	3.9	65	80	29	0	3	0	0
LACROSSE	64	41	72	31	52	3	T	-.7	T	2.8	69	3.6	62	80	27	0	1	1	0
MADISON	61	36	68	32	48	1	.2	-.6	.2	2.0	46	3.1	49	84	34	0	2	1	0
MILWAUKEE	56	36	72	31	46	0	.2	-.6	.1	3.5	69	5.0	63	87	46	0	2	4	0
WAUSAU	58	35	69	28	47	2	.1	-.6	.1	2.2	57	3.5	60	83	30	0	3	1	0
WY CASPER	76	36	83	27	56	13	.1	-.3	0	.7	35	2.2	75	72	14	0	3	2	0
CHEYENNE	71	41	80	31	56	13	T	-.3	T	.9	52	2.5	96	77	24	0	1	1	0
LANDER	75	42	82	31	58	15	T	-.6	T	.6	21	1.4	36	55	15	0	1	0	0
SHERIDAN	69	38	86	23	54	9	.6	-.1	.4	2.5	104	3.4	85	79	32	0	3	3	0
PR SAN JUAN	M	77	M	73	79	0	.1	-.8	.1	4.0	85	8.4	86	84	55	0	0	1	0

# Soil Moisture in Iowa: Heavy Rains Relieve Dryness

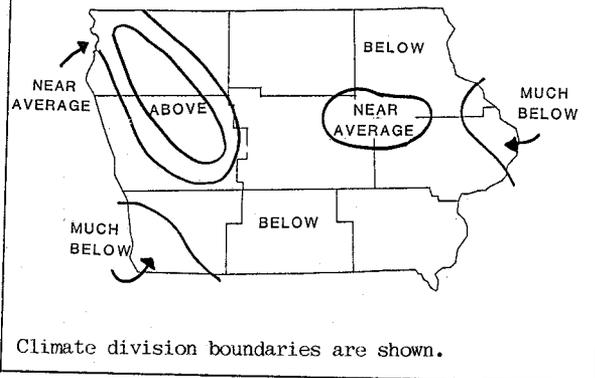


Early on the morning of April 23, eastern Iowa saw the heaviest rains since at least last autumn, with up to 3 inches reported for the 24-hour period ending at 7:00 a.m. central daylight time (fig. 1). Over 1 inch of rain also fell in a band which extended southeastward across Illinois. These rains are not entirely reflected in the weekly precipitation map on page 2, as the bulk of the heavy rains fell after midnight on Saturday night, which is the cutoff time for this map. The rains fell in areas which have needed moisture since the 1988 drought. Concern about the dryness has recently increased because of water shortages and the arrival of corn planting season. Iowa is the major corn producing State in the country, so crop analysts closely follow growing conditions there.

The Iowa Cooperative Extension Service takes soil samples each spring in order to determine the amount of plant available water (PAW) in the top 5 feet of soil at about 50 locations throughout Iowa. The samples are taken at the end of March and the beginning of April. The data were adjusted to reflect conditions as of April 15, 1989, and reflect the amount of PAW under corn land. Fields grown in soybeans and forage last year will have less PAW than corn land. Figure 2 represents the PAW levels on this date in relation to a long-term average PAW. The recent heavy rains shown in figure 1 are not reflected on this map and would change the patterns of soil moisture somewhat, especially in the east. The following is an excerpt from the Iowa Cooperative Extension Service:

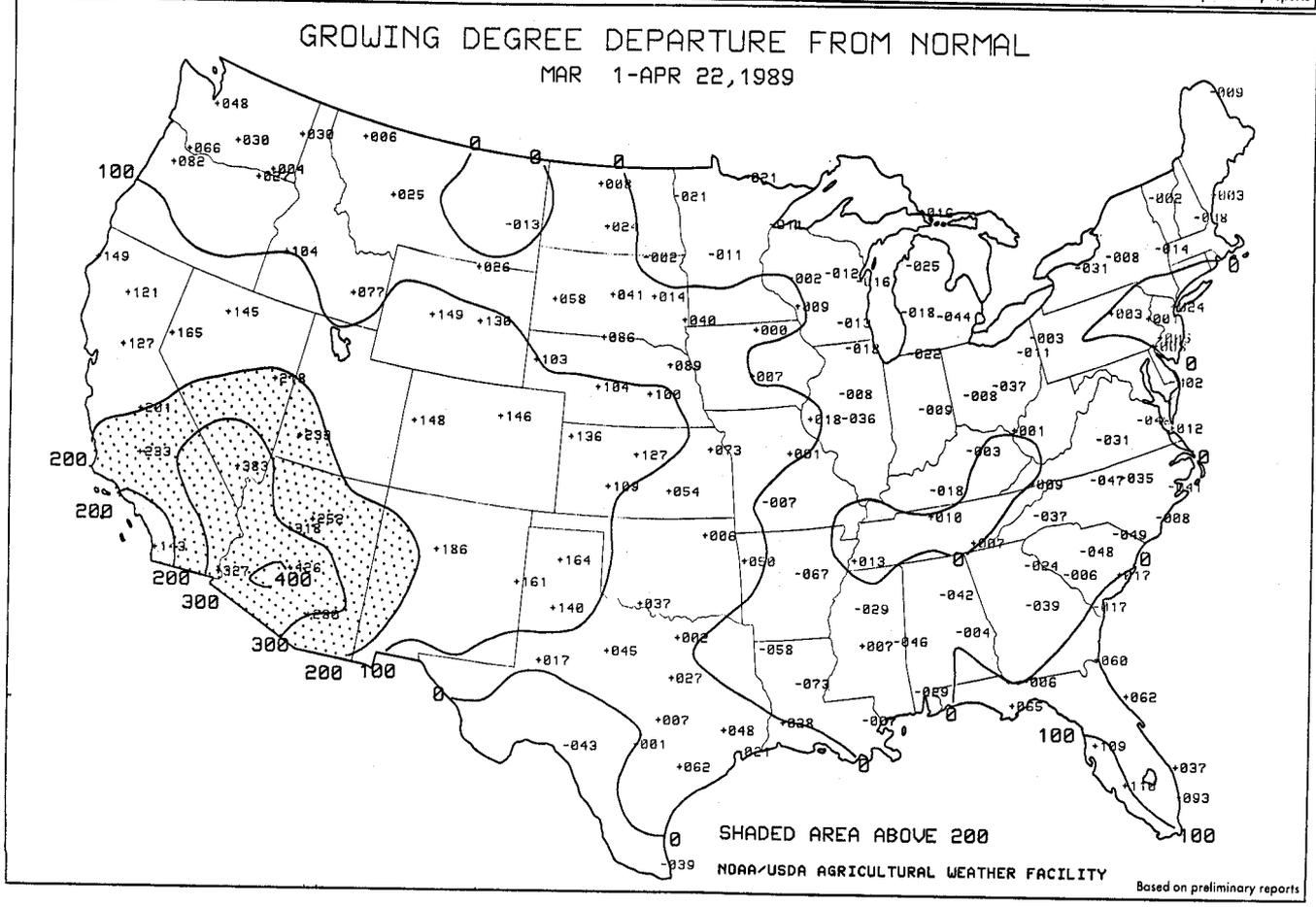
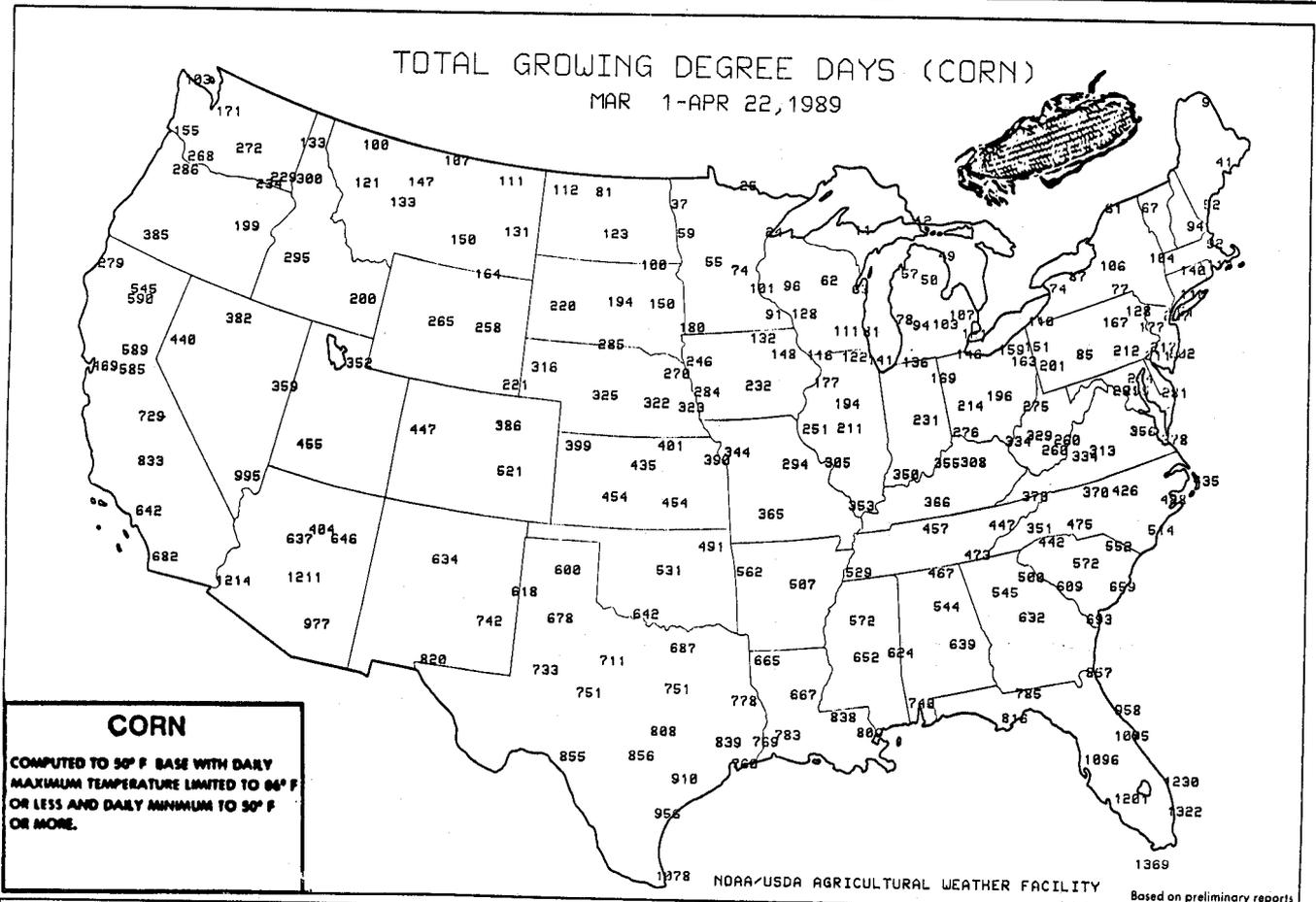
"Continuing effects of the 1988 drought are apparent in Iowa. The scant early spring rain had not fully replenished the subsoil moisture by mid-April. The late rains of 1988 totaled more than 6 inches in most of Iowa and most of the moisture was retained in the soils. Although the amount of precipitation since the end of the 1988 season is less than usual, the soils of the state have moderate amounts of moisture in most areas and good to ideal quantities of moisture in some locations.

Soil Moisture Conditions in Iowa, April 15, 1989



Climate division boundaries are shown.

"The subsoil moisture survey showed that corn land has an average of 6 inches of crop available moisture in the top 5 feet of soil," reports Elwynn Taylor, extension climatologist at Iowa State University. Taylor notes that there have been 5 years, since soil moisture recording began in 1954, that Iowa soils have been [drier] in April: 1954, 1955, 1956, 1957, and 1977. During the spring of 1954 and 1957 precipitation was greater than normal and corrected the soil moisture shortages.



## National Agricultural Summary

April 17-23, 1989

**HIGHLIGHTS:** Precipitation and wet soil conditions slowed fieldwork in the eastern Corn Belt, Delta, and Southeast. Soil moisture was mostly adequate to surplus in those areas. In the Great Plains and western Corn Belt, soil moisture was mostly short to adequate. In the Pacific Northwest, soil moisture was mostly adequate to short. Days suitable for fieldwork averaged 3-5 in the eastern Corn Belt, Delta, and Southeast. In the western Corn Belt, Great Plains, and Pacific Northwest, days suitable for fieldwork averaged 5-6.

Winter wheat was mostly fair. Seven percent of the acreage was headed, 4 percentage points behind the 5-year average. Spring wheat planting was 13 percent complete, 15 points behind normal. Cotton planting was 21% complete, slightly behind the 22% average. Corn planting was 8% complete, 3 points behind normal. Planting was underway in all of the 17 major producing States except Michigan and South Dakota. Planting continued to lag behind normal in the Delta and Southeast. Sorghum planting was 17% complete, equal to the average. Rice planting was 36% complete, slightly behind the 37% average. Rain benefited Florida citrus and vegetables. Peaches were mostly fair to good in the Southeast.

**SMALL GRAINS:** Winter wheat was mostly fair. Seven percent of the acreage was headed, 4 points behind normal. Winterkill and lack of moisture continued to adversely affect the overall condition in Kansas. Condition was mostly very poor to poor. Russian wheat aphid populations were increasing. In Oklahoma, winter wheat was mostly fair to good. Warm, dry weather was causing premature heading in the northwestern area. Winter wheat was mostly fair to poor in Texas. Lack of moisture continued to stress fields in the Plains area. Producers were plowing up some poorer fields in the High Plains. In Nebraska, winter wheat was mostly fair to poor. Signs of crown and root rot were evident. Insects were a problem in some areas. Winter wheat was mostly fair to good in Colorado and South Dakota. In Montana, winter wheat was mostly fair to poor. Winterkill was moderate to heavy. Heaviest damage was in the north-central area. Winter wheat was mostly good to fair in the Pacific Northwest. Winter wheat was mostly good to fair in the Corn Belt, Delta, and Southeast. Disease and insect infestations were continuing problems in portions of the Delta and Southeast.

Spring wheat planting was 13% complete, 15 points behind the 28% average. Planting was more than 10 points behind normal in 4 of the 5 major producing States. Planting was 14 points behind the 20% average in North Dakota.

**OTHER FIELD CROPS:** Cotton planting was 21% complete, slightly behind the 22% average. In California, planting was 75% complete, 1 point behind normal. Emergence and growth were good. Planting was nearly complete in Fresno County. In Texas, planting was 14% complete, 1 point ahead of normal. Lack of moisture slowed growth in the Rio Grande Valley. Planting lagged behind normal in portions of the Delta and Southeast. Planting was

more than 10 points behind normal in Alabama, Georgia, North Carolina, and South Carolina. Planting had not begun in North Carolina.

Corn planting was 8% complete, 3 points behind normal. Planting was underway in all of the 17 major producing States except Michigan and South Dakota. Planting lagged behind normal in the Southeast. In North Carolina, planting was 40 points behind the 57% average.

Sorghum planting was 17% complete, equal to the average. In Texas, planting was 58% complete, equal to the average. Lack of moisture stressed fields in the Rio Grande Valley. Rice planting was 36% complete, slightly behind the 37% average. Planting was just beginning in California. Producers planted one-third of their crop during the week in Mississippi. Tobacco was mostly fair to good in North Carolina and South Carolina. In Kentucky, tobacco was mostly good. Seventy percent of tobacco plants had emerged, 4 points ahead of the average. Peanut planting continued in Alabama and Georgia and began in Florida and Texas.

**FRUIT AND NUTS:** Citrus trees were in good condition in Florida. Trees had abundant new growth and were setting new crop fruit. Citrus areas received some rain, but irrigation continued. Valencia orange harvest was active. Grapefruit harvest slowed. Temple orange and honey tangerine harvests were nearly complete. Peaches were mostly fair to good in the Southeast. Pecan trees were blooming in central and southern Texas. Valencia orange and grapefruit harvests progressed well in central and western Arizona. Grapes were beginning to size in the West. Apple bloom was complete in California. Grapefruit and lemon harvests were active. Almonds were sizing well. Cherries were in full bloom in the Milton-Freewater area of Oregon. Strawberries and blueberries were in early bloom in the Willamette Valley. Cherries, pears, and early variety apples were blooming in Washington.

**VEGETABLES:** Rain benefited Florida vegetables. Harvest declined seasonally in the southern area. Irish potato planting continued in North Carolina. Watermelons were mostly fair to good in South Carolina. Melon planting progressed well in the Rio Grande Valley of Texas. Many fields were setting fruit. Onion harvest continued in the Rio Grande Valley and San Antonio-Winter Garden areas. Red potatoes were harvested and shipped in central Arizona. Spring lettuce harvest was active. Broccoli supplies were heavy and of good quality in California. Cauliflower supplies were light and of variable quality. Tomatoes for processing were blooming in the central valley. Potato planting started in Malheur County, Oregon. Potato planting was 52% complete in Washington. Asparagus harvest continued. In Idaho, onion planting was 77% finished, 15 points behind normal. Potato planting was 14% complete, 3 points ahead of normal.

**PASTURES AND LIVESTOCK:** Livestock was in mostly good condition. Pastures were mostly good to fair.

Crop Progress

FOR WEEK ENDING APRIL 23, 1989

	CORN % PLANTED		
	1989	1988	AVG.
COLO	9	12	14
GA	88	91	91
ILL	6	20	12
IND	2	11	10
IOWA	4	9	4
KANS	15	25	10
KY	10	21	21
MICH	0	0	0
MINN	1	6	4
MO	29	43	27
NEBR	6	8	6
N C	17	59	57
OHIO	1	8	5
PA	3	7	5
S DAK	0	0	NA
TEX	85	78	79
WIS	1	2	1
17 STATES	8	14	NA
EXCL. STATES WITH NA	8	15	11

THESE 17 STATES PRODUCED 94% OF THE 1988 CORN CROP.

NA - NOT AVAILABLE.

	COTTON % PLANTED		
	1989	1988	AVG.
ALA	18	30	31
ARIZ	85	70	84
ARK	7	2	7
CALIF	75	71	76
GA	4	13	16
LA	11	14	17
MISS	8	3	10
MO	1	2	4
N MEX	65	44	35
N C	0	0	17
OKLA	2	2	0
S C	1	10	25
TENN	2	8	7
TEX	14	15	13
14 STATES	21	21	22

THESE 14 STATES PRODUCED 100% OF THE 1988 COTTON CROP.

	GRAIN SORGHUM % PLANTED		
	1989	1988	AVG.
ARK	26	20	28
ILL	0	NA	NA
KANS	0	0	0
LA	33	19	39
MISS	33	17	21
MO	2	3	0
NEBR	0	0	0
OKLA	3	1	2
S DAK	0	0	NA
TENN	2	6	9
TEX	58	56	58
11 STATES	16	NA	NA
EXCL. STATES WITH NA	17	16	17

THESE 11 STATES PRODUCED 96% OF THE 1988 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

	RICE % PLANTED		
	1989	1988	AVG.
ARK	24	15	24
CALIF	1	4	4
LA	56	45	58
MISS	41	18	38
TEX	77	93	81
5 STATES	36	30	37

THESE 5 STATES PRODUCED 97% OF THE 1988 RICE CROP.

Crop Condition

FOR WEEK ENDING APRIL 23, 1989

PERCENT

	WINTER WHEAT % HEADED		
	1989	1988	AVG.
ARK	26	24	NA
CALIF	85	85	80
COLO	0	0	0
GA	93	66	72
IDAHO	0	0	0
ILL	0	1	1
IND	0	0	0
KANS	0	0	0
MICH	0	0	0
MO	0	2	0
MONT	0	0	0
NEBR	0	0	0
N MEX	5	5	NA
N C	26	16	NA
OHIO	0	0	0
OKLA	10	5	20
OREG	0	0	0
S DAK	0	0	NA
TEX	17	15	33
WASH	0	0	0
20 STATES	7	6	NA
EXCL. STATES WITH NA	7	5	11

THESE 20 STATES PRODUCED 90% OF THE 1988 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

	SPRING WHEAT % PLANTED		
	1989	1988	AVG.
IDAHO	56	66	54
MINN	12	61	32
MONT	12	63	32
N DAK	6	45	20
S DAK	29	81	42
5 STATES	13	57	28

THESE 5 STATES PRODUCED 87% OF THE 1988 SPRING WHEAT CROP.

STATE	WINTER WHEAT				
	VP	P	F	G	EX
ARK	0	1	43	56	0
CALIF	0	0	5	75	20
COLO	6	18	45	29	2
GA	5	20	35	39	1
IDAHO	4	10	28	51	7
ILL	0	0	13	72	15
IND	1	2	41	53	3
KANS	51	23	19	4	3
MO	2	5	41	47	5
MONT	23	23	29	22	3
NEB	3	29	63	5	0
N MEX	20	60	10	10	0
N C	0	7	31	58	4
OHIO	3	12	31	47	7
OKLA	10	5	50	35	0
OREG	0	0	42	58	0
S DAK	8	9	40	42	1
TEX	15	25	52	8	0
WASH	0	20	70	10	0
19 STATE	18	17	39	24	2
PREV YEAR	1	6	28	54	11

THESE 19 STATES PRODUCED 88% OF THE 1988 WINTER WHEAT CROP.

VP - VERY POOR P - POOR  
F - FAIR G - GOOD EX - EXCELLENT

## 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 NASS State Statistical Offices in cooperation with the National Weather Service.

**ALABAMA:** Scattered thunderstorms produced only isolated rain totals 0.50 to 1.00 in.; no rain many areas. Temperatures 2 to 4° above normal.

Days suitable for fieldwork 4.7. Soil moisture 2% short, 85% adequate, 13% surplus. Fieldwork progress 83% behind schedule, 15% on schedule, 2% ahead of schedule. Spring planting acreage 63% prepared, 80% 1988, 80% avg. Corn 63% planted, 80% 1988, 72% avg. Sorghum 17% planted, 20% 1988, 14% avg. Cotton 18% planted, 30% 1988, 31% avg. Peanuts 13% planted, 18% 1988, 15% avg. Winter wheat 64% headed, 58% 1988, 57% avg.; 19% turning color, 12% 1988, 5% avg.; 2% very poor, 2% poor, 38% fair, 58% good. Livestock, pastures mostly good to fair. Primary activities: Preparing land for spring planting; planting row crops, vegetables, irish potatoes; spraying pecan, fruit trees; applying herbicides, fungicides to winter wheat; seeding, fertilizing summer pastures, hay fields; general care of livestock, poultry.

**ARIZONA:** Sunny 16th, 17th. Light showers north 18th. High temperatures 19th, 20th, 21st. Record 105° at Phoenix, 104° at Tucson 20th, hottest ever for early in season. Temperatures 9 to 16° above normal.

Cotton planting active at 85% planted; 90% 1988, 84% avg. Wheat, barley good. Statewide, 100% jointing, 89% heading, 30% turning color. Early fields harvested west. Corn, sorghum good growth west. Corn 90% planted central. Alfalfa good to excellent. First, second cuttings active Statewide. Spring vegetable season complete west. Grapes beginning to size. Red potatoes harvested, shipped central. Spring lettuce harvest, shipping central. Vegetables shipped central broccoli, cauliflower, greens, leaf lettuce, cabbage, bok choy, rapini, green onions, parsley, beets, turnips, spinach, leeks, carrots. Valencia orange, grapefruit harvest progressed west, central.

**ARKANSAS:** Temperatures above normal, some record highs tied or broken. Temperature extremes 32°; 93°. Few light showers over western area of State. Rainfall none to 1.59 in.

Days suitable for fieldwork 6.0. Soil moisture 16% short, 75% adequate, 9% surplus. Main farming activities: Preparing land for planting; planting corn, cotton, rice, sorghum; applying fertilizers, herbicides; planting vegetables; tending livestock. Rice 1% emerged; 4% 1988; 5% avg. Rice 45% fair, 55% good. Oats 22% headed, 30% 1988. Oats 4% poor, 55% fair, 41% good. Corn 77% planted, 72% 1988, 71% avg. Corn 1% very poor, 5% poor, 53% fair, 41% good. Sorghum 6% emerged, 4% 1988. Sorghum 42% fair, 58% good. Rain needed some areas for planting to continue. Septoria in wheat, weevils in alfalfa hay still being reported. Fruits, vegetables recovering or being re-planted after the recent freeze. Livestock in mostly good, bothered by ticks, flies, gnats.

**CALIFORNIA:** High pressure area West Coast weekend. Temperatures began above normal, changing to near or below normal by weekend. Cold front moved through northern sections by 21st bringing scattered rain.

Field activities made good progress. Most small grains headed, earlier maturing. Many growers applied aphid controls. Irrigation active where possible. Few dryland fields disced, sheeped-off, inadequate moisture. Winter forage, oats greenchopped. Cut early dryland oat hay. Planting

cotton nearly complete Fresno County, active elsewhere. Good emergence, growth. Rice seeding slow, preparations active as fields dry. Overwintered sugarbeet harvest ongoing. Seeding corn, dry beans increased. Alfalfa harvest active. Cultivation, irrigation, fertilization, insect controls active. Apple bloom complete. Grape activities removing suckers, mildew, leafhopper, mite, weed control. Deciduous tree fruit thinning increased. Grapefruit, lemon harvests active. Navel orange picking winding down 90% harvested. Valencia orange harvest progressed; Desert Valley, southern California. Almonds sizing well, light set some areas. Artichokes heavy, good quality. Broccoli fairly heavy, good quality. Cauliflower light, variable quality. Iceberg lettuce Huron moderate, good quality. Strawberries, Santa Maria-Salinas area good to moderate, good quality. Processing tomatoes blooming, Central Valley. Market tomato planting continued. Livestock good, Statewide. Range, pasture grasses needing rainfall. Cattle movement, Sacramento Valley, restricted, inadequate water. Central valley, northern counties; water supply, supplemental feeding light, movement off winter ranges, moderate to heavy.

**COLORADO:** Hot, dry, windy set record high temperatures. Moisture from showers failed to reach the ground. Numerous reports of timber, rangeland fires. Temperatures 8 to 12° above normal.

Days suitable for field work, 6.5. Soil moisture 35% very short, 44% short, 21% adequate. Winter wheat 6% very poor, 18% poor, 45% fair, 29% good, 2% excellent, 13% jointed. Corn 9% planted. Barley 74% planted; 42% emerged. Oats 68% planted; 37% emerged. Onions 79% planted, summer potatoes 26% planted, sugarbeets 95% planted. Spring wheat 50% planted; 11% emerged. Livestock, range fair to good. Cows calved 84%, ewes lambled 86%. Stored feed adequate.

**FLORIDA:** Rain nearly all stations. Totals mostly under 0.40 in. north, central, exceeded 1.10 in. several locations. Most southern locations received 0.30 in. or more; a number had between 1.29, 1.72 in. Temperatures 1° or so above normal, Panhandle, south, near normal central. Extreme coolest lows upper 40s, lows 50s Panhandle, low 60s along southeast coast; highs mid to upper 80s.

Soil moisture mostly adequate Panhandle, short to adequate, Peninsula. Corn, sugarcane, tobacco good progress. Early fields winter wheat started coloring. Peanut planting underway. Growers preparing land for planting cotton. Grazing improved somewhat where showers received. Panhandle pastures continued mostly fair to good; Peninsula poor to good, most areas fair to good. Additional rain needed to sustain, promote forage growth. Cattle, calves, Panhandle generally good; elsewhere continued fair to good. Citrus trees good. Few rains, irrigation all areas. Trees setting new crop fruit, much new growth. Valencia harvest very active. Grapefruit harvest slowing, Temple, honey tangerine harvest almost completed. Caretakers cultivating, fertilizing, post bloom spraying. Mild weather continued over major vegetable producing areas. Rain beneficial all areas. Harvest declining seasonally southern areas, active others. Volume leaders: Tomatoes, potatoes, cucumbers, celery, peppers, cabbage, squash. Also available good volume: Snap beans, sweet corn, radishes, lettuce, carrots, escarole, endive, eggplant. Light harvest ruskin tomatoes.

**GEORGIA:** Warm week, limited rain. Temperatures 2 to 4° above normal. Extreme lowest temperatures mostly upper 40s, low 50s some upper 30s to low 40s extreme north; highs low to mid 80s north, mid to upper 80s central, south. Rain under 0.50 in. many stations no rain during the week.

Days suitable for fieldwork 4.6. Soil moisture 7% short, 83% adequate, 10% surplus. Corn 37% fair, 57% good, 6% excellent. Improved from previous week's cold. Cotton cool soils north delaying planting. Peanuts 9% planted, 17% 1988, 22% avg. Planting active southern belt, other areas waiting for warmer soils. Soybeans none planted, 1% 1988, 2% avg. Tobacco 98% transplanted, 91% 1988, 92% avg. Tomato spotted wilt virus, overall improvement. Watermelon further decline, planting nearing completion. Wheat farmers battling rust, mildew, development over week ahead average. Rye, other small grains fair to good. Peaches, apples improved. Cattle, hogs mostly good.

**HAWAII:** Generally favorable weather; warm sunny days, light to moderate showers. Gusty winds 15 to 30 mph. Temperatures mid 60s to low 80s. Daily rainfall none to 11.0 in.

Days suitable for fieldwork 7.0. Crop progress satisfactory in most areas. Soil moisture was ample. Papaya production increased seasonally. Heavy spraying required to control disease, insect damage. Sugar, pineapple harvesting active.

**IDAHO:** Temperatures well above normal. Southern area 8 to 12° above normal, except for a few stations. Precipitation below normal statewide.

Days suitable for fieldwork 7.0. Soil moisture 24% short, 73% adequate, 3% surplus. Spring wheat 56% seeded, 66% 1988, 54% avg.; 18% emerged. Spring barley 47% planted, 60% 1988, 45% avg.; 14% emerged. Oats 23% seeded, 44% 1988, 41% avg. Potatoes 14% planted, 10% 1988, 11% avg. Sugarbeets 67% seeded, 98% 1988, 70% avg. Onions 77% planted, 99% 1988, 92% avg. Other growers not yet planting were spreading fertilizer, shipping seed potatoes. Plum, apple trees bloom stage. Dry pea, lentil seeding underway in Panhandle. Winter wheat fair, good. Snow mold reported in North, East. Irrigating underway in sugarbeet fields. Calving, lambing virtually complete, ranchers move cattle, sheep to summer ranges. Livestock good. Sheep shearing continued. Adequate hay, roughage available. Some areas have very short, short supplies.

**ILLINOIS:** Temperature highs normal across State, 2 to 5° above normal south. Lows 1 to 5° below normal east, normal west. Precipitation 1.00 to 2.40 in. west central, northwest, 0.15 in. to 0.60 in. elsewhere; 0.25 to 0.80 in. below normal for State, 1.00 in. above normal west central, northwest.

Days suitable for fieldwork 4.5. Soil moisture 50% short, 45% adequate, 5% surplus. Oats planted 85%, 88% 1988, 78% avg. Alfalfa 1% poor, 37% fair, 61% good, 1% excellent. Pasture 4% poor, 43% fair, 52% good, 1% excellent; livestock roughage requirements 49%, 51% 1988, 48% avg.

**INDIANA:** Temperatures 2° below normal. Highs 60 to 70s, lows 30s to upper 40s. Precipitation light, 0.25 in. north to 0.50 in. south. Soil temperatures 50s.

Days suitable for fieldwork 2.9. Topsoil moisture 2% short, 71% adequate, 27% surplus. Subsoil moisture 11% short, 79% adequate, 10% surplus. Spring cropland 73% tilled, 88% 1988, 76% avg. Wheat 8 in. high, 9 in. 1988, 8 in. avg. Wheat 28% jointed, 30% 1988, 26% avg. Oats 48% seeded, 80% 1988, 79% avg. Oats 2 in. high, 2 in.

1988, 3 in. avg. Clover 75% seeded, 89% 1988, 81% avg. Pastures 1% very poor, 5% poor, 54% fair, 37% good, 3% excellent. Wet soils slowed field activities.

**IOWA:** Temperatures 2 to 9° above normal. Extremes 22 to 96°. Precipitation light southwest, heavy northeast, east central. Totals trace to 3.10; 0.06 in.

Days suitable for field work 6.7. Topsoil moisture 93% short, 7% adequate; subsoil moisture 95% short, 5% adequate. Winter wheat 6% very poor, 16% poor, 58% fair, 19% good, 1% excellent; Hay 13% very poor, 40% poor, 41% fair, 6% good. Pasture 23% very poor, 41% poor, 32% fair, 4% good. Oats 92% sown, 95% 1988, 78% avg.; 16% emerged, 37% 1988, 36% avg. Seedbed preparation 78% completed; Fertilizer application 77% completed, 83% 1988, 65% avg. Livestock mostly good to excellent. Calving, lambing still running good. Some reports indicate dispersment due to dry conditions, water shortages.

**KANSAS:** Temperatures 13° to 15° above normal western third, 12° above normal central, north central, 7° to 9° above normal elsewhere. Rainfall less than 0.10 in. except southeast 0.13 in.

Days suitable for fieldwork 6.5. Topsoil moisture 78% short, 22% adequate. Subsoil moisture 79% short, 21% adequate. Wheat condition continued downhill, 51% very poor, 23% poor, 19% fair, 4% good, 3% excellent. Wheat jointing far behind schedule. Drought stress, freeze damage overshadow increase in insect, disease infestations. Russian wheat aphid apparent significant increase in population underway. Corn planting off to good start considering short moisture conditions, no emergence yet. Feed grain, hay, forage generally adequate to short. Range, pastures short, furnishing little grazing. Ranchers culling herds to reduce feeding cost.

**KENTUCKY:** Summer like early, high temperatures upper 70s to lower 80s. Warm, moist southerly winds brought showers, thunderstorms. Precipitation 0.25 to 0.50 in. west, north central. Cold front north, east end week, lower temperatures dropping again into 30s.

Days suitable for fieldwork 4.3. Soil moisture 82% adequate, 18% surplus. Land preparation, corn planting became active west. Tobacco plants emerged 70% beds, 70% 1988, 66% avg. Emerged plants fair to mostly good. Warmer temperatures will promote growth. Wheat 1% poor, 15% fair, 74% good, 10% excellent. Average height 13 in. Barley heading, early variety hurt by freeze, most fields good. Pasture 4% poor, 21% fair, 61% good, 14% excellent. Peach prospects damaged by earlier freezes; apples suffered limited damage.

**LOUISIANA:** Temperatures 1 to 2° below normal. Extremes 43°; 91°. Rainfall none to 0.42 in.

Days suitable for fieldwork 6.1. Soil moisture 14% short, 84% adequate, 2% surplus. Spring plowing 80%, 76% 1988, 80% avg. Corn 92% planted, 82% 1988, 86% avg.; 72% emerged, 56% 1988, 73% avg. Cotton 1% emerged, 2% 1988, 5% avg. Rice 40% emerged, 30% 1988, 43% avg. Water mold, bronzing (zinc deficiency), poor germination are problems. Severe bronzing in acadia parish. Sorghum 16% emerged, 8% 1988, 23% avg. Sugarcane mostly good. Hay 5% first cutting, 2% 1988, 3% avg. Sweetpotatoes 5% planted, 7% 1988, 10% avg. Wheat 89% headed, 91% 1988, 82% avg.; 4% turning color, 4% 1988, 9% avg. Spraying, fertilizing pastures. Livestock, pastures mostly good. Vegetables fair to good.

**MARYLAND & DELAWARE:** MARYLAND: Precipitation 1.17 in. Temperatures 55° normal 55°. Temperature extremes 25°; 82°.

Days suitable for fieldwork 4.4. Topsoil moisture adequate to surplus; subsoil moisture adequate. Acreage prepared for 40% planting, 62% 1988, 58% avg. Corn 3% planted, 12% 1988. Potatoes 41% planted, 86% 1988, 90% avg. Oats 83% planted, 78% 1988, 61% avg. Small grains good. Barley, rye heading in warmer areas.

DELAWARE: Precipitation 1.46 in. Temperature 55° normal 54°. Temperature extremes 35°; 80°.

Days suitable for fieldwork 3.7. Topsoil moisture adequate to surplus, subsoil moisture adequate. Acreage prepared 23% planting, 49% 1988, 47% avg. Corn 3% complete; 9% 1988, 3% avg. Potatoes 50% planted, 94% 1988, 75% avg. Sweet corn 3% planted, 9% 1988, 3% 1987. Small grains good. Hay adequate.

**MICHIGAN:** Temperatures 3° below normal to normal. Temperature extremes 18°; 72°. Precipitation none to 0.79 in. across State.

Activities: Marketing crops, livestock. Orchard spraying, pruning. Down State, spraying, ground preparation, oat planting picking up. Limited early corn planted. Limited field work in northern counties. Livestock, going on pasture good. Feed short to adequate.

**MINNESOTA:** Temperatures 1° below to 5° above normal. Temperature extremes 12°; 82°. Precipitation none to 0.25 in. Greatest weekly total 0.86 in.

Topsoil moisture 10% very short, 41% short, 46% adequate, 3% surplus. Subsoil moisture 53% very short, 33% short, 14% adequate, none surplus. Spring wheat 12% planted, 61% 1988, 32% avg. Oats 32% planted, 70% 1988, 44% avg. Barley 4% planted, 52% 1988, 24% avg. Corn 15% land prepared, 35% 1988, 21% avg. Soybeans 2% land prepared, 16% 1988, 9% avg. Sugarbeets 19% planted, 66% 1988, 21% avg. Green peas 24% planted, 35% 1988, 25% avg.

**MISSISSIPPI:** Temperatures 1° below normal. Extremes 35°; 89°. All areas below normal rainfall. Precipitation 0.10 in.; maximum 1.09 in.

Days suitable for fieldwork 5.5, 2.8 1988, 4.3 avg. Soil moisture 5% short, 85% adequate, 7% surplus, 3% excessive. Wheat fair to good; 70% heading, 52% 1988, 52% avg. Diseases common. Some freeze damage now apparent. Corn 43% planted, 50% 1988, 67% avg. Cotton 8% planted, 3% 1988, 10% avg. Peanuts 4% planted, 7% 1988, 11% avg. Rice 41% planted, 18% 1988, 38% avg. Sorghum 33% planted, 17% 1988, 21% avg. Sweetpotatoes 3% planted, 18% 1988, 11% avg. Watermelons 45% planted, 39% 1988, 45% avg. Pastures, livestock good. Peaches 15% very poor, 30% poor, 45% fair, 10% good. Activities: Planting most major crops, preparing fields for cotton, soybean planting. First extended stretch of good farming weather.

**MISSOURI:** Temperatures 3 to 5° above normal except Bootheel 2° below normal. Dry week, less than 0.10 in. rain except southern Bootheel 0.50 in.

Days suitable for fieldwork 6.0. Topsoil moisture 47% short, 47% adequate, 2% surplus. Tillage for spring crops 73%, 76% 1988, 60% avg. Fieldwork rapid all areas. Corn planting varies 67% complete southeast, 13% east, central. Oats 98% seeded, 95% 1988, 80% avg. Pasture 7% very poor, 14% poor, 44% fair, 34% good, 1% excellent. Livestock water 17% critically short, 21% short, 62% adequate.

**MONTANA:** Temperatures 5 to 10° above normal. Precipitation spotty northeast but remainder of State 0.10 to 0.50 in.

Days suitable for fieldwork 4.7. Topsoil moisture 13% short, 83% adequate, 4% surplus. Subsoil moisture 53% short, 47% adequate. Winter wheat still dormant 15%, greening 57%, green and growing 28%. Winter freeze damage to winter wheat 14%, light 29%, moderate 23%, heavy 34%. Most severe damage north central. Barley 12% planted; 53% 1988, 33% avg., none emerged. Oats 7% planted; 47% 1988, 23% avg. Sugarbeets 5% planted; 78% 1988, 27% avg. Calving 88% done; 89% 1988, 84% avg. Lambing 78% done; 82% 1988, 75% avg. Range grass growth 51% slow, 48% avg., 1% above avg.

**NEBRASKA:** Week began with scattered showers, cool; ended very hot, dry. Temperatures 8 to 12° above normal.

Extremes 25°; 96°. Rainfall traces to 0.25 in.

Days suitable for fieldwork 6.9. Topsoil moisture 89% short, 11% adequate. Subsoil moisture 75% short, 25% adequate. Winter wheat showed drought stress statewide. Brown wheat mite, Russian wheat aphids, streak mosaic Panhandle. Crown, root rot damage Panhandle, east. Chinch bugs southeast, 5% joint stage. Oats 92% planted, 88% 1988, 75% avg.

Sugarbeet planting winding down. Range, pasture feed 61% short, 39% adequate. Growth slowed by dry conditions. Many corn growers waiting for rain before planting. Some cattle turned out on summer pasture. Main activities: Small grain seeding; applying fertilizer, herbicides; working calves; cleaning winter lots.

**NEVADA:** Dry, unseasonably warm early. Cool, wintry weather weekend. Scattered rain showers valley floor, snow higher elevations.

Progress fieldwork, planting operations slowed by inclement weather. Alfalfa harvest full swing extreme south. Planting fall potatoes good progress until storm.

**NEW ENGLAND:** Precipitation 0.50 to 0.75 in. Maine, 0.25 to 0.50 in. southern New Hampshire, eastern Massachusetts, less than 0.25 in. remainder. Temperatures upper 30s near Canadian border to upper 40s south coast. Temperatures near normal.

Major farm activities: Preparing machinery for spring planting, spreading manure, preparing fields for planting.

**NEW JERSEY:** Temperatures below normal. Extremes 13°; 67°. Rainfall 1.82 in. north, 1.88 in. central, 2.07 in. south. Heaviest 24 hour total 1.43 in. on 24th, 25th. Estimated soil moisture percent field capacity 100% north, 99% central, 99% south. Soil temperatures 35° north, 42° central, 43° south.

Soil preparation, planting of oats, irish potatoes, early vegetables began on light soils. Rain on 24th temporarily halted fieldwork. Fruit pruning progressed. Fruit buds began swelling, pastures began greening.

**NEW MEXICO:** Temperatures 10 to 15° above normal; precipitation limited to scattered areas.

Days suitable for fieldwork 6.8. Soil moisture 95% short, 5% adequate. Some light to moderate freeze, wind damage. Wheat 20% very poor, 60% poor, 10% fair, 10% good; beginning to head. Cattle 79% fair, 21% good. Sheep 64% fair, 36% good. Range 61% poor, 33% fair, 6% good.

**NEW YORK:** Rainfall below normal as State returned to a dry weather pattern after a few weeks of wet weather. Most areas 0.25 in. or less. Temperatures below normal. Week began with normal or above normal readings. Some places were almost 15° above normal on 17th. After the cold front passed through State on 18th readings fell to a little below normal during midweek. Strong storm

developed in the Canadian Maritimes night of 21st. Second cold front passed through the State, temperatures on 22nd 15° below normal throughout the State.

Days suitable for fieldwork 4.0. Soil moisture adequate to surplus. Pasture, hay fair to good. Wheat mostly good, recovering from open winter. Fruit trees wintered well, no significant damage. Cool temperatures slowing fruit development. Vegetable planting begun onions, lettuce, cabbage, green peas.

**NORTH CAROLINA:** Temperatures 2° below to 2° above normal across the State. Temperature extremes 32°; 86°. Precipitation none to 1.84 in.

Days suitable for fieldwork 3.7. Soil moisture 4% short, 44% adequate, 52% surplus. Pasture 4% poor, 21% fair, 69% good, 6% excellent. Oat 6% poor, 25% fair, 65% good, 4% excellent. Barley 5% poor, 25% fair, 65% good, 5% excellent. Rye 6% poor, 20% fair, 70% good, 4% excellent. Wheat 7% poor, 31% fair, 58% good, 4% excellent. Wheat headed 26%, 16% 1988. Tobacco plantbeds 2% very poor, 8% poor, 51% fair, 38% good, 1% excellent. Supply 25% short, 73% adequate, 2% surplus; 7% transplanted, 13% 1988, 15% avg. Feed grains 2% very short, 10% short, 88% adequate. Hay, roughage 4% short, 92% adequate, 4% surplus. Irish potatoes 80% planted, 100% 1988, 100% avg.; condition 16% poor, 28% fair, 56% good. Peach 3% poor, 56% poor, 41% good. Truck crops 3% poor, 38% fair, 57% good, 2% excellent. Corn Grain 17% planted, 59% 1988, 57% avg. Major activities: Land preparation; planting corn. Other activities: Spraying crops; tobacco plantbed maintenance; fertilizing fields; topdress small grains; harvesting small grain silage; planting truck crops, potatoes; transplanting tobacco; tending livestock; general farm maintenance.

**NORTH DAKOTA:** Large temperature contrasts. Statewide 2° above normal northeast to 7° above normal northwest. Extremes 7° west central, 17th; 93° west central, 22nd. Scattered light precipitation 0.01 in. northwest to 0.07 in. east central, southwest, southeast, north central.

Topsoil moisture diminished, subsoil moisture improved slightly, well below avg. Topsoil 23% very short, 29% short, 48% adequate, none surplus. Subsoil 38% very short, 53% short, 9% adequate, none surplus. Average starting date for fieldwork April 21, latest since 1983. Cool temperatures delayed spring planting progress. Planting hard red spring wheat 6% complete, durum wheat 1%, barley 3%, oats 5%, sugarbeets 3%. Winter wheat 3% very poor, 29% poor, 57% fair, 11% good, none excellent; 14% dormant, 81% turning green, 5% stooling. Calving 85% completed, lambing 90%, shearing 87%. Range, pasture 19% still dormant, 68% poor, 11% fair, 2% good, none excellent. Roughage requirements furnished by range, pasture; 12%.

**OHIO:** Highs 60s, lows 30s to low 40s. Readings mostly 2 to 8° subnormal. Precipitation 0.50 to 1.00 in. central, south; 0.25 to 0.50 in. north. Rainfall 0.25 to 0.60 in. subnormal north, 0.10 to 0.30 in. above normal south.

Days suitable for fieldwork 2.9. Soil moisture 2% short, 63% adequate, 35% surplus. Farm activities: Planting corn, oats, potatoes; maintenance; shipping nursery stock, bedding plants. Winter wheat, pasture, hay fair to mostly good. Subnormal temperatures slowed spring growth.

**OKLAHOMA:** Temperatures 5° above normal southeast to 12° above normal Panhandle. Precipitation none several areas to 0.21 in. southeast.

Days suitable for fieldwork 6.4. Topsoil moisture 45% short, 55% adequate. Subsoil moisture 30% short, 70% adequate. Wheat 10% very poor, 5% poor, 50% fair, 35% good, 10% heading, 5% 1988, 20%

avg. Hot, dry weather causing premature heading northwest. Fields turning yellow, lack of nitrogen. Sorghum 3% planted, 1% 1988, 2% avg. Cotton 2% planted, 2% 1988, none avg. Soybeans 5% planted, 1% 1988, 1% avg. Corn 25% planted, 35% 1988, 40% avg. Pasture continued to deteriorate under moisture shortage. Cattle good; marketings stable, prices down from preceding week.

**OREGON:** Temperatures 3 to 6° above normal statewide. Warmest areas 6 to 8° above normal north central, southwest. Precipitation 0.10 in. or less extreme east, Columbia Basin; 0.25 to 0.50 in. western valleys, central area; 0.50 to 0.75 in. coastal areas.

Soil moisture 17% short, 83% adequate. Barley 76% seeded, 95% 1988, 90% avg. Good week for fieldwork. Fertilizing, spraying continued all grains, grass seeds. Spring grain seeding complete southwest, nearly completed other western areas, continued Columbia Basin counties, under way many parts of southeast, central. Russian wheat aphid populations building in winter wheat east, no need for control yet. Grass seed fields growing well, good Willamette Valley; some early disease problems began to show, no treatments made. Alfalfa growing well, some winterkill noted in east. One to two weeks past full bloom of pears Medford district, bloom ideal. Growers still busy spraying, fertilizing Hood River Valley; no frost on any fruit trees, some winter damage showing up. Perfect cherry pollination weather in Dalles district. Cherries in full bloom Milton-Freewater, growers applied thinning sprays. Cherry fruit set heavy Douglas County. Most tree fruits blooming or past Willamette Valley. Caneberry damage due to February cold now becoming obvious, warm weather brought a good burst of growth, dinoseb applied. Strawberries, blueberries in early bloom. Dry weather caused root feeding by black vine weevil larvae to stress some cranberry beds south coast. Potato planting started Malheur County, continued Hermiston-Boardman, field preparations progressed well other areas. Onion seeding winding up west; finished Malheur County, 40% emerged. Fall seeded onions irrigated Milton-Freewater. Around Milton-Freewater, asparagus harvest going strong, green peas emerging. Green pea planting mostly completed Willamette Valley. Other vegetables seeded in valley included: Broccoli, snap beans, squash. Fieldwork for further planting very active. Garlic crop heavily damaged central area, some fields plowed out. Livestock, range, pasture mostly good. Cattle still going onto spring ranges east. Sheep 50% sheared Wallowa County. Branding under way southeast. Warm weather resulted in good forage growth, pastures later than normal northeast.

**PENNSYLVANIA:** Week began mild, turned much cooler. Temperature 47° to 1° below normal. Temperature extremes 17°; 77°. Precipitation 0.20 in., 0.62 in. below normal.

Days suitable for fieldwork 5.0. Soil moisture 18% short, 75% adequate, 7% surplus. Plowing 36% complete, 57% 1988, 45% avg. Corn 3% planted, 7% 1988, 5% avg. Oats 43% planted, 63% 1988, 50% avg. Potatoes 12% planted, 40% 1988, 25% avg. Tobacco beds 85% planted, 87% 1988, 62% avg. Barley 99% pre-boot, 96% 1988, 99% avg.; 1% boot, 4% 1988, 1% avg. Wheat 100% pre-boot, 97% 1988, 99% avg.; none boot, 3% 1988, 1% avg. Wheat crop none very poor, 3% poor, 21% fair, 56% good, 20% excellent. Oats crop none very poor, none poor, 31% fair, 42% good, 27% excellent. Hay stands mostly fair to good. Feed pastures mostly average to below average. Peaches 47% pre-pink, 47% 1988, 59% avg.; 28% pink, 25% 1988, 16% avg.; 25% full bloom or past, 28% 1988, 25% avg. Cherries 49% pre-pink, 50% 1988, 56% avg.; 30% pink, 26% 1988, 19% avg.; 21% full bloom or past, 24% 1988, 25% avg. Apples

80% pre-pink, 86% 1988, 77% avg.; 19% pink, 14% 1988, 17% avg.; 1% full bloom or past, none 1988, 6% avg. Activities: Spring plowing; planting corn, oats, potatoes, hay, tobacco, vegetables, fruit trees, christmas trees; harvesting rye silage; repairing fence; hauling manure; spreading fertilizer; maintaining machinery; caring for livestock.

**PUERTO RICO:** San Juan WSFO temperature 79° minus 0.03, total rainfall 0.07 in., minus 0.81.

**SOUTH CAROLINA:** First part week warmer than usual, midweek temperatures mostly below normal. Precipitation less than 0.25 in. northwest to 1.00 in. northeast.

Days suitable for fieldwork 4.2. Soil moisture 4% very short, 5% short, 89% adequate, 2% surplus. Corn fair to good; 74% planted, 94% 1988, 84% avg. Tobacco fair to good; 51% planted, 62% 1988, 63% avg. Watermelons fair to good; 80% planted, 79% 1988, 79% avg. Tomatoes fair to good; 89% planted, 94% 1988, 95% avg. Peaches fair to good. Wheat good; 66% headed, 50% 1988, 41% avg; 1% turning color, none 1988, 1% avg. Oats good; 79% headed, 52% 1988, 39% avg; 1% turning color, 1% 1988, 1% avg.

**SOUTH DAKOTA:** Temperatures 5 to 10° above normal. Extremes 16°; 95°. Precipitation scattered. Up to 0.50 in. below normal.

Winter wheat mostly good to fair. Winterkill 14%. Field preparation, seeding small grains, calving, lambing, fencing, equipment preparation major activities.

**TENNESSEE:** Cold front 18th brought scattered rain west. Cold front 21st produced widely scattered showers east. Temperatures above normal, 61° to 67°. Precipitation 0.66 to 1.00 in. below normal.

Days suitable for fieldwork 4.9. Soil moisture 4% short, 91% adequate, 5% surplus. Corn 16% planted, 40% 1988, 37% avg. Tobacco 90% plants up, 86% 1988, 82% avg. Wheat 90% jointed, 83% 1988, 72% avg; 6% headed, 15% 1988, 11% avg. Pastures, livestock good. Primary activities: General farm maintenance; tending livestock, land preparation; topdressing small grains, spraying for alfalfa weevils, pruning fruit trees, fertilizing pastures, planting corn, potatoes, early vegetables.

**TEXAS:** Week started with warming trend. Rainfall Trans Pecos across Permian Basin, north. Temperature above normal. Despite showers, all areas rainfall below normal.

**Crops:** Small grains jointing stage High Plains, dryland fields continued to suffer. Producers plowed up fields very poor condition. Insects increased. Irrigated fields holding steady. Prospects poor Low Plains, fields beginning to head. Late freeze 2 weeks ago damaged heading fields Blacklands, extent of damage unknown. Rain Hill Country, central helped most fields. Corn planting active Plains, fields slow to emerge. Light damage Blacklands from late frost. Some stands thinned. Progress improved central, Coastal Bend. Dryland fields Rio Grande Valley remained moisture stressed. Fields Upper Coast showed improved progress. Grain sorghum planting increased Cross-Timbers, Low Plains. Planting continued Hill Country. Plant growth improved parts central, Coastal Bend. Prewatering activities continued High Plains. Late frost nipped tops Blacklands. Rio Grande Valley fields stressed for moisture. Cotton planting continued many parts of State. Final land preparation, prewatering Plains, Cross-Timbers. Growth improved Coastal Bend, Rio Grande Valley dry, growth slowed. Rice planting, flushing emerged fields continued. Rice 59% emerged; 39% 1988; 44% avg. Peanut planting

getting underway parts south. Land preparation continued other areas. Soybean planting beginning Upper Coast, northeast. Other field crops: Peanuts none planted, 2% 1988; 3% avg. Soybeans none planted, 1% 1988; 2% avg. Sugarbeets 86% planted, 87% 1988, 80% avg. Sunflowers none planted, none 1988; 1% avg.

**Commercial Vegetables:** Rio Grande Valley melons good progress, many fields setting fruit. Onion harvest continued. Prices lower. Citrus harvest about over. Some groves black fly problems, some wind burn. San Antonio-Winter Garden some limited onion harvest. Most fields good progress. Limited harvest other vegetables continued. East planting, replanting occurred. High Plains, irrigation necessary onions, potatoes. Some carrot, pepper planting occurred. Seeded onions emerging. Trans-Pecos melons making good progress. Onions, cabbage good progress. Late frost caused heavy damage peaches east. Producers spraying surviving crop. Good progress Hill Country. Pecan trees leafing out, blooming many parts central, south. Late frost slowed progress east.

**Range and Livestock:** Ranges, pastures continued to show improvement with milder weather. Growth remained slow some areas. Producers fertilizing pastures east. Some producers sowing hay grazier. Livestock markets up slightly. Conditions remained fair to good. Spring shearing sheep, goats steady.

**UTAH:** Precipitation none to light. Temperatures 8 to 13° above normal.

Days suitable for fieldwork 6.8. Moisture 80% short, 20% adequate. Spring wheat 87% planted, 94% 1988, 70% avg. Barley 89% planted, 91% 1988, 72% avg. Oats 73% planted, 67% 1988, 50% avg. Winter wheat height 7 in., alfalfa height 7 in. Apricots, sweet cherries full bloom. Peaches, tart cherries bloom beginning. Cows calved 79%. Ewes lambed 94% farm, 61% range. Sheep sheared 78% farm, 74% range. Livestock generally good. Major farm activities: Hauling manure, marketing livestock, fertilizer application, seedbed preparation, irrigating, calving, lambing.

**VIRGINIA:** Temperatures normal, rainfall was above normal. Temperature extremes 28°; 89°. Precipitation none in. southwest to 1.50 in. east central, about 0.75 in. north. Topsoil moisture was 19% short, 56% adequate, 25% surplus.

Days suitable for fieldwork 4.3. Corn 12% planted. Potatoes over 90% planted, very late. Wheat 5% poor, 29% fair, 65% good, 1% excellent. Barley 3% poor, 30% fair, 65% good, 2% excellent. Some late small grain topdressing. Tobacco beds 19% poor, 55% fair, 26% good. Pastures 4% poor, 31% fair, 51% good, 14% excellent. Alfalfa 7% poor, 28% fair, 55% good, 10% excellent. Some spraying for weevils. Other hay 6% poor, 34% fair, 57% good, 3% excellent. Apple 5% very poor, 25% poor, 35% fair, 35% good. Peaches 16% very poor, 37% poor, 31% good, 16% excellent. Graded feeder cattle sales active. Feeder cattle going on pasture. Active vegetable planting.

**WASHINGTON:** Temperatures 3 to 5° above normal, west; 3 to 7° above normal, east. Precipitation 0.22 to 1.25 in. west, none to 0.57 in. east.

Days suitable for fieldwork, 5.9. Soil moisture 45% short, 50% adequate, 5% surplus. Range, pasture 40% short, 60% adequate. Hay, other roughage 10% very short, 30% short, 55% adequate, 5% surplus. Spring seeding continued as major activity along with some fertilizing. Irrigation of small grains began in Columbia Basin. Winter damage in hay fields becoming apparent, Stevens County. Corn, green pea seeding underway. Potato seeding 52% complete. Asparagus harvest continued. Cherries, pears, early apples in bloom. Hop tying in

progress, Benton County. Cattle out on rangeland, spring branding underway.

**WEST VIRGINIA:** Temperature 52°, well below normal except southern section. Extremes 20° Greenbank; 86° Creston. Precipitation 0.41 in., below normal.

Days suitable for fieldwork 4.0. Soil moisture 4% very short, 21% short, 75% adequate. Wheat, barley fair to good. Oats poor to fair; 48% planted, 5% emerged. Corn planting begun. Tobacco beds good; 97% planted, 26% emerged. Hay good to fair. Apples fair, peaches poor; some freeze damage to apples, peaches. Feed adequate. Cattle, sheep good; cows calved 89%; ewes lambed 86%. Farm activities: Plowing, fertilizer spreading, building fence, moving cattle to pasture, planting.

**WISCONSIN:** Temperatures 47°, 1° below normal. Extremes 17°; 75°. Precipitation trace to 0.40 in.

Days suitable for fieldwork 4.4. Soils still cold; moisture 62% short, 38% adequate. Spring plowing 18%, 40% 1988, 30% avg. Oats 25% seeded,

51% 1988, 36% avg. Winter wheat, alfalfa winterkill light to moderate. Early potatoes, peas being planted.

**WYOMING:** Temperatures well above normal. Precipitation well below normal.

Days suitable for fieldwork 6.0. Topsoil moisture 62% short, 38% adequate. Spring wheat 40% planted, 45% 1988, 50% avg.; 5% emerged, 10% 1988, 20% avg. Oats 35% planted, 40% 1988, 40% avg.; 5% emerged, 5% 1988, 10% avg. Barley 70% planted, 70% 1988, 65% avg.; 25% emerged, 35% 1988, 35% avg. Sugarbeets 40% planted, 65% 1988, 65% avg.; small amount emerged, 5% 1988, 10% avg. Corn 5% planted, 5% 1988, 5% avg. Potatoes small amount planted, 5% 1988, 15% avg. Winter wheat fair to good. Alfalfa prospects fair to good. Livestock mostly good. Spring calves born 80%, 85% 1988, 80% avg. Death losses light to normal. Farm flock: Ewes lambed 90%, 85% 1988, 85% avg.; shorn 85%, 75% 1988, 80% avg. Range flock: Ewes lambed 50%, 50% 1988, 45% avg.; shorn 55%, 55% 1988, 50% avg. Death losses light to normal. Range, pasture poor to fair.

## International Weather and Crop Summary

April 16-22, 1989

### HIGHLIGHTS

**WESTERN USSR** ... Continued unseasonable warm weather accelerates winter grain growth and development. Beneficial showers cover most of the region.

**EUROPE** ... Beneficial rain continues in the south. Heavy rain keeps soils saturated in the north.

**SOUTH ASIA** ... Wheat harvesting progresses. Dry, hot weather persists over most southeastern rice areas, stressing immature crops.

**EASTERN ASIA** ... Heavy seasonal rains and some flooding continue across much of the Yangtze Valley. Light to moderate rain benefits winter grains in the North China Plain.

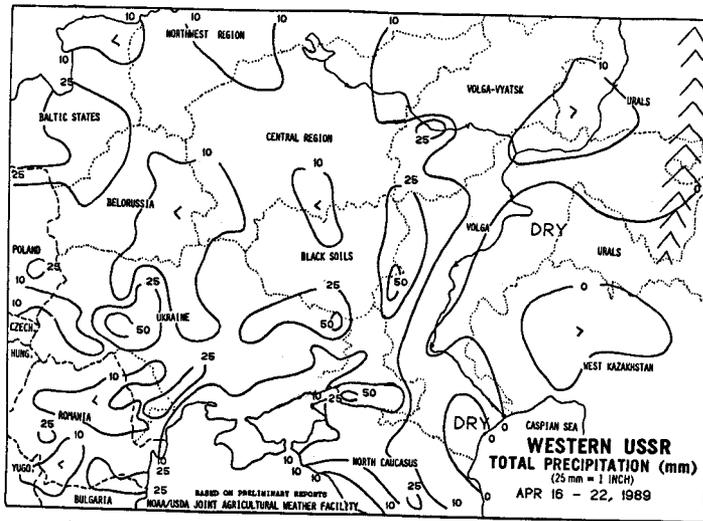
**SOUTHEAST ASIA** ... Drier weather covers most regions. Hot weather continues over northeastern Thailand.

**SOUTH AMERICA** ... In Argentina, early-week showers slow northern cotton harvest, but mostly dry weather in primary corn areas favors harvest. In south-central Brazil, scattered showers cause some delays, but overall soybean harvest advances.

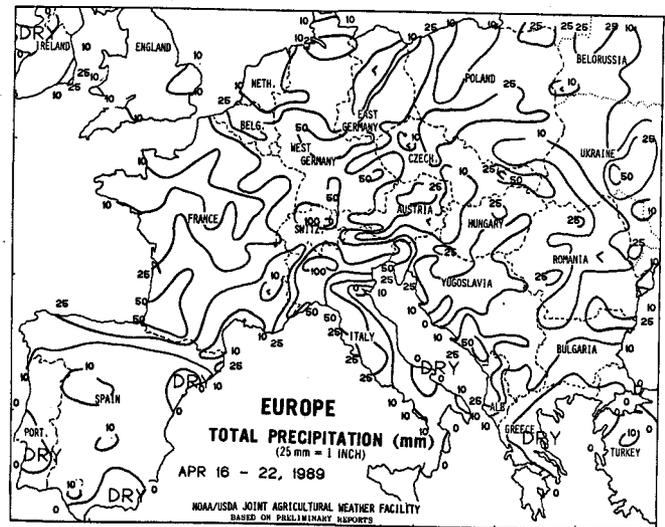
**AUSTRALIA** ... Tropical Cyclone Orson strikes northern Western Australia. Drier weather allows rapid harvest progress in southern summer crop areas.

**SOUTH AFRICA** ... Late-week wet, cool weather covers maturing corn over much of the Maize Triangle.

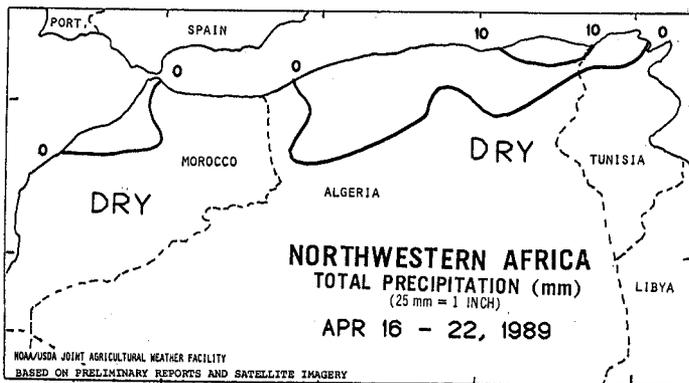
**NORTHWESTERN AFRICA** ... Dry weather returns to most crop areas. Winter grains in the filling stage would still benefit from additional precipitation.



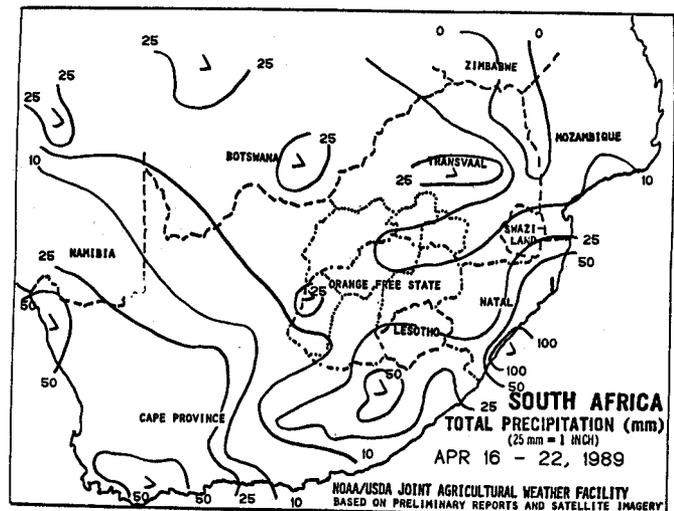
**WESTERN USSR** ... Widespread rain covered most of the region except crop areas near the Black Sea Coast where the weather continued mostly dry. Rainfall in the Ukraine, North Caucasus, and Moldavia generally ranged from 10 to 30mm, with greater amounts (more than 50mm) covering localized areas in the western and northeastern Ukraine and the northern North Caucasus. The rain in these areas benefited winter grains in the jointing stage and increased topsoil moisture needed for germination and uniform emergence of spring planted crops. Further north, wet weather (19-40mm) in the Baltic States and the Black Soils Region benefited winter grains in the early vegetative stage. Continued unseasonably warm weather over the entire region has accelerated winter grains growth and development. Reports indicate winter grains in Moldavia, Ukraine, North Caucasus, and the southern Black Soil Region broke dormancy 25-40 days ahead of normal. Winter grains in these areas were entering the jointing stage this past week. Weekly average temperatures over the region were 1-4 degrees Celsius (C) above normal.



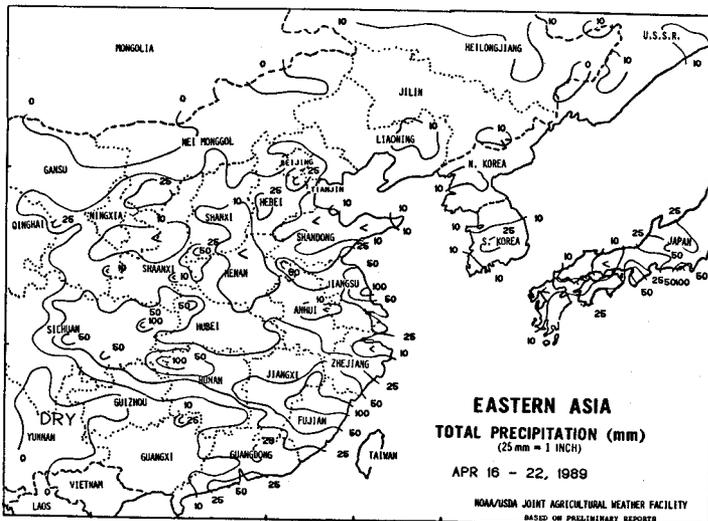
**EUROPE** ... Beneficial moderate to heavy rains (15-40mm, with isolated amounts in excess of 40mm) continued from southern France and northern Italy eastward to the Balkans. The rain greatly benefited winter and establishing spring crops and helped replenish depleted irrigation reservoirs. Heavy rain (25-50mm, with isolated amounts in excess of 50mm) also fell in sections of Belgium, West and East Germany, and Poland. Many soils in northern Europe have become saturated over the past few weeks due to persistent heavy precipitation since late February. Winter grains ranged from jointing in northeastern crop areas to flowering in the extreme south. Mean temperatures turned below normal over much of western and central Europe but remained above normal in the east.



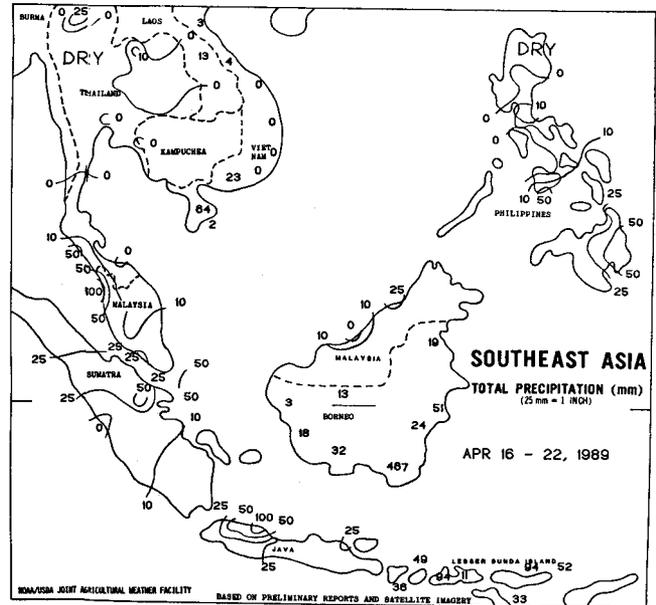
**NORTHWESTERN AFRICA** ... Dry weather returned to most of the region except for crop areas in extreme northeastern Algeria which received light precipitation (9-23mm). Most winter grains were likely in the filling stage and would still benefit from additional moisture. Weekly average temperatures were 0 to -2 degrees C below normal in Morocco, 0 to -3 degrees C below normal in Algeria, and -1 to -4 degrees C below normal in Tunisia, helping to reduce evapotranspiration rates.



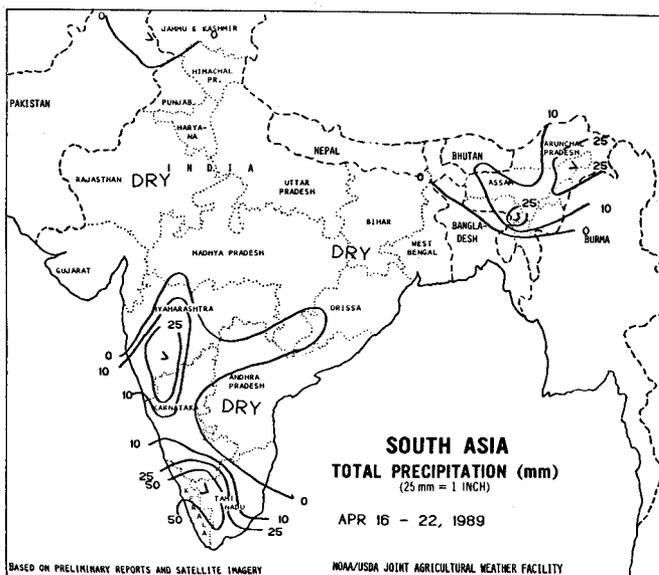
**SOUTH AFRICA** ... Late-week light to moderate rain (2-26mm) and cool temperatures covered the Maize Triangle, creating unfavorable conditions for corn maturation and early harvesting. Low minimum temperatures dipped below 5 degrees C over large portions of the eastern and southern Triangle. Heavier rain (10-50mm or more) swept across the Cape Province and Natal, providing much needed moisture for winter wheat planting in the far southwest and sugarcane growth in Natal. Excessive rain (100-149mm), however, along Natal's southern coast caused local flooding.



**EASTERN ASIA** ... Heavy seasonal rains (25-75mm, with scattered amounts in excess of 75mm) continued across sections of the Yangtze Valley, southeastern China, and Taiwan, benefiting vegetative early crop rice but delaying planting of summer crops. Very heavy rain (100-162mm) on already saturated soils likely caused flooding across sections of eastern Sichuan, northern Hunan, Jiangxi, and Fujian. Heavy rain (25-50mm) also kept pre-season soil moisture at high levels across Honshu and Hokkaido in Japan. In the north, light to moderate rain (5-20mm) favored vegetative to heading winter grains in the North China Plain and helped reduce dryness for summer crop planting in southern Manchuria. Mean temperatures were above normal in nearly all growing areas.



**SOUTHEAST ASIA** ... Scattered, mostly light rain (2-12mm) fell over northeastern Thailand, but the weather continued hot, with daily maximum temperatures averaging around 40 degrees C. To the south, locally heavy rain (50-109mm) continued over southwestern peninsular Thailand and the west coast of western Malaysia, but lighter rain (10-33mm) continued elsewhere in Malaysia. Scattered showers continued over Indonesia with heaviest rainfall (50mm or more) limited to local areas. In the Philippines, light to moderate showers (15-55mm) covered the southern half of the islands and southern Luzon. More rain is needed in Luzon's northern grain areas for main season planting.



**SOUTH ASIA** ... Mostly dry, warm weather continued across the northern winter wheat regions, favoring maturation and harvesting. High maximum temperatures ranged from 34 to 41 degrees C in all but the northernmost areas. Scattered, light to moderate showers (6-25mm or more) fell over southern areas from western Maharashtra to Kerala and in the far east from eastern Bangladesh through Assam. Dry, hot weather, however, persisted over most southeastern rice areas from Tamil Nadu to central Bangladesh, favoring early harvesting but stressing immature crops.



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(Continue from pg. 7)

April soil moisture in the years of 1958 and 1964 [was] similar to this spring; 1958 remained relatively dry until heavy rain arrived in July and in 1964 April, May, June and July rainfall was well above normal. Although the risk of continued drought conditions reducing crop yields during 1989 is greater than during a year when soil moisture is ideal state wide, historically there is at least a 50/50 chance of the moisture situation being corrected before the heat stress of summer arrives.

The dry conditions of 1988 depleted both the subsoil moisture and to some extent the ground water reserves in large areas of South, Central and East Iowa. Limited ground water may result in a reduction of sustained stream flow, lowered pond and lake levels and depleted well water supplies. The subsoil moisture could be corrected to normal or better than normal by favorable spring storms bringing 3 to 4 inches of extra moisture to the state. Historically, the amount of precipitation required to replenish the subsoil moisture could be expected in 30% to 40% of [the] years. The moisture required to correct the ground water deficit is [considerably] greater and would not likely be accumulated in a period of less than 3 years."

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